

Addressing Structural and Systematic Constraints to Small-Scale Agro-Processing Projects in the Eastern Cape of South Africa

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Received Date: March 02, 2022 Accepted Date: April 02, 2022 Published Date: April 04, 2022

Citation: Richard Kwame Adom (2022) School of Geography, Archaeology and Environmental Studies, University of Witwatersrand, Johannesburg South Africa. J Adv Agron Crop Sci 1: 1-14.

Abstract

South Africa is ranked among countries with some of the highest degrees of income inequalities, widespread poverty, and high levels of crime and unemployment rates. This is against a backdrop of many intervention projects, which the South African government has implemented to curb these social-economic ills and challenges. The Eastern Cape Province experiences a number of social-economic challenges such as low levels of economic development and an estimated 46% unemployment, fast deteriorations in infrastructure and poor provision of social and economic amenities. These attributes are combining in negatively compromising efforts to embark on any meaningful interventions aimed at transforming the lives of the majority of the poor people. Despite these constraints, the past two decades have witnessed a significant increase in government-led investments in the agro-processing space, with a view of adding value to the food chain and improving the livelihoods of the poor people. In spite of these initiatives the projects have not translated into the desired economic growth and development and the Eastern Cape has continued to face cascading levels of unemployment and food insecurities. This paper, using methods inspired by the tradition of participatory research, attempt to diagnose and systemically analyse the structural challenges hampering the effectiveness of the agro-processing activities in the Eastern Cape Province. This has been analysed within the broader themes of the sustainable development goals, particularly goals number 1, 2, 8 and 10.

Keywords: Agro-processing; Rural livelihood; Poverty alleviation; Economic growth

Introduction

Agro-processing activities have enormous potential in many developing countries globally (World Bank, 2008). The sector occupies a permanent position in the national development agenda in many developing countries, mainly to reduce poverty and sustain livelihoods, especially among the rural poor. The potentials of the agro-processing sector in these countries are primarily linked to the relative abundance of primary inputs and low labour costs (Mhazo et al., 2009). The United Nations Development Programme (UNDP, 2012) indicates that a \$10 billion private sector investment fortune exists in the agro-industry in Africa, including establishing a fruit processing facility in South Africa to distribute fruits with a market value of over \$1 billion southern Africa. Also, large-scale cultivation of soya beans and other oilseed plants to supply Eastern, Southern Africa (COMESA) and West Africa to meet supply gap of over 400 000 tons. A study by the World Food Programme (WFP, 2015) highlights that intensive production technologies for fresh vegetables to supply an increasing urban market demand, investment in large-scale production of sorghum in East and West Africa to serve the breweries and the World Food Programme, and the extensive cultivation of maize and rice can contribute over \$5 billion to domestic markets.

Despite the vast opportunities in the agro-processing industry in Africa, little attention has been given to the agro-processing sector and the channels through which agricultural products meet consumers locally, on the continent and abroad. As a magnitude of opportunities are lost. This neglect becomes clear if one considers the income and employment gains that could be generated along with value addition from raw commodities to consumption (UNCTD, 2019). Mhazo et al., (2009) disclosed that while industrialised countries add over \$200 of value by processing one tonne of agricultural products, the least industrialised countries add less than \$50. Additionally, while 98% of primary agricultural yields in industrialised countries undergo an industrial transformation, barely 30% are transformed in developing countries. However, agro-processing industries in developing countries contribute about 60% value-added manufacturing, and agro-industrial products account for as much as half of their total exports.

South Africa has one of the highest levels of rural poverty in the world. The poverty headcount in some rural areas is as high as 98%, higher than the national average of about 44% (StatsSA, 2015). Since the dawn of democracy in 1994, the government of South Africa has enacted policies such as the Reconstruction and Development Programme (RDP) and the Growth, Employment

and Redistribution (GEAR) policy to promote sustainable livelihoods in the rural areas of the country (di Laura, 2015 & Tshitereke, 2007). As a result of these development efforts, the government and development partners in the country found it appropriate to introduce agro-processing activities in some regions of the country, including the Eastern Cape, where agriculture is the mainstay of livelihood (Aliber et al., 2014). Agriculture plays a vital role in economic advancement and is a significant promoter of poverty alleviation in the province and South Africa in general. Nevertheless, agriculture alone is insufficient to address the high levels of unemployment, poverty and inequality prevalent in the province. Agro-process therefore, occupies a unique position to help small-scale farmers become commercially successful, thereby reducing poverty and improving rural livelihoods in the Eastern Cape Province (Abdu-Raheem et al., 2011).

