

*Review*

# Food production: Changing the job opportunities narrative by demonstrating agro-processing possibilities

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The potential of the agro-processing sub-sector in South Africa is under siege. This paper makes a critical view of this sector by identifying its opportunities and constraints so as to guide its improvement as well as the required interventions to unlock its potential. Given the contemporary issues of exponential population growth and soaring rates of unemployment and poverty, this paper explores agro-processing opportunities that could help to ameliorate the situation. This challenge is complex and widespread, thus a multi-pronged approach is required to address it. The approach used in this study is secondary research that investigates several issues in the agro-processing eco-system including the issue of imports, challenges with some of the government's plans for the agro-processing sub-sector, consumer advocacy, and factors in the value chain that compromise the effectiveness of the 'field to fork' process. The findings reveal some dissonance between theory and practice such as the "million possible new job opportunities" in the sector identified by government versus the reality of only 30 000 jobs created over a ten-year period. To mitigate such risks and to support the government through some of the tricky trade deals such as the African Growth and Opportunity Act (AGOA), the role of active citizenry was conspicuous. The global production and consumption pattern have tipped the scales in favour of larger enterprises and this does not augur well for rural development and job creation. Therefore, the exploration of alternative production models such as 'production sharing' is paramount as it entails strategic alliances and subversion of the buyer-supplier relationship.

**Key words:** Agro-processing eco-system, food production and distribution, consumer advocacy, job opportunities.

## INTRODUCTION

The Food and Agriculture Organization (FAO) of the United Nations (1997) notes that the "agro-processing industry is a subset of manufacturing that processes raw

materials and intermediate products derived from the agricultural sector. Agro-processing thus means transforming products that originate from agriculture,

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forestry and fisheries.” Hence, food, beverages, paper and paper products, wood and wood products, textiles, wearing apparel, furniture, tobacco, rubber products, footwear and leather and leather products are categorised under the agro-processing industry by the Standard Industrial Classification (Ibid.).

With respect to the transformation of edible products, that is, food processing, there are three categories primary, secondary and tertiary food processing (Logatcheva and van Galen, 2015). Primary food processing entails the conversion of agricultural products into edible foods (e.g. fruit peeling, milk pasteurisation) or ingredients that are used for producing edible foods (e.g. milling grain to create flour). Secondary food processing is the manipulation of ingredients into edible products such as bread, wine, sausage, etc. Tertiary food processing is the production of processed foods such as instant foods or ready-to-eat foods like frozen pizzas and packaged snacks, etc. Related processes apply in the production of non-edible products, thereby creating a long list of potential jobs across sectors such as Manufacturing, Construction, Tourism, Transport and Utilities (e.g. electricity, health and sewerage).

Given these agro-processing processes, the problem that this study addresses is that there are many missed opportunities as a result of not taking full advantage of the multifarious agro-processing possibilities. This is on account of, *inter alia*, systemic factors such as lack of skills and resources, as well as structural factors such as lack of infra-structure, and lack of access to markets and finance. The view by the Department of Trade and Industry (2018: 128) is that “the advance of agro-processing has been hampered by lack of sufficient investment in processing facilities, particularly in the rural areas”.

Through secondary research, this paper diagnoses the South African agro-processing obstacles that prevent the optimum performance of this sector. It, thereby, paints a picture of the missed opportunities and unpacks the possibilities in agro-processing for the purpose of demonstrating the existence of job opportunities in the context of South Africa, a country characterised by high rates of unemployment and poverty. The discussion moves from making a case for the enhancement of the agro-processing industry, given the huge potential in this sector, to an exploration of the constraints that hold the sector under siege. The dynamics of operating in this sector are analysed, particularly the challenges experienced by small-scale producers and an exposition of the food value chain is made.

