



Toward Industrialization in Tanzania: What Is the Role of the Agricultural Sector?

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1 Introduction

As is the case with many other countries, Tanzania has introduced several initiatives aiming at economic development of the country. Among other things, it attempted to industrialize few years after the 1961 independence. Whereas several achievements have been recorded in this space, the country is yet to attain high level of industrialization. However, industrialization is still among the top priorities of the country and a focus of the 5th phase government that came to power in 2015. As a basically agrarian economy, the agriculture sector has huge potential and actual roles to play in the country's industrialization efforts. This work discusses the roles that the agricultural sector can play in industrialization efforts in Tanzania.

The industrialization literature in general is very broad. It covers themes such as geography of industrialization (Hayter and Patchell 2016), capitalism, industrialization and development (Corbridge 1986), Africa's industrialization debate (Nzau 2010), industrialization as driver of sustainable economic growth in Africa (Opoku and Yan 2018), trade, technology and the role of the state in industrial development for Africa (Sampath 2014), and

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industrialization and economic transformation in Africa (Ajakaiye and Page 2012).

The literature on industrialization in Tanzania is rich. It includes the works of Msami and Wangwe (2017) on industrial development in Tanzania; Rweyemamu (1973) on underdevelopment and industrialization in Tanzania; Skarstein and Wangwe (1986) on some critical issues in industrial development in Tanzania; Szirmai and Lapperre (2001) on the industrial experience in Tanzania; UNIDO (2004) on Tanzania Review of Industrial and Trade Performance; Macro-economy Commodities; Industrial Subsectors; Export Processing Zones; among others. The authors have covered various aspects of Tanzania's industrialization since its 1961 political independence from Britain.

The literature relating to industrialization and agriculture includes that of Boehlje (1996) on industrialization of agriculture, Coffey (1993) on implications for farm supply cooperatives of the industrialization of agriculture and Melton (1987) on proto-industrialization, serf agriculture and agrarian social structure. The key message is that there is very close relationship between agriculture and industrialization. The relationship is one explained in the inter-sectoral linkages and inter-sectoral dependencies theoretical frameworks as can be seen in Leontief's input-output models. There is paucity of literature on the roles of agriculture in Tanzania. This piece contributes to bridging the gap.

2 Unpacking Industrialization

At the core of succeeding in Tanzania's industrialization move lies understanding of what industrialization means and entails Pass et al. (2000) describe the term industrialization to imply the extensive development of organized economic activity for the purpose of manufacture. It is characterized by transformation of a primarily agrarian economy into a more specialized, capital—as opposed to labor-intensive economy. Industrialization took the form of Industrial Revolution in Western Europe and North America in the eighteenth and nineteenth centuries.

Elsewhere in the economic and business literature (see Bishop 2009), industrialization is described as the process in which a country transforms itself from a basically agricultural society into one based on manufacturing of goods and services. Whereas manual labor is more often than not replaced by mechanized and automated high-tech-mass production, craftsmen are replaced by assembly lines. Industrialization is associated with the growth and development of large urban centers and suburbs.

There are many potential advantages embedded within industrial economy. These include but are not limited to potentials for direct and indirect jobs and therefore income creation and improved standards of living. Industrialization also poses potentials for foreign exchange earnings through exports and foreign exchange saving through import substitution. It can also generate government revenues from related taxes and nontax revenues. It stands to develop other sectors of the economy through inter-sectoral linkages via both backward and forward linkages that can trigger development of many other sectors through providing them with markets as well as supplying these sectors with factor inputs both intermediate and finished.

3 Theoretical Framework

This work is guided by the Leontief model of input–output or inter-sectoral linkages theoretical framework. The input–output model represents flow of money in an economy, primarily through the connection between industries. It shows the extent to which different industries are buying and selling goods and services to one another in a particular geographic region. The model has been derived and modified from the Leontief model where industries are producing different products such that the input equals the output. In this chapter, the agricultural sector is seen as highly linked to the industrial sector through backward linkages in the factor market and forward linkages in the output markets. Similarly, the industrial sector is linked to the agricultural sector in similar backward and forward linkages.

4 Industrialization in Tanzania

The industrialization move in Tanzania by the fifth phase government that came to power at the end of 2015 is not a new one. There have been several industrialization efforts since independence. Detailed descriptions of industrialization efforts in Tanzania have been documented widely. These include but are not limited to the works of Kim (1966).¹ According to Kim (ibid.), at independence in 1961, Tanzania had a very low level of industrialization. It was the least industrialized of the three East African Common Market partners. Its development strategy placed emphasis on agricultural development. Industrial production was oriented toward agro-processing and light manufacturing without internal linkages to domestic raw materials.