Distressingly, the agro-processing sector remains essentially impermeable, implying that entrance and active participation by small and medium enterprises remain curbed in the province. With its vast agricultural potential, the province has significantly failed to exploit the economic benefits of an energised agro-processing industry (Abdu-Raheem et al., 2011). The sector continues to provide raw content that does not drive the benefits that come with beneficiation and processing. This is untenable if one considers that the province possesses the most significant potentials for livestock development in addition to crop production. It has the highest number of cattle, goats and chickens, which could be exploited to expand the province's multiplier development impact (Meisner et al., 2013). The agro-processing sector is bedevilled with a host of structural and systemic constraints impeding its development. These constraints are divergent and stringent and need to be consigned on several fronts to attain paramount prosperity from the industry. Constraints in the acquisition of land by small-scale farmers for cultivation have impacted production while the acquisition of quality raw materials, slow adoption to technology and inappropriate or obsolete processing and ancillary equipment, poorly trained personnel and lack of qualified technologists, an inconsistent and insufficient supply of raw material are also contributing factors (Lambert, 2001). Other challenges include lack of access to credit, a weak or non-existent market the inconsistency of government policies, inappropriate packaging materials and high packaging cost, poor and inconsistent quality of processed products and the seasonal nature of most of the agricultural produce (Lambon-Quayefio et al., 2018). This paper explored the structural and systemic constraints hindering the growth and development of small-scale agro-processing projects in the province. The study sought to identify ways of developing small-scale industries as a

tool for poverty alleviation and local economic development [1-18].

Agro-processing and sustainable livelihood globally

Sustainable development has been defined and interpreted in different ways. The World Commission on Environment and Development (WECD, 2014) defined sustainable development as the development that meets the needs of the present generation without compromising the ability of future generations to meet their needs. This definition implies some sort of intergenerational equity. Sustainable livelihood and sustainable development are interrelated concepts. Helmore et al., (2001) and Scones (2009) argued that sustainable livelihood is an integrative framework, an opportunity to promote a cross-sectoral and cross-thematic approach that should be the hallmark of development work - the combination of the resources used and diversity of activities undertaken in order to make a living. Husein et al., (1998) refer to sustainable livelihood as coping with and recovering from stresses and shocks, maintaining or enhancing its capabilities and assets both now and in the future, while not undermining the natural resource base. According to Tan (2009) and Warren (2002), sustainable livelihood embraced empowerment as participation in innovative enterprises. Helmore et al., (2001) disclosed that the sustainable livelihood approach entails the building blocks familiar to human development namely income generation, environmental management, women's empowerment, education, healthcare, suitable technology, financial services and good governance to create coaction that creates sustainable livelihoods. Acharya (2006: 124) identifies four key strategies of earning sustainable livelihoods by households globally. First, the production-based livelihood. A significant number of the small and marginal farmers gain livelihoods through production on small pieces of land. For these households, availability or access to inputs and improved production methods are quite critical for their livelihoods. The second approach is the labour-based livelihood. Most small landholders and landless rural households derive livelihoods by selling their labour. For their livelihoods, demand for labour, wage rates and prices of food are the critical factors. The third component is the exchange or market-based livelihood. Rural households which produce surplus food and non-food agricultural products or non-farm goods earn their livelihoods by selling these surpluses in the market. The marketing system for these products and relative prices of what they sell and what they buy affect their livelihoods. Finally, livelihoods transfer based on entitlements, households without any income-earning asset or non-disabled person to work depend on their livelihoods on transfers from the government or other social organisations [19-26].

Townsend (2000) argues that many people, particularly in the developing countries, are seriously restricted by the weaknesses of their entitlements to adequate food, water and shelter, so they cannot achieve sustainable livelihoods beyond the level of bare existence. Loss of livelihood is a deep personal affliction and social sickness (Helmore 2001). Building on this, Bekele (2008: 108) argues that it is essential to minimise the vulnerability of the deprived by diversifying their livelihood sources to reduce poverty and food insecurity in rural communities in Buffalo City Municipality in the Eastern Cape. Lister (2004) makes reference to poverty as deprivation in the way of life. People are relatively deprived if they cannot obtain at all or sufficiently the conditions of life, that is, the diets, amenities, standards and services. Ruben et al., (2005) point out that some systemic characteristics cause rural poverty. The most important factors are low labour production activity, lack of capital and knowledge, high operational costs and failing institutions. Tearfund's poverty research finding (2002) found that the cause of poverty is lack of self-empowerment, deprivation of services and availability of assets. Entrenched poverty is a well-established attribute of rural communities in South Africa (Bekele, 2008). Therefore, stimulating and supporting small-scale agro-processing projects could provide sustainable livelihood opportunities for rural dwellers and strengthen the possibility for rural development. The creation of adding value to products through agro-processing brings job creation and economic well-being to rural households, primarily for families whose livelihoods depend on seasonal income-generating activities (DAFF, 2010). For that reason, sustainable livelihoods are a strategy to develop an effective tool for sustainable development and poverty reduction. Although people in rural communities usually select the occupations to engage in for their livelihood, some restrictions and constraints must be surpassed to safeguard sustainable livelihood. On that account, it is prudent to develop strategic policies that will enhance the potential of people to participate in transforming agricultural produce and to sustainably provide high-quality goods to supplement the incomes of rural households [27-33].