## **RATIONALE FOR ENHANCING THE AGRO-PROCESSING INDUSTRY**

Human beings “generally eat between three to four pounds (1.3 - 1.8 kg) of food each day” (Andrews, 2020:1)

and “1,996 pounds [905,37 kg] of food per year” (Sloat, 2017: 1). However, the availability of food for human consumption has been an issue over time. World history shows varying levels of food availability at different times, different places and due to different reasons. Historically, the reasons included wars, politics, diseases, and drought. While some of these reasons are still applicable to varying degrees, the challenge is aggravated by contemporary issues such as climate change and exponential population growth. Currently, there are 7 billion people to be fed and this is expected to rise to 9 billion by 2050 (United Nations, 2019). Bruinsma (2011) estimates that to have food security in 2050, the production of food will have to be increased by 70%. The Department of Agriculture, Forestry and Fisheries (2020: (1) notes that food security amongst rural communities is threatened. However, agro-processing development endeavours have a potential to reverse losses either through indigenous knowledge (drying, salting, crushing, pre-cooking) or modern technology based methods (extraction, canning, bottling, concentration). Therefore, agro-processing activities have a potential to positively contribute towards food security.

Food insecurity is aggravated by population growth as the latter translates to, *inter alia*, soaring rates of poverty and hunger. The current food production and distribution mechanisms are failing to cope as evidenced by the high rates of hunger and poverty in many parts of the country. Moreover, the Department of Trade and Industry (2018: 128) observed that the “South African domestic food demand has increased substantially over the past decade and this trend is expected to continue. The increase has been driven by population growth, changing consumption patterns - mainly of middle-income groups - and gradually improving overall living standards.”

There are several interventions aimed at addressing the increasing food demand, increasing poverty levels and increasing unemployment levels. To this end, agro-processing has been identified as one of the sectors that has high employment multipliers in the economy and thereby has a potential for sustainable economic growth and development. The Industrial Policy Action Plan (IPAP) - 2017/2018-2018/2019 is emphatic about the urgency to enhance the labour absorption capacity of the economy through “a concentrated focus on sectors like agro-processing” (Department of Trade and Industry, 2018: 23). For this reason, “the agro-processing sector has been identified as one of the critical sectors earmarked for special attention under the Presidential Nine-Point Plan. The core issue here is to defend and expand the agricultural and agro-processing value chain as a key provider of labour-intensive growth (It currently employs around 283,000 people, contributing 20.3% to manufacturing GDP and 2.7% to total GDP)” (Department of Trade and Industry, 2018: 35). Owing to its contribution to the economy, substantial investments by multinationals, government and other local players have

been made to support it including several incentive schemes such as the Agro-Processing Support Scheme (APSS), Integrated Growth and Development Plan (IGDP), Department of Agriculture, Forestry and Fisheries Agro-Processing Strategy (2013), National Policy Framework on the Development of Small and Medium Agro-Processing Enterprise in the Republic of South Africa (2015).

While about 7 to 10 million<sup>1</sup> of people who could be employed are unemployed in South Africa (StatsSA, 2020), government announced that agro-processing alone has “at least a million possible new job opportunities” (Department of Trade and Industry, 2018: 127). For this reason, government has expressed interest in enhancing the agro-processing industry as articulated in the National Development Plan (NDP), Industrial Policy Action Plan (IPAP), Agricultural Policy Action Plan (APAP), Operation Phakisa for Agriculture, Land Reform and Rural Development, and the Presidential Nine-Point Plan (Revitalisation of the Agriculture and Agro-processing Value Chains).

However, given the rate of employment in agro-processing, the realisation of the one million new job opportunities seems farfetched because in 10 years (2007 - 2016), employment in this sector only grew by 30 000 (258 000 - 288,000) (Quantec Easy Data, 2017). The constraints in this regard included the 2008 global economic crisis, drought, labour market dynamics that include wage disputes and mechanization of agriculture, and agricultural products' markets in which South Africa is a net exporter of agro-processed products. In 2020, this was aggravated by the jobs bloodbath subsequent to the lockdown restrictions imposed by the government and the inability of many businesses to recover from the losses incurred during the Covid 19 pandemic.

Given the dynamics of international markets, South Africa's net exporter status is unlikely to change anytime soon. A classic example is the issue of the African Growth and Opportunity Act (AGOA). The purpose of the Act is to enable duty-free trade access between the United States (US) and qualifying Sub-Saharan African (SSA) countries on condition that the SSA countries fulfil the requirements set in the AGOA legislation (Naumann, 2001). The respective countries have to weight their losses and gains per industry and decide regarding their participation because the AGOA agreement tends to be favourable to some industries and harmful to others. In South Africa, for instance, the transportation equipment industry exports to the US about 85% of its products and thereby benefits from AGOA (Bavier, 2018). Conversely, the poultry industry is under severe pressure because the dumping<sup>2</sup> of US chicken in South Africa makes the local producers suffer as they cannot compete with the prices

of the imported chicken.