Kim (ibid.) further informs that Tanzania's first comprehensive industrialization effort began with the First Five Year Plan in 1964. While continuing with an emphasis on the agricultural sector, the Plan called for an ambitious industrialization program that was to rely on private foreign and domestic investments for expansion of import substitution industries (ISI). Incentive schemes included tax holidays, accelerated depreciations, tax rebates, guarantees for repatriation of capital and tariff protection.

With the adoption of the Arusha Declaration in 1967, the Government set a new course in industrialization strategy consistent with Tanzanian socialism and self-reliance (*Ujamaa*). The Declaration stipulated two principles that must be adopted in the future industrial plan. Firstly, the future strategy should not be significantly dependent on foreign investment; and secondly, private ownership of industry must gradually be substituted by state ownership in the form of parastatal corporations. The Arusha Declaration did not stipulate any action plans.

In the context of what it takes to industrialize, the nationalization of industries that came with the Arusha Declaration was bad economics. This is due to inadequate preparations in terms of having, among others, competent management of these industries.

It was in the Second Five Year Plan which began in 1969 that the industrialization strategy was spelled out in detail. While calling for continuous process of transferring the means of production to the state, industries included, the plan prescribed a restructuring of industry, placing priorities on the production of simple import-substitution manufactures, intermediate and capital goods, and agro-industry based products for export. The extent to which these industries could produce competitively for domestic market and export just after the 1967 nationalization is doubtful. This is due to inadequate expertise and experience in managing such industries. Also, emphasis was placed on the promotion of labor-intensive, small-scale firms and the decentralization of industry, where this was considered economically appropriate. Issues with labor-intensive industrialization include availability of qualified industrial labor needed to produce competitively just after the nationalization.

The progress in industrial restructuring in subsequent years was very slow. In 1974, the government laid down for the Third Five Year Plan more drastic measures for structural changes in the direction of self-reliance. Efforts for industrialization would be aimed at the processing of agricultural products and import substitution of basic industries. Agro-processing industrialization falls natural for Tanzania given the abundance of agricultural raw materials in this basically agrarian economy. These industries were meant to promote

Tanzania's capacity to be self-reliant in industrial production as well as fulfill the basic needs of human life for the majority of Tanzanians. For the latter category, the industries would include those producing such necessities as food, shelter and clothing. Self-reliance in the context of industrial restructuring was to be interpreted as an economic independence. Given the diverse needs of industrial goods and capacity for a single country like Tanzania to produce them, it is very challenging for a country to be self-sufficient.

Tanzanian industry depends heavily on intermediate and capital goods imports. This is due to inadequate capacity to produce them domestically. The industries producing these goods were considered not only as the cornerstone of the country's industrial structure upon which other branches of industry could be developed, but also as exerting important linkage effects in generating economy-wide employment. The strategy thus sought development of this branch of industry through import substitution.

Importation of industrial capital goods necessarily calls for huge demand for foreign currencies to pay for these imports. This in turn calls for adequate foreign currency earning mainly through exports of goods and services. Arguably this was not easy for Tanzania just after the 1967 Arusha Declaration as there was no adequate foundation for strong exporting economy. Alternative to foreign currencies earnings through exports would be borrowing which leads to swelling of national debt and dependence on aid which can have attached conditions.

From the late 1970s, Tanzania began to be affected by a series of economic malaises of external origins. First, the war with Uganda in 1979; the second global oil crisis and the fall in world price of coffee, which has been Tanzania's main export product. Tanzania had to put on hold further implementation of its industrialization strategy, as the government sought adjustment by cutting imports and per capita expenditure by 50%. There were virtually no expansionary capital budget increases. Without such expansion, it was not possible to increase importation of the highly needed industrial capital goods.

The recurrent budgets had to be drastically reduced as a response to the hard economic realities on the ground. With the rapid increase in external debt and arrears, and largely in response to increased pressures from the International Monetary Fund (IMF), the government decided to reverse the earlier strategy of overprotecting industry, and instituted new measures to support agriculture by increasing agricultural producer prices by 30–35% in 1983/84. At the same time, it gave the economy a more export-oriented structure. Export incentives included devaluations of the Shilling, the scheme for export retention and, most importantly, that for own funds imports. Export orientation strategy is good economics in the context of increasing a country's

foreign currency earnings that can be used to finance importations including importation of industrial capital goods in the context of this work.