An overview of the agro-processing sector in South Africa

South Africa and many emerging countries are transitioning, especially those with enormous rural communities who suffer from inadequate access to food and lack of employment opportunities (Cloete, 2002). Agriculture-based products account for 50% of all exports from developing countries, yet only 30% of those exports involve processed goods compared to 98% in the developed world (UNECA, 2017). Lack of agro-processing and value-adding facilities are among the primary reasons for high

post-harvest losses, low exports of competitive value-added products and the variability of the food supply in many countries, including South Africa. Judging from the Department of Agriculture Food and Forestry DAFF (2008 and 2012) statistics, only 10% of food products traded in South Africa is processed, and the total volume of processed food crops exported is relatively low. Hakizimana et al., (2011) express the view that strengthening the nutritional value and adding economic value through processing are some of the significant measures that will contribute to improving food security in South Africa.

The development and introduction of new processing technologies offer the potential to improve food security and local industrialisation. Processing of agricultural products, therefore, occupies a significant position in the agribusiness value chain. Agro-processing improves the efficiency of harvesting, field handling, packaging, storage and marketing of agricultural produce and prolongs the shelf life of produce, thereby reducing spoilage and wastage of food (Rolle, 2006). The sector has the potential of increasing market opportunities for agricultural exports since processed goods generally have more excellent price stability than raw materials (Dijksra, 2001). Agro-processing is a source of foreign exchange earnings, food and fibre, which are strategically crucial for national security (Makhathini, 2013). The agro-processing sector in South Africa is viewed as an essential component enhancing the nation's economic prosperity and, as such, remains critical regarding job creation and export earnings (DAFF, 2008). More importantly, since most agro-processing activities occur in rural communities, their development and sustainability could reduce poverty among rural dwellers. As recognised in the South Africa Poverty Reduction Strategy II (SAPRS II), no significant progress can be made in raising the average real incomes of South Africans without significant improvements in the productivity of the agriculture sector and the agro-based processing industry (WEB, 2015). In light of these factors, the government set a target to reduce post-harvest losses to an average of 15% by 2015. Achieving this goal will require supporting the establishment of agro-processing projects in South Africa. Thus, in a bid to minimise post-harvest losses and reap the maximum benefit from agriculture, the role of agro-processing has become critical to the economic development of South Africa and the security of income and livelihoods of rural communities. Accordingly, many agro-processing projects are being developed in many regions of South Africa (Okorley et al., 2000). As a result, increased food crop production is envisaged with proportionate increase or improvement in agro-processing projects [34-41].

Growth small-scale agro-processing activities in the Eastern Cape Province

Numerous literature and research have highlighted the trend and contribution of agro-industry to the Eastern Cape Province. "A study by KPMG (2012) Small Enterprise Development: Research on the Performance of the Agricultural Sector", indicates that the Eastern Province is well known for producing livestock in the country. The report suggests that the province houses about 28% of South Africa's sheep, 21% of its cattle and 46% of its goats. It is also the highest producer of mohair in South Africa, which is the largest producer globally (producing 55% of the world's mohair). In terms of crop production, the province is the second highest producer of citrus fruit in the country, with oranges comprising 80% of its citrus output. Other deciduous fruits are also grown in the province, primarily apples, pears and apricots. The study further indicates that the Eastern Cape is also a major producer of chicory, of which South Africa is the second-largest cultivator in the world. After a drop in the pineapple market, the province is also set to benefit from revitalisation initiatives.

In addition to growing pineapples, there is also a regional initiative to produce dietary fibre from the pineapple peels and the by-products of the juicing process. The province also produces a quarter of South Africa's milk and dairy products. KPMG (2012) disclosed that Eastern Cape has a comparative advantage with the production of Honeybush tea and has benefited from regional initiatives, as researched by the Coega Development Corporation. Additionally, the province can benefit from the essential oil trade, particularly with the production of the *Aloe ferox* plant which is used in the production of various cosmetic and medicinal products. Wilkinson et al., (2008) highlight that the agro-processing sector is a relevant industry closely linked to agriculture production, and it is run predominantly by women in micro, small and medium-scale firms that operate spontaneously. It is observed that the agro-sector has a central role to play in generating employment opportunities and promoting economic empowerment of women in rural communities, including Buffalo City Municipality, as women form about 60% of the labour force engaged in agro-processing industries.