Apparently, US consumers predominantly prefer white, de-boned breast meat. US producers then sell thighs and drumsticks to the South African market at below cost since they can recover their costs from the sale of breast meat. Although poultry consumption has considerably increased in the country, local production has not expanded at the same rate due to the dumped poultry imports. In 2017, for instance, “the United States exported more than 87,000 tonnes of poultry to South Africa, up more than 200% from 2016 and second only to Brazil's 337,476 tonnes” (Bavier, 2018: 1). This hard knock on South Africa's poultry industry translates to thousands of jobs being lost in not just the poultry industry, but other industries as well in the poultry value chain such as the animal feed industry. Be that as it may, South Africa is caught between a rock and a hard place because imposing tariffs to prevent the dumping could translate to the withdrawal of the country's AGOA benefits that are much bigger than just the poultry industry.

While enhancing the agro-processing industry in this context is a challenge, several options could be explored to address the situation. It should be borne in mind that the agro-processing challenges are multi-faceted, thus require a multi-pronged approach. Despite their complexity, they require urgent attention because they exacerbate poverty and under-development. The complexity is aggravated by the fact that while the industry is faced with local challenges such as drought, labour market dynamics and mechanization of agriculture, it still has to contend with external factors such as globalization and open economies. Therefore, the perpetuation of the unfair trade practices underscores the fact that the silo approach of independently addressing parts of a complex system of trade does not translate to the overhaul of the system. The relationships, networks, and interactions among parts of a complex system referred to as inter-dependencies as well as the dependence of these parts to the environment are crucial for understanding how to effect changes in a complex system (Lanham et al., 2013; Holland, 1995). Hence, complex processes must be approached in a comprehensive, coherent and holistic manner.

One way of preventing cheap imports from flooding the local markets is through consumer empowerment. The empowerment of consumers must include fostering as much awareness as possible about the products so they may make informed buying decisions. As producers have now been successfully compelled to disclose the ingredients on the labels of edible products and with non-edibles the producers also have to disclose the country of origin, the same could be done to encourage the disclosure of the production environment with respect to the welfare of animals and the workers. If consumers were to know the harsh and inhumane conditions under which some of the products are made in pursuit of bigger production volumes, many of them would take a moral stand

<sup>1</sup>29 - 38.5%, narrow and expanded definition, respectively.

<sup>2</sup>Dumping is the export of products at a price that is lower than what those products are charged at their domestic markets and/or the sale of such products below production costs.

and desist from purchasing such products. Hence, the growing advocacy for ethical consumerism, that is, procurement of goods that are ethically sourced, ethically made and ethically distributed (Manthree et al., 2017; Thornton, 2010). Many people who discontinued the consumption of meat, for instance, took the decision after coming to realise the cruel treatment of animals in pursuit of profits.

Secondly, the impact of the proudly South African branding of locally produced goods has positive spin offs for the economy. The objective of the proudly South African logo on a product is to ensure that consumers know that it comes from a company that is committed to quality and service, and that it satisfies the criteria for local content, environment and labour practices (Trade and Industry Portfolio Committee, 2001). Given the wide availability of non-South African products, it is thus important for consumers to be provided with alternatives so that their buying decisions may not only be limited to price but to product availability as well. This, therefore, means that the government and other stakeholders should ensure that South African products continue to be on the shelves despite the tough pricing competition. This requires consistent support for the internal supply of locally produced goods by, *inter alia*, reducing the price of inputs and providing government subsidies, where possible. The government support could also be in the form of tax exemptions and incentives so as to promote large scale production of the items.