In the mid-1980, there were major and far-reaching reforms in the management of the economy. These included major liberalizations and privatization of the economy. Almost all sectors of the economy including the industrial sector were liberalized and privatized. Among other things, the former state-owned enterprises (SOEs) were privatized. Over time there have been various efforts to industrialize including statements in the Tanzania Development Vision 2025 and Sustainable Industries Development Strategy (SIDP) 1996–2020. It is seen therefore that the industrialization move in Tanzania by the 5th Phase Government that came to power at the end of 2015 is not a new one.

5 The Fifth Phase Government's Industrialization Move

Debates and plans on Tanzania's fifth phase government economic future revolve around the axis of industrialization. This is the main economic project for the fifth phase government. This industrialization move is packed in various documents. They range from the ruling party's (*Chama Cha Mapinduzi*) 2015 election manifesto to President Magufuli's maiden speech in the Parliament on 20th November 2016 and the Second Five Years Development Plan that saw the light of the day in July 2016 after coming to end of its predecessor on the same date. In order to put all the debates on this move in the right perspectives, there is a need to unpack the whole industrialization move including but not limited to what it is all about, why it is important and which are the guiding documents that one needs to make reference to.

6 Prospects of the Fifth Phase Government Industrialization Move

The fifth phase government move on industrialization has been captured in various documents. These include but are not limited to the ruling party's 2015 election manifesto; President Magufuli's maiden speech in the Parliament on 20th November 2015; in the second Five Years Development Plan (FYDP II) (2016/17–2021/22), annual plan 2016/17 and the 2016/17 national budget and budget for the Ministry responsible for industries inter

alia. The government has several prospects in its new industrialization move as partly captured in its various documents outlined in what follows.

Industrialization in CCM Manifesto

What the fifth phase government has been attempting to implement in the bid to industrialize the country is derived from the ruling party's 2015 election manifesto. The word industrialization is mentioned over 70 times in the CCM manifesto. Among other things, the manifesto aims to accomplish and implement Sustainable Industrial Development Programme (SIDP) Phase Three covering the time period 2010–2020. It also aims to attain industrial sector contribution in Tanzania Development Vision 2025. The manifesto aims at increasing industrial sector Gross Domestic Product (GDP) contribution from 9.9% in 2013 to 15% in 2020 and to have 40% of employment in the country coming from industrial sector by 2020. It is important to conduct objective evaluation to assess the extent to which these goals have been reached by 2020. This (evaluation) is beyond the scope of this work.

The manifesto also talks about mobilizing the private sector to invest in middle and large industries as well as protecting them against foreign industries. Whereas protectionisms may be a good argument for infant domestic industries that cannot withstand competition, it can be a raw deal to consumers by way of reducing their consumption menu. Furthermore, protecting inefficient industries that are not likely to grow is bad economics. As if the above were not enough, protectionism in the globalized world of the World Trade Organization and possibilities of retaliations need to be re-thought.

Industrialization in President's Speech

In President Magufuli's speech in the Parliament on 20th November 2015, the word industrialization appears about 35 times covering five out of 48 pages or 10.4% of the volume of his speech. On page 20 of the speech, the President acknowledges that he deliberately dwelt on the matter in length. The speech (page 19) insisted on the type of industries that the fifth phase government is aiming at. These are mass employment-creating industries, industries for domestic mass consumption goods and industries for export goods. Each of these will be interrogated separately in coming articles given the weight of each in gold.

Industrialization in the FYDP

The Second Five Years Development Plan (FYDP) that was unveiled in the Parliament in the last week of April 2016 is focusing on industrialization. Its theme is ‘Nurturing Industrialization for Economic Transformation and Human Development’. The FYDP has been implemented annually through annual plans funded by annual budgets. These annual budgets on the other hand have been guided by annual budget guidelines. One therefore needs to understand the FYDP, the annual plans, annual budget guidelines and their corresponding annual budgets to unpack and analyze the extent to which the planned industrialization move will be unfolding.

7 The Role of Agricultural Sector in Industrialization

The industrial revolution and development in Europe benefitted substantially from the agricultural sector. The revolution was preceded by agricultural revolution. The agricultural sector is among the several complementary sectors for industrialization. According to URT (1996: 25),² industrial development will be seriously hampered if complementary sectors (such as agriculture) do not perform well. According to Shigehisa (1996), agriculture played transformative role in transforming the Japanese economy from a stagnant agrarian society to a modern industrial one.

The agricultural sector has key roles to play in Tanzania’s fifth phase government’s industrialization move. These roles are outlined in what follows in line with the three major kinds of industries that the fifth phase government has been aiming to develop.

Agriculture Role for Employment—Creating Industries

The government’s desire has been to have 40% of employment in Tanzania coming from the industrial sector by the year 2020. For Tanzania to attain the mass employment-creating industrialization, then it has to opt for labor-intensive industrialization if the jobs are to be coming directly from industries. Labour-intensive production techniques employ more labor than capital and therefore create more jobs.