A study on Scenario Simulation of Small Farms' Production Efficiencies in the Eastern Cape Province, South Africa, by Hosu et al., (2013) examined the role of agro-industries in the industrial towns of the province. The study indicates that Eastern Cape, being an agricultural-based economy, largely depends on the agro-industry. The study has also analysed the industrial sce-

nario of the state regarding the development of agro-based industries. It is clear that agro-industries play a crucial role in economic advancement in the province regarding the increase in investment and generation of employment and cultural well-being by promoting traditional food products whose worth is more than just their nutritional role. Based on the study, Musemwa et al., (2018) argue that the agro-processing sector in the Eastern Cape integrates the local economy into the global markets. This analysis suggests that the sector widens the consumer market, which means that processed products can be taken to distant and overseas markets than raw agricultural outputs. Processed products have a better shelf life, and the demand for processed products in international markets are always high. By this analysis, it can be observed that processed products enjoy more excellent price stability on the world market and, therefore, increase market opportunities for exports, contributing to income securities, particularly in rural

communities, which are primarily engaged in agro-processing activities. With rapid urbanisation coupled with rising income and changing lifestyle, the demand for processed products is rising, leading to market expansion of processed products (Mhazo et al., 2005). Moreover, agro-processing also boosts the income of small or subsistence farmers by creating new markets. Ampadu-Ameyaw et al., (2015) mentioned that the agro-processing industry creates markets and provides better prices to the entrepreneurs of the industry. From the perspective of Adade et al., (2015), an increase in farm production and income due to demand from agro-processing activities translates into increments in the rate of capital accumulation in agriculture for rural subsistence processors, which in turn give them added confidence for their agriculture activities. This analysis relates well to the situation in the Eastern Cape. Table 1 reflects the contribution of the agro-sector in the Eastern Cape Province regarding jobs generated from 2008 to 2013.

Table 1: The number of employees in the agro-sector in the Eastern Cape Province

Agro-Sector Group	2008/09	2009/10	2010/11	2011/12	2012/13
Process food and beverages	10,610	9,202	8,000	6,500	5,000
Manufacture of tobacco products	4,707	4,750	3,793	3,300	3,200
Manufacture of textile products	3,466	3,383	3,431	2,595	2,683
Leather and leather products	1,460	1,060	1,049	1,300	900
Process of wood and furniture	2,090	2,000	1,500	1,000	1,200
Process of paper products	2,089	2,000	2,300	2,200	2,950
Total no. of people employed	24,422	22,395	20,073	16,895	15,933

Source: STATS Eastern Cape, Bisho (General Household Survey - 2014)

Constraints facing the agro-processing sector in the Eastern Cape Province

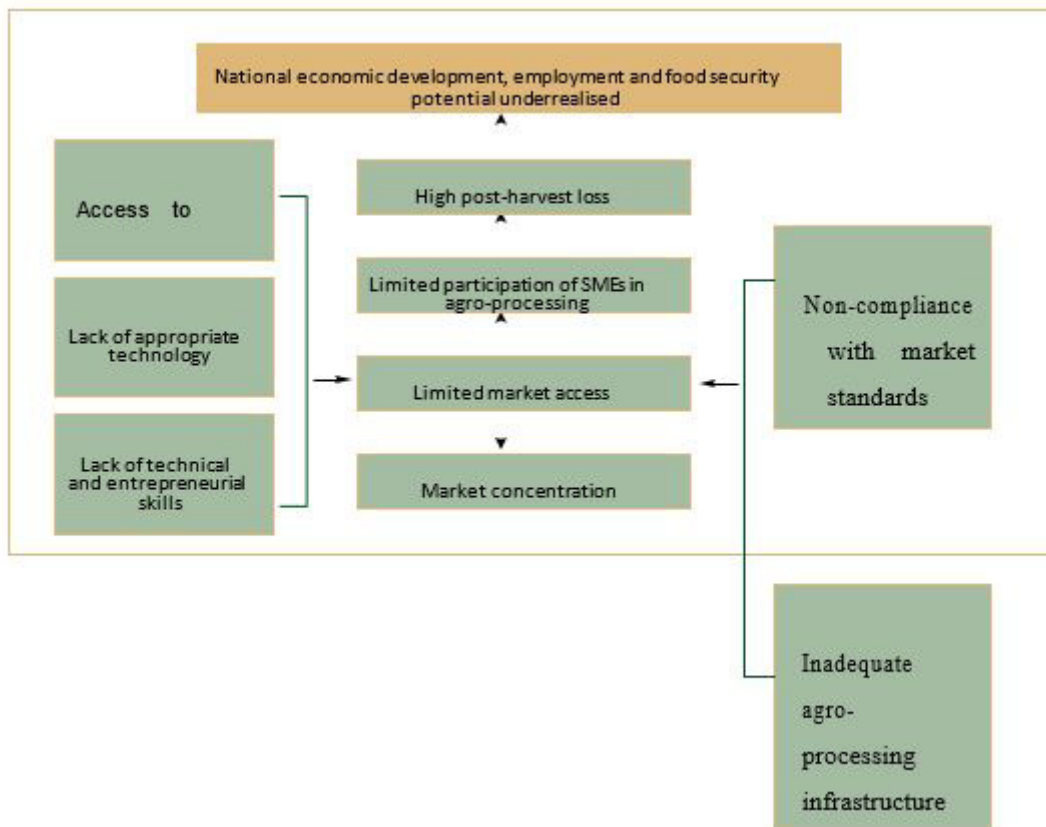
In spite of the significant potentials that exist in the agro-sector, such as employment opportunities, expansion of market avenues, enhancement of livelihoods and promotion of food security in the province, this sector is bedevilled with numerous and massive challenges. Lambert (2009) and Mhazo et al., (2013) enumerated some of these constraints: inadequate market opportunities, poor and high-cost processing equipment, limited access to capital, unreliable supply of raw materials and limited access to appropriate packaging products. It is believed that the non-existent or weak market development of small-scale agro-products is a major hindrance to the development of South Africa and the Eastern Cape (Mhazo et al., 2013). It is a common knowledge that developing a good economy for smallholder processors are very cumbersome