Thirdly, the demand for imports can be reduced through giving the consumers alternatives for the items they require. While meat is a source of protein for many people, the range of products with protein includes eggs, dairy and protein-rich fruits and vegetables. The effective dissemination of this nutritional information to the South African consumers could translate to them exploring the other protein sources, thus reducing the demand for meat imports. The demand for meat imports that is fuelled by the reliance on animal-derived protein is particularly frightening given the observation by Henschon et al. (2017) that animal-derived protein will double by 2050 which would translate to food insecurity and intensified pressure on land due to the need to produce more animal feed.

Given the complexity of these issues, it is imperative that they should not be left into the hands of government alone; active citizenry is required in times like these. Active citizenry, *inter alia*, includes consumer advocacy<sup>3</sup>. Consumer advocacy is particularly important in light of the observation by Holt-Giménez et al. (2012: 594) that there is enough food to feed everyone in the world, hence “hunger is caused by poverty and inequality, not scarcity”. Therefore, those who remain hungry, are so because they “cannot afford to buy this food”, not because the food is not available as the world currently produces food

enough to feed 10 billion people (Holt-Giménez et al., 2012: 595) when the current world population is about 8 billion.

To this end, the International Assessment on Agriculture, Science and Knowledge for Development (2008) avers that locally-based food economies are well positioned for combating poverty and hunger as opposed to global markets. At the centre of locally-based food economies are consumers who have an obligation to advocate for fair global trade that ensures sustainability of local production and supply. As opposed to the consequences the governments face when they stop or force the reduction of imports that annihilate local production of goods, consumers stand a better chance as their actions have a marked impact on the demand for imports. With sufficient awareness and education about the short-term sacrifice and long-term gain they will have, consumers could reverse the trend of dumping of imports into local markets by not consuming imports that do not adhere to fair trade. The impact of customers voting with their feet against unfair business practices and unfair trade imports would be marked if this consumer advocacy is properly organised and well-coordinated.

## AGRO-PROCESSING CONSTRAINTS

The Department of Trade and Industry (2018: 86) is of the view that “the key opportunities for South Africa lie in agriculture and agro-processing - where South Africa has strong capabilities across the full value-chain”. To this end, the Department of Agriculture, Forestry and Fisheries (DAFF) is making concerted efforts to increase participation in the agricultural sector value chain thereby increase the spread of workers in the chain in lieu of the current situation wherein the workers are concentrated in production. The efforts to increase the spread of workers in the chain was a response to the department’s observation that the participation of many agricultural sector stakeholders shrinks as the processes shift from production to the various stages of processing (Department of Trade and Industry, 2018). This is on account of, *inter alia*, weak understanding of opportunities presented in the value chain beyond production, limited knowledge of value addition processes and technologies, as well as systemic, operational, and structural factors.

The Department of Trade and Industry (2018: 128) notes the “strong need for the sector to invest in new machinery and technology, product development and safety and quality certification. This goes hand-in-hand with the need to develop strategic alliances and partnerships that will assist local producers to penetrate new markets”. To this end, the department identified three major constraints to agro-processing:

(1) High levels of concentration across the value chain ...

<sup>3</sup>“actions taken by individuals or groups to promote and protect the interests of the buying public” (Inc.com, 2020).

[characterised] by the dominance of a few large trading, manufacturing and retail chains, and, on the other hand, by the limited growth of small producers and the self-employed across the value chain.

(2) Because rural municipalities are often under-resourced, producers frequently encounter poor quality water and electricity supply as well as delays in permits and repairs.

(3)... high price of some key inputs (Department of Trade and Industry, 2018: 129).

The Department of Agriculture, Forestry and Fisheries (2020) identified five main entry barriers experienced by small and medium agro-processors in their attempt to penetrate and participate in the mainstream economy, and these are:

- (1) High post-harvest losses;
- (2) Inadequate funding instruments suitable to start-up agribusinesses;
- (3) Lack of appropriate agro-processing technologies suited to start-up agro processors;
- (4) Non-compliance to stringent agro-processing norms, standards and regulations; and
- (5) Intermittent supply of raw material.

The constraints in the agro-processing sector identified by the Agribusiness Development Agency (2016: 13) include:

- (1) Skills shortage,
- (2) Lack of innovation and product development,
- (3) Lack of adequate technology,
- (4) Poor quality and supply of inputs,
- (5) Poor linkages between producers and processors,
- (6) Poor business planning, and
- (7) Lack of infrastructure.