However, there are several downsides of labour-intensive production and by extension labor-intensive industrialization. These include limited ability to

enjoy economies of scale through large scale production, less speed in production, less efficiency and at times less quality and standardization of products. For this type of industrialization, employment can only be mainly created along with industrial value chain nodes through backward and forward integration. It calls for strong inter-sectoral linkages and holistic approach to industrialization. All sectors related to the industrial sector including agriculture need to be adequately developed.

A review of the industrialization goals in this new move shows among other things that the fifth phase government aims at having industries that will create mass employment for Tanzanians. This should be very well understood and a good goal partly given the unfortunate state of affairs of high unemployment especially among youth. Unemployment is among the key social, political and economic challenges. The new industrialization move aims at having a whole 40% of Tanzanian labor force employment coming from the industrial sector. This is a good goal but must be understood in the correct context and therefore strategies toward this must be correct as well.

Unpacking Job-Creating Industries

That industries will create jobs, is not a contested territory. The issue is on the number of jobs to be created directly and indirectly. Implication of the wished 'mass-employment' creating industries is that these industries have to be labor intensive. There are the ones that make use of more labor and human muscles than capital. These are industries that are not automated, computerized and highly high-tech. This will be the case if by 'mass employment' creating industries one means direct jobs from industries.

Reality on the Ground

In modern-day industrialization, one is likely to see and embrace more capital-intensive than labor-intensive industrialization process. Involved here are highly mechanized, computerized and high-tech-driven industries. These present a more transformative industrialization than their labour-intensive counterparts. They augur well with modern-day industrialization in which state of the art, high tech, capital intensive, mechanization and automation are key words. These are industries with bigger competitive edge than labor-intensive ones. They are better suited for mass production and therefore enjoyment of economies of scale by captains and titans of the industry whose bottom line is profit. These types of industries are more likely to produce

higher quality and standardized goods and services and at a bigger speed than labor-intensive ones.

Capital Displaces Labor

On employment creation, however, capital intensive industries will not create as many direct industrial jobs as will their labor intensive counterparts. This is because, in capital intensive production technique, capital in the shapes of machines displaces labor. What could be done by a dozen of labor is done by just one person who presses machines buttons on and off as required. Therefore capital intensive industries will not create direct mass industrial employment. There is therefore a need for all stakeholders in the new industrialization move to understand this reality on the ground correctly in order to manage expectations and avoid unnecessary surprises when the true employment colors are seen.

Potentials for Indirect Jobs

The uncomfortable truth that capital-intensive industries will not create mass direct industrial jobs should not be the end of mass employment creation through industries goal. *Ceteris paribus* (all other things being equal), employment through industrialization can be created along the long and many industrial value chain nodes. Through the backward forward integration in the context of inter-sectoral linkages and the associated multiplier effects, many indirect jobs can be created. These will be jobs created by the sectors that supply factor inputs of all kinds to the industrial sector through backward integration as well as those that save as markets for the same through forward integrations. This calls for strong inter-sectoral linkages and holistic approach in the new industrialization move.

All sectors touched by and touching the new industrialization move should be optimally developed to absorb and support what comes from the move. When sectors such as agriculture, fishery, livestock, infrastructure, financial services, education and much more are optimally developed to support the industrial sector, then mass employment can see the light of the day. Short of that the mass jobs creation goal through industrialization will remain a wishful thinking.

Agriculture Roles in Industries for Mass Consumption

The fifth phase government aimed at having industries that would produce goods for mass consumption. They include industrial goods from agro-processing such as food and related items; textile; footwear etc. Among other things, these industries do make use of locally available raw materials. The agricultural sector therefore has the role of providing the needed quantity and quality of raw materials for agro-processing industries. These raw materials are expected to come from various agricultural subsectors as partly outlined below.

Crops Sub-sector

The sub-sector is expected to provide various raw materials for agro-processing industries. The raw materials include various kinds of grains (maize, rice, wheat, etc.); seeds (sunflower, groundnuts, sesame, cotton, coconut, etc.), grass (including lemongrass, grass for pellets etc. Others include cashew nuts.

Livestock Sub-sector

The livestock sub-sector of the agricultural sector plays an important role in providing raw materials to the industries that process these raw materials. The raw materials include but are not limited to milk (for processing by example Tanga Fresh, Asas and Shambani Enterprise industries); hides and skin for leather industries that manufacture among others bags, footwear, belts, wallets (for example Shah Industries in Moshi, horns for key holders and decorations (ornaments like ear rings); bones and blood for animal feed, etc.