as these processors have to contest with established producers in the same market opportunities. Fragile organisational and supporting frameworks and inadequate market information and knowledge have compounded the predicaments of the small-scale agro-processors in the province (Adade et al., 2015). ECDC (2015) indicates that the modernisation of domestic markets, particularly in South Africa and the Eastern Cape, has been a driving force attracting waves of investments in the economy by multinational and transnational agro-producers and retailers for two decades. It is believed that with increasing civilisation and modification of consumption patterns and the rising of procuring abilities, the growth of innovative and commercial agro-production has outpaced the growth of small-scale unorganised agro-processors by a factor of five to ten. To support this argument, Bruntrup et al., (2007) disclosed that market innovation provided a rise in economic prospects for the agro-processors, consumers, promoters

and other role-players in the industry. These innovations have reduced the entry barriers of traditionally protected industries, leveraged information and access to services required by commercial farmers to combine resources to achieve the collective worth of their land at the detriment of small-scale producers (Mkhabela, 2021). The marketing constraints in the Eastern Cape is similar to what happens in several other smallholders agro-processing environments in South Africa, where smallholders agro-processors supply small products to different markets, mainly without any coordinated systems. Direct sale to customers at the production site and farm gate seem a quite persistent phenomenon in agro-business, consequently few producers take their product to the commercial centres for sale (Louw et al., 2011).

Another significant constraint hindering the development of a viable agro-processing industry in the province is the lack of capital and investment. William's et al., (2015) alluded that most of the agro-processing industry in the province is saddled with the constraint of access to credit. Limited access to credit affects their capacity to take advantage of rising demand and adopt and op-

erate modern and high-level processing technology (Mahlogedi, 2014). Besides the inadequate access to credit, rising interest rates, short moratorium and short repayment schedules prevent many agro-processing firms from accessing credit to improve their processing operations (Afful-Koomson et al., 2015). There is also the problem of lack of access to appropriate technology. Most of the small-scale agro-processing industries in the province operate using indigenous technologies. This is due to the high cost of processing equipment and the limited capacity of firms to mobilise capital to purchase labour-saving technologies, especially when it has to be imported. This makes agro-processing operations time consuming, labour intensive with limited opportunity for scaling up. The reliance on rudimentary technology reduces efficiency and the productivity of operations (Quartey, 2015). There are also the challenges of lack of managerial skills and inadequate infrastructure development. Figure 1 summarised the structure constraints hindering the growth and sustainability of small-scale agro-processing activities in the province



Source: Department of Food and Agriculture 2008

Figure 1: Structural constraints hindering the growth agro-processing activities

Methodology

This paper employed extensive literature analysis, which was complemented by concurrent mixed-method approach to seek views from purposively and conveniently selected participants from four communities and specify government institutions as well as private organisations for data, which assisted to examine structural and systemic challenges facing small-scale agro-processing projects in the province. The literature review and detailed assessment covering over twenty sources were undertaken. These include academic publications, media articles and grey literature, comprising reports published by government and non-governmental organisations (NGOs), research institutions and constituencies. The mixed method was considered relevant for this paper because it draws on the positivist and interpretivist paradigms and integrates the strengths of both qualitative and quantitative strategies while compensating for their weaknesses. Both the qualitative and quantitative approach was used concurrently to solicit information from the government departments, industrialists and entrepreneurs either as individuals or groups from the formal and informal of the agro-sector. Consistent with the pragmatic paradigm, which underpins the mixed-method approach, data were collected through interviews, questionnaires and content analysis. The qualitative approach in the form of face-to-face interviews was used to scrutinise complex issues such as the trend of development in the agro-processing industry in the past two decades, social and human factors hindering the growth of small-scale agro-projects, poverty reduction, and the contributions of the industry to sustainable livelihoods in the province in the past decade. The interviews were also used to explore factors involved in the value chain processes, stakeholder institutions involved in the processing, marketing and transportation of crops, and marketing strategies adopted along the value chain. The quantitative approach in the form of questionnaires was used to explore respondents' demographic characteristics in value-addition to raw farm produce, transportation, storage, and haulage since these were critical in moving products from one point or market to another.