Striking the balance between bolstering agro-processing and protecting consumers through regulations and compliance standards is still a challenge. With food production, health and safety are non-negotiable as the consequences for their lack can be deadly. The death of about 216 people following the listeriosis outbreak as a result of contaminated processed meats produced by Enterprise Foods is one of the many examples (Adeoye et al., 2019). The bolstering of agro-processing should thus go hand in hand with the promotion of high-quality products for both local consumption and export. In fact, "quality is a prerequisite for exports and standards provide crucial quality assurance on export products" (Department of Trade and Industry, 2018: 76).

One of the quality-compromising factors experienced in South Africa is the weak agro-processing value chain. This is evidenced by the dynamics of post-harvest logistics that compromise the quality of the produce. Time, temperature, storage, handling and transport are some of the factors to be taken into consideration

because these determine the success of the 'field to fork' process.

## MARGINALISATION OF SMALL-SCALE PRODUCERS

While localised agro-processing activities are apt for sustainable rural development, the shifting global patterns that are characterised by increased urbanisation and increased population density, translate to consumption patterns that are better served through supermarkets that are supplied by large farming enterprises. Currently, the operations of the small-scale producers are disjointed with many of them working in silos. As separate entities, they then get to have high input costs and also struggle to provide consistent supply of the produce with the required specifications in terms of quantity and quality.

Furthermore, the demands for higher value and processed foods are difficult for the small-scale producers to meet. The small-scale producers also find it difficult to compete with the larger enterprises because their sizes cannot stomach the input costs plus the concomitant operational expenses such as the maintenance of compliance and quality standards, license and certification costs, as well as investment in infrastructure and new technologies.

The tough competition conditions for the small-scale producers are aggravated by market dynamics wherein they struggle to position themselves in formal markets characterised by higher levels of competition and sophistication. Market validation, for instance, requires substantial market research so as to be kept abreast with customer needs and consumer trends, and this is a tall order for the small-scale producers, hence their uncompetitive positioning that is evident in, *inter alia*, product differentiation, packaging, labelling, supply quality and quantity, processes and terms of sales, promotional tactics, and distribution models. The food value chain depicted in Table 1 shows the various components of the chain that some stakeholders experience difficulties with, thus rendering them uncompetitive. The holistic view of the food value chain and its components is crucial for identifying the wheels to be greased.

The disjointed local agro-processing activities and the concomitant tough competition faced by the small-scale producers in the context of global production and consumption patterns do not augur well for the sustainability of the small farming enterprises. To this end, it is important to consider alternative production models such as 'production sharing' which is the outsourcing of different components of the production process to several stakeholders (Kaplinsky et al., 2009). This entails exploring strategic alliances for the purpose of spreading the risks, roles and responsibilities with the central partner or producer playing a co-ordinating role. In addition to job creation, this could also subvert the buyer-

**Table 1.** Food value chain.

Segments of the value chain	Land, space	Inputs	On farm production and harvesting	Manufacturing and processing	Transport and distribution	Consumption (consumers, restaurants, hotels)	Recycling
Nature of stakeholders	Farmers (commercial, subsistence)	Mining, fertilizers, chemicals	Agricultural commodities	Consumer packaged goods	Rail and road transportation, air freight and marine transportation, food distributors	Food retail restaurants	Waste practitioners (collection, sorting, processing)
Potential risks	Availability, Location	Price volatility	Animal/plant welfare	Health and safety	Time, temperature, handling	Food safety, traceability, humane, ethical and environmental-friendly practices	Health and safety
Risk mitigating bodies/factors	Accreditation, standards and certification, government support	Market analysis, exploration of alternative inputs and fertilisers	Worker education and conscientisation	Awareness creation	Logistics	Regulatory agencies	Awareness creation

supplier relationship, with some of the buyers turning to be producers as they would be contributing to some parts of the production process, as Figure 1 depicts the respective roles that could be played in the furniture production value chain.

