

The effect of sugar manufacturing sector on east africa

[Sociology](#), [Poverty](#)



Many studies have shown that unemployment and absolute poverty are fundamental challenges affecting over 1.1 billion people in the developing world including East Africa. East Africa is facing a major problem of unemployment where insecure jobs and poor workers are making the aspiration of most countries to transform into middle-level economies a challenge. In 2016, nearly half of the population in the region was living on less than \$1.25 per day.

According to the African Development Bank, the average rate of economic growth in East Africa was about 5.9% in 2017 with a similar forecast in 2018 and 2019. The agriculture sector has continued to play a leading role in economic growth with a contribution of 41 percent of East Africa's average real GDP growth in 2017. However, the contribution of the manufacturing sector increased to 36% of the regional GDP.

There is a strong belief that a more competitive manufacturing sector is important for economic transformation, but in East Africa, it plays a limited role in the region's economic transformation because the sector's contribution to GDP and employment as well as productivity are all low. Manufacturing value added averaged only 7.5 percent of GDP for the seven countries examined in this part of the East Africa economic outlook: Kenya, Rwanda, Tanzania, and Uganda. Despite manufacturing's importance to economic growth and employment, the sector's share in overall GDP in East Africa is still marginal.

Several studies have established that manufacturing is an important driver of employment growth and poverty reduction in developing countries. The

sector impacts poverty directly through the creation of jobs, income to farmers, workers and other actors as well as other indirect benefits. The indirect impacts are extremely important, especially for lower income countries. These derive from the sector's role in creating strong backward and forward linkages and in creating structural transformation of an economy. The linkages generate high employment multipliers through creation of indirect and induced jobs in related industries, and also result in knowledge and technological spillovers.

Sugar manufacturing

The market demand for sugar has been increasing slowly over the past 50 years, driven primarily by developing countries and emerging markets where populations and household incomes are increasing. Sugar manufacturing has therefore been considered to have a good potential for poverty alleviation especially in the rural areas. The sector, if well managed can lead to increased income both for the respective processing plant owners, their employees and as well as the sugarcane farmers. The analysis of the sugar industry in some countries such as Zambia has shown that the industry is positively contributing to employment creation, wealth creation and overall economic growth. Despite the good economic potential, the sugar manufacturing sector in East Africa is struggling compared to the situation in some more successful countries such as Mauritius and South Africa.

Sugar sector, employment and poverty alleviation

Rural manufacturing exhibited in agro-processing factories has many advantages compared with large-scale urban manufacturing and industry

because it spreads employment and income opportunities more widely. This is attributed to its labor-intensive character which enables it to create more jobs for any given level of investment. Rural manufacturing is therefore important in combating poverty and contribute to equitable distribution of income between rural and urban contexts. Rural industrialization is known to lead to, not only a better regional economic balance, but also a good geographical spread with more positive effects on agricultural productivity. This can improve the agricultural terms of trade in the areas surrounding small rural market centers, and changing farmers' attitudes. Industrialization in rural areas also has forward and backward linkages with agricultural and non-agricultural sector that ultimately contributes to rural development, economic growth and resilience. Studies undertaken in sugar belts where smallholders are engaged as out-growers, have shown that the overall benefits of sugar manufacturing are disbursed to a much larger number of farmers who are contracted into the supply chain. In turn, this extra money disbursed to laborers and farmers then finds its way into ancillary industry services such as cane haulage or warehousing, and, finally, into the local business community.

A general review of existing literature on agriculture and development reveals that agricultural exports through agro-processing industries support rural development and national economic growth in a number of ways. First, it has been argued that the increased export of sugar can lead to a virtuous circle of business growth. Secondly, this has been found to enhance macro-economic stability as the balance of payments improves and export

diversification reduces currency volatility. Additionally, government revenue in the form of corporate and income taxes as well as other tariffs increase, thereby allowing further state investment in public goods such as transport infrastructure or education.