A total of 100 respondents from a sample population of 215 was sampled for this paper; the sample size was strongly influenced by the budget, time availability and paper's purpose. The seven projectsites were selected for this study; these include Kei Road fruit processing centre, Stutterheim wood processing, King William's Town bakery centre, Dimbaza leather factory, East London dairy processing firms and fish processing, and Zwelitsha meat centre. The choice of these communities and the projects were based on their historical background, their contribution to the province's so-

cio-economic development and the nature of farming practised in these communities. The purposive sampling technique was also used to select other sampling populations, including employees in the Department of Agriculture, Food and Fisheries, Eastern Cape Development Corporation, Eastern Cape Industrial Development Corporation, local farmers and community leaders. The choice of these respondents was based on their knowledge, expertise and experience and their involvement in the agro-processing activities. The primary data obtained from the field were complemented by a secondary data source, which was primarily literature reviews, journals and government policies and regulations on agro-processing projects.

The qualitative and quantitative data obtained were analysed simultaneously. A total of ninety-five thoroughly answered questionnaires were used for statistical analysis, while five interviews were conducted to gather further details on the constraints within the agro-sector. Descriptive analysis techniques were used to convert data into a numerical table and bar graphs, pie charts, cross-tabulations and other diagrams. This was done to make the data readable so that the relationship of the research problem could be studied, tested and conclusions drawn. For data from the interviews, thematic content analysis was used. Before this, data from face-to-face interviews were transcribed verbatim and then analysed through pattern-matching logic, which compares an empirically-based pattern with a predicted one.

Validity and reliability were of paramount importance in conducting the study. Validity is said to be a matter of trustworthiness, utility and dependability of research findings. The research had a structured interview guide for in-depth interviews. The researcher used probing skills, thus ensuring prolonged engagement allowing saturation of discussions. This paper adhered to strict standards. Every respondents engaged through interview or questionnaire was accorded with strictest privacy, anonymity and utmost confidentiality. This was achieved by hiding the names, identity numbers and personal information of respondents.

Result

Nature and categorisation of agro-processing projects in the province

The nature and categorisation of the agro-processing projects in certain communities were analysed to ascertain the growth and the levels sustainability of the agro-processing projects in the province in the past 25 years. The selected projects were analysed and grouped into three categories based on years of existence and the size of the project. The distribution of the projects is presented in Table 2

Table 2: Categories and scale of agro-processing activities

Year of establishment	Projects Categories			Total (100%)
	Micro	Small	Medium	
Less than 10 Years	3 (28%)		-	3 (43%)
Between 10 and 15 Years	2 (14%)	-		2 (28%)
Over 15 but less than 20 Years	-	1 (14%)	-	1 (14%)
Over 20 but less than 30 Years	-	1 (14%)		1 (14%)
Total	3	4	-	7

Source: Field study 2020

The result in Table 2 portrays the growth and sustainability of these projects. The breakdown of these statistics suggests that the majority of the agro-processing projects are at stacked are the levels of micro and small-scale production although most of them have existed over three decades. Out of seven projects surveyed for this study, five of them representing 71% are at micro level with only two of the projects, representing 29%, having moved to the levels of small-scale projects. This analysis suggests that the overwhelming majority of the agro-projects are subsistence producers producing on small scale to feed themselves and their families. For instance, a director in the Department of Agriculture who was engaged in an interview disclosed that:

“small-scale agro-producers cultivate various forms of foodstuff from citrus (oranges), cereals (maize, rice), roots and tubers (potatoes), fruits and vegetables, pulses and oilseeds to cattle farming (sheep, cows, goats) mostly processed at home by individuals and families on subsistent basis mainly for food security of the farmers and their families with little surplus for sales on the markets. Productivity is usually low with indigenous technology as a result of inappropriate management of manpower usually family labour, made up of children and relatives.”

These observations confirmed the view of Senyolo et al., (2019) namely that small-scale agro processors are dominated by micro-small-scale family-owned businesses that process locally grown foods such as potatoes, fruit and vegetables and nuts. Their activities include processing potatoes into starch, palm kernel, groundnut and copra oils, ‘intsipha’ into traditional brewery, local gin distillery, and traditional soap making. These activities are dominated by married female workers, mostly over 60 years of age and predominantly illiterate. Their skills are acquired from within families and communities and underpinned by seasonal employment. The features predominantly are processing units dependent on family labour and are made up of a large number of small families in the rural and semi-urban areas.

Constraints to small-scale agro-processing projects in the Eastern Cape

Several limiting factors affecting the development of agro-processing projects in the province were analysed. Respondents were asked to mention the challenges facing the sector and the levels of impact it has on the industry. Table 3 reveals the responses of respondents on the constraints facing small-scale agro-processing projects in the province, in order of significance ranging from “not relevant to very severe”

Table 3: Levels of constraints facing small-scale agro-processing projects in the province