## CONCLUSION

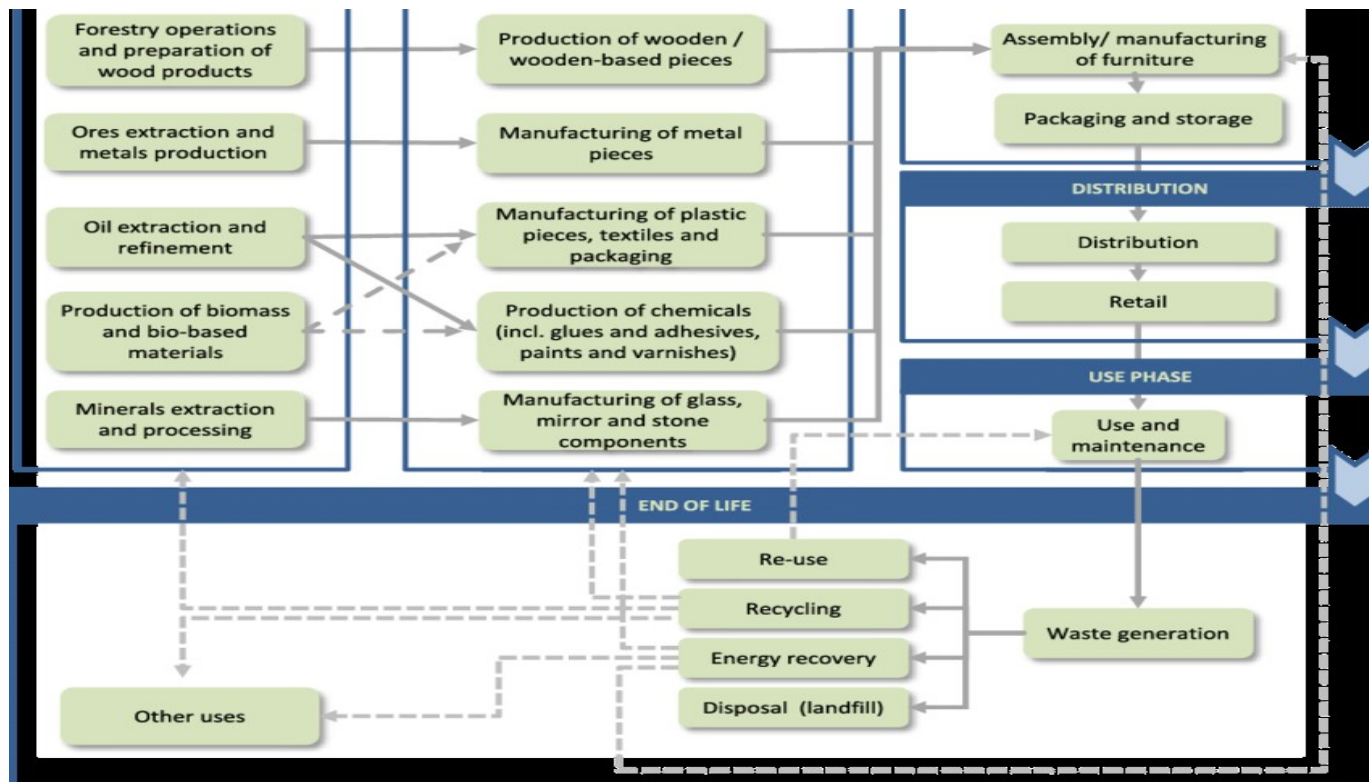
In making a critical examination of agro-processing sub-sector, this paper teased out the problematic areas to be addressed as well as the

possibilities that could be enhanced for the purpose of curbing the soaring rates of poverty and hunger in South Africa. It drew attention to the local and international dynamics that have a bearing on local food production such as dumping of imports that choke the local markets. Cognisant of the complexity of this situation, it argues that consumer advocacy is crucial as government cannot do it alone. Consumer advocacy, active citizenry and the agency of individuals are particularly important given the apparent theory-practice disjuncture. The identification of a million job opportunities in this sector, when in reality the

sector managed to employ only 3% of the one million over a ten-year period is a case in point. Individual agency is paramount in taking advantage of the different opportunities in the production value chain and as well as opportunities presented by alternative production models such as 'production sharing'.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.



**Figure 1.** Value chain of furniture production.

Source: Cordella and Hidalgo (2016).

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