Sugar sector and food security

An estimated 90% of the sugarcane producers are smallholders growing the crop on less than 5 hectares of land. Smallholders make decisions on how much land to allocate on food crops and cash crops and this has implications on food security. There is a complex relationship between commercial agriculture and food and nutrition security. Some studies have shown that cultivation of cash crops enhances household food security. However, a study by Kennedy and Cogill (1988) in South Nyanza, Kenya showed that the migration from subsistence to commercial agriculture did not significantly lead to household-level food insecurity. The study observed that incomes of sugarcane farmers were significantly higher than non-cane producers and a portion of this incremental income was directed to household food security. In another study undertaken in several African countries, Kennedy et al (1992) observed that involvement in commercial farming resulted to increases in household food security without an improvement in the household nutritional status. Other studies have established that improvement in income does not always translate directly into increased food consumption at either the household or individual (child) level unless there is a shift in control of income from men to women.

Sugar sector and gender issues

There are two channels through which women benefit from sugar value chain; either through product markets (contract farming) or through labor market (employment). Research has shown that there are gender differences in who is contracted at the household, with more men than women being included in the sugar cane processing. At the processing level, employment opportunities are also skewed towards men. These gender differences affect the location of productive resources labor, capital and land and have long term impacts on household wellbeing and food security. It has been observed that income directed to women at household level has more development impact with regard to improved child nutrition, increased spending on children education, health care and food security.

Sugar sector has been associated with rural employment opportunities due to its labor intensive nature at processing level. However, there are concerns about the degree of feminization of the labor in the sugar sub sector and the existence of gender discrimination both at production and processing levels. Feminization of labor markets has been seen to have greater impact of gender participation and important in helping achieve SDG-5 on gender equality and women and girls' empowerment. In addition, the control by women of household income is linked with their participation in labor markets. In many societies in East African region, women control of income from cash crops is often limited where they tend to concentrate in subsistence crop production. However, this is changing with increasing number of female headed households attributed to male labor migration, HIV scourge and high mortality of men. The other concern has been gender

discrimination in wages and work conditions. Feminization and gender discrimination in the labor markets has mostly been addressed in manufacturing industries concentrated in urban settings while very little attention has been put in the rural agro-processing sector. This is why it is important to investigate the extent to which the sugar value chain contributes to SDG-5.

Sugar sector and environmental impacts

Air pollution in urban centers is one of the most serious environmental problems in the world. With rural industrialization associated with agro-processing, this challenge is also finding its way in rural areas and small towns. However, sugar industry and use of ethanol is associated with less pollution as compared to pure oil. In terms of air emissions, the use of ethanol contributes to reduce important pollutants such as carbon oxides (CO_x), methane, ammonia, nitrous oxide and nitrogen dioxide (NO_x). Most sugar manufacturing companies usually transport cane from the farms to the sugar mill using tractors which can result in emissions which can affect the air quality. The transportation of cane to the factory can also emit substantial dust along the cane delivery road network. On the other hand, burning sugarcane straw on the field, in a very different scale, causes problems of particulate matter and smoke.

Irrigated sugarcane production and processing puts pressure on water resources. Most of the sugar factories are located near rivers where there is excessive extraction of water for processing and more often the effluent ends up in the same Rivers. Additionally, sugarcane production involves the

use of inorganic fertilizers and pesticides to control diseases and pests such as mosaic virus, coal and rust virus and leafhopper. In some cases, herbicides are used to control weeds. All these have a likely negative impact on the soils and compromise the environmental sustainability of sugar industry and affect the realization of SDG-14 and SDG-15.

One of the major environmental headaches of sugar manufacturing in the world is the disposal of the resultant filter cake or mud and bagasse which is the residual woody fiber of the cane. The disposal of the filter cake has been associated to the risk of over-fertilization and heavy metal contamination of cane field. The release of bagasse into streams and rivers enhances the BOD value, which can lead to anaerobic conditions thereby affecting aquatic life including fish.