Not relevant			Not severe	Severe	Very severe
Lack of market opportunities for small-scale processors	Respondents (95)	0	10	15	70
	%	0.0%	11%	16%	74%
Lack of capital to support small-scale agro-processing projects	Respondents (95)	0	12	17	66
	%	0.0%	13%	18.9%	66%
Inadequate raw materials both in quantity and quality	Respondents (95)	8	20	40	27
	%	8%	21%	42%	28%
Unstable and high cost of energy	Respondents (95)	12	20	38	25
	%	12%	21%	40%	267%
Inadequate human resources and management skills	Respondents (95)	20	30	20	20
	%	21%	32%	21%	21%
Lack of modern technology and obsolete equipment	Respondents (95)	15	17	35	28
	%	16%	18%	37%	29%
Poor infrastructure development	Respondents (95)	18	30	25	22
	%	19%	32%	26%	23%
Inadequate support services to small-scale agro-producers	Respondents (95)	15	12	38	30
	%	16%	13%	40%	32%
Absence of sound and comprehensive national policies on small-scale agro-processing sector	Respondents (95)	19	32	30	14
	%	20%	38%	32%	15%
Lack of access to information and education	Respondents (95)	12	18	43	22
	%	13%	20%	45%	23%
Lack of access to productive land for small-scale agro-producers	Respondents (95)	15	18	26	36
	%	16%	19%	27%	38%
Low and unstable prices of small-scale agro-processing products	Respondents (95)	0	11	38	46
	%	0.0%	12%	40%	48%
Inappropriate packaging materials and high packaging cost	Respondents (95)	5	16	40	34
	%	5%	17%	42%	36%
Lack of proper hygiene and sanitation practices	Respondents	10	20	39	26
	%	11%	21%	41%	27%
Lack of research and technology and technical support for agro-industrial development	Respondents	10	10	32	43
	Row N %	11%	11%	34%	45%

Source: Field survey 2020

The Table 2 highlights that non-existence of market opportunities, lack of capital for small-scale producers, unavailability of productive lands, low and unstable prices of products from small-scale producers and non-existence of research, technology and technical support from agro-industrial development are very severe constraints hindering the growth of agro-processing industries in the province. An interview conducted with Assistant Director in the Department of Eastern Cape Rural Development Agency mentioned that:

“...the agro-processing sector in the province is confronted with several challenges such as lack of market opportunities and low demand for locally

processed products, low-quality products with poor packaging that can't compete in the international markets with high-quality standards. Over-reliance on rudimentary technology, inadequate financing and credit facilities, and lack of managerial skills and training. These constraints have reduced most of the small-scale agro-processing projects in the province to the state of survivalists.”

This view was supported by another Director in the Eastern Cape Development corporation, this respondent disclosed that:

“...the majority of small-scale agro-producers do not have access to, or are unable to afford training courses that teach critical skills needed to improve productivity and optimally utilise their land. Government extension officers are

simply unable to reach all the affected areas and producers to effectively assist in improving production practices. On top of this, small-scale processors often struggle to access both local and international markets and government support as well as inputs adequately to grow”

An employee from Eastern Cape Industrial Corporation reiterated further on systemic barriers on agro-processing development in the province when engaged in an interview he stated that:

...” inadequate technology transfer and non-existence of adoption agro-processing technologies is an additional barrier to the growth of sector in the province.” This interviewee mentioned that the lack of cohesiveness between the processors and the institutions limit their technological know-how about innovative and advance technologies in agro processing. Appropriate technology is technology which is suitable for small businesses and adapted to local environment. The low overheads and greater adaptability of technologies would allow small businesses to compete effectively with large and commercial processors”

From the discussions, it was observed that the constraints facing the agro-sector in the province are intertwined, for instance, poor infrastructure in the form of poor roads and transport has a significant impact on the marketing and other operational activities in the agro-sector in the province. Effective linkages between the major components such as markets, land acquisition, infrastructure, technologies, research institutions, extension officers, farmers and processors are therefore paramount importance to any successful agro-processing endeavour [42-47].

Discussion

This paper explored the structural and systematic constraints hindering the growth of small-scale agro-processing projects in the Eastern Cape of South Africa. The constraints to the growth and sustainability of the industry in the province, based on the views of the majority respondents, are centred around inadequate access to marketing opportunities, limited capacity to mobilise capital for equipment and variable cost, shortage of raw materials and unstable energy. Other constraints such as lack of human capital in the form of extension officers and entrepreneurial skills, lack of suitable packaging materials, poor infrastructure and logistics, and other support services were identified by the respondents. It was established that small-scale producers have to compete with well-established large-scale processors who have access to market information both locally and internationally and well-organised marketing channels such as advertisement and other media agencies. These constraints confirmed Mathers (2005) view that marketing within the small-scale environment is mostly in rural communities, infor-

mal and mostly survivalist. The demand for these products is inconsistent, periodic and unreliable. It was widely established that lack of marketing expertise and information on consumers taste in terms of preferences and packaging are significant barriers to developing small-scale agro-processing activities in the province.

There is consensus in numerous literature such as Otieno et al., (2006), Mathers (2005) and Okunlola et al., (2016), as well as views from the majority of the respondents that access to financial support was a significant constraint. It was alluded by the majority of respondents that there are high levels of reluctance among financial institutions, families, friends and even the government to grant loans or any form of support to small-scale producers due to high levels of risks associated with the activities of the sector, long bureaucratic and application processes, short moratorium of the repayment period and high-interest rate charges. These views of the respondents concur with the assertion of Herliana et al., (2018) that agro-processing on a small-scale is considered a high-risk sector, therefore, formal institutions avoid financing the sector for the following reasons: high transaction costs, asymmetric information, low profits, lack of collateral, low education and low literacy. It established that banks do not want to finance this industry due to fluctuating production and uncontrolled price risk. These observations sit well with the view of Swinnen et al., (2010) that credit granting loans is still handled mainly by South African Reserve Bank and commercial banks or small lending institutions, although the local bank is closer to the farmers the credit distribution is still small compared to the distribution to other sectors.

Adding to the constraints identified in the study is a lack of human capital, poor infrastructure and logistical constraints, and a lack of support services to the small-scale agro-processing activities. The findings established that human capital is required for small-scale agro-processing activities to progress from upstream agriculture activities to downstream agro-processing projects. Similarly, the skills and knowledge of individuals are pivotal in improving the competitiveness of the sector. According to the study's findings established that many of the small-scale agro-processing projects are managed by personnel who often lack the requisite human resource management skills. Consequently, many agro-processing activities in the province are prone to collapse and malfunctioning. These sentiments echo in the scientific literature of Louw et al., (2008) that inadequate human capital in the form of entrepreneurial skills among informal sectors limits agro-processing development, specifically in terms of the management, marketing and operations of the enterprises. Similarly, findings from the study identified poor infrastructure, logistics and inadequate support

services are significant constraints to the growth and sustainability of small-scale agro-processing industries in the province. The findings revealed that infrastructure challenges such as poor transportation systems, untenable and high cost of energy, and poor storage facilities are significant hindrances to agro-processing activities' growth. The findings suggest that the road transport system, which is the most important for marketing development in terms of distribution of inputs and outputs to and from processing centres, is the most serious infrastructure bottleneck facing agro-processing development. Consequently, small-scale producers depend on inefficient forms of transportation, including the use of animals. Underdeveloped roads and other key physical infrastructure often lead to high operational cost, thus reducing the competitiveness and profitability of the industry. Additionally, the findings established that the high cost of energy and erratic power supply are substantial constraints to the sustainability of the sector in the province. It was observed that the majority of the firms in the province do not have standby power sources such as generators to supplement the frequent power cuts, as uninformed power outages disrupt processing schedules and the ability to cope with demand. Similarly, lack of storage and processing facilities "constraints" marketability and perishability of dairy products and vegetables. The results further indicate that small-scale agro-processors have little or no access to extensive support services such as government extension officers and scientists to provide crucial roles on sustainable services such as raising awareness, capacity building and to provide up-to-date information on inputs, early warnings on droughts, climate change adaptation strategies, weather forecasts, access to markets and credit opportunities. These findings confirmed the observation of Mapiye et al., (2021) that government support and development of small-scale agro-processing activities through extension advisory services only exist theoretically.

Conclusion

Throughout this paper, it is clearly established that structural and systematic constraints are significant barriers to the growth and sustainability of small-scale agro-processing activities in the Eastern Cape and South Africa as a whole. Nevertheless, strong evidence was advanced that the small-scale agro-processing activities serve as sources of employment and income generation for many rural dwellers in the province with a solid bias towards women and the younger population. Similarly, the agro-processing activities have numerous spill-over effects to other sectors of the economy while at the same time integration rural economies into nation-

al economic development. The study unearthed that while there are numerous policies and programmes theoretically designed to promote and develop informal agro-processing activities, translating these policies into action has been slow and, in most cases, elusive. The agro-processing activities in the province are mostly outmoded, employing local skills and traditional knowledge with little or no innovative methods of processing. Entrance and participation in the industry are hindered by lack of appropriate technology, inadequate infrastructure, access to finance, and low levels of technical and entrepreneurial skills. More importantly, the findings established that compliance with rigorous market standards exclude the small-scale processors from accessing mainstream markets, which are critical to create an inclusive agro-processing industry in the province, thereby suggesting market concentration is entrenched in the sector. Besides the above challenges, it was established that there is an absence of comprehensive and strategic implementation of policies and programmes that focus on crucial areas such as access to finance, industrial infrastructure, technology and incentives (including tax rebates) to small-scale agro-processing projects. Having identified the constraints and its impacts on the growth and sustainability of agro-industries in the province this paper, therefore, recommends that government and the leadership of the province implement and priorities strategies that support (kick-start funding programmes, provide infrastructure and appropriate legal framework for patent production) in active start-up market with regular investments, vibrant research that brings innovative knowledge and skills in this sector. Additionally, governmental extension support services, NGOs, and private institutions should increase and improve the services they give to farmers at the local levels to increase their productivity to meet the requirements of agro-processors. Finally, the government should allocate more resources to improve infrastructure such as roads, water and electricity to reduce cost of operations among small-scale processors at the local levels.

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