Fishery Sub-sector

The fishery sub-sector provides raw materials for fish processing industries. They include factories in Mwanza (for example Vic Fish) and Mafia Island (for example Tanpesca). The sub-sector also provides raw materials for leather-processing industry (including a factory at SIDO Estate in Mwanza). Sutton and Olomi (2012) provide a list of leading firms in agro-processing in Tanzania as presented in Table 1.

Table 1 Selected firms that process agricultural raw materials in Tanzania

Crops types	Major agro-processing firms	Remarks
Coffee and tea	Tanzania Instant Coffee Company Ltd, Afri Tea and Coffee Blenders (1963) Ltd, Unilever Tea Tanzania Limited, Tanzania Tea Packers Limited	All these and other firms make use of raw materials from the agricultural sector
Oilseeds and edible oils	Murzah Oil Mills Limited, Mount Meru Millers Limited, Vegetable Oil Industries Ltd, BIDCO Oil and Soap Limited	All these and other firms make use of raw materials from the agricultural sector
Food processing	Vicfish Tanga Fresh Limited, Azania Wheat Flour Coast Millers Ltd	There are many micro and small food processing firms that make use of raw materials from the agricultural sector in Tanzania
Beverages	Tanzania Breweries Limited Banana Investment Limited,	All these and other firms make use of raw materials from the agricultural sector
Tobacco	Alliance One Tobacco Tanzania Ltd Tanzania Cigarette Company Ltd	All these and other firms make use of raw materials from the agricultural sector
Sugar	Kilombero Sugar Company limited Tanganyika Planting Company Kagera Sugar. Mtibwa Sugar	All these and other firms make use of raw materials from the agricultural sector
Cotton	Badugu Ginning Company Limited Olam Tanzania Limited Birchand Oil Mills Ltd	All these and other firms make use of raw materials from the agricultural sector
Textiles	Tanzania–China Textile Friendship Mills Karibu Textile Mills	All these and other firms make use of raw materials from the agricultural sector
Hides, skins and leather	Ace Leather Tanzania Limited	All these and other firms make use of raw materials from the agricultural sector

Source Modified by the author from Sutton and Olomi (2012)

Agriculture Roles for Industries for Export

As is the case with other types of industries, the agricultural sector plays the role of providing raw materials for the industries that produce for export. It also can be among sources of finance for the industrial sector based on incomes and savings from the agricultural sector that can be invested in industrial projects. It also provides food for workers working in exporting industries.

Agriculture Cross-Cutting Roles

Apart from the above, the agricultural sector plays other vital cross-cutting roles in all types of industries. These include but are not limited to the following:

Agriculture as Market for Industrial Sector

In the context of inter-sectoral linkages (forward and backward linkages) and input–output relations, the agricultural sector is part of important market for industrial goods both intermediate and final. Agriculture provides markets for such industrial outputs as machinery and equipment as well as fertilizers, pesticides, insecticides, packaging materials, etc. Therefore the agricultural sector is a potential and actual market for the industrial sector which in turn is a key factor for industrial development.

Agriculture as Source of Food for Those in the Industrial Sector

As is the case for all other sectors of the economy, the labor force in the industrial sector needs food. It is the agricultural sector that provides the food in this context. This is a very important role because industrialization is normally accompanied by rapid urbanization which in turn increases demand for food. Agriculture, therefore, is very important in industrialization due to its role in providing food to industrial workers.

Agriculture as Source of Capital for Industrial Development

The agricultural sector both at micro and macro-level plays important role in providing capital needed for direct and indirect development for the industrial sector. They include both direct and indirect tax and non-tax revenues

from agriculture for the central and local governments' various industrialization interventions. The interventions include developing business and investment climate needed for industrialization. The sector can also be important for providing capital for industrialization at household and individual levels. This is normally in form of surplus capital from agriculture that can be invested in various types and sizes of industries.

Agriculture as Support of Other Important Sectors for Industrialization

Under the input–output relations and inter-sectoral linkages and dependencies concepts, the agricultural sector is of indirect importance to industrialization through supporting other sectors that are important for industrialization along the industrial value chain and its nodes. These other sectors include education, financial/banking sector, transport and other sectors. Agriculture provides among other things, food and revenues for these other sectors thereby supporting the industrial sector indirectly.

Agriculture as Source of Labor Force for Industrial Sector

Conceptually, at some stage of agricultural development, the sector is supposed to release some excess labor for the industrial sector. This can take place for example when agriculture gets mechanized and capital intensive. Since capital displaces labor, the displaced labor can potentially be absorbed in various nodes of long industrial value chain. Agricultural sector therefore can play the role of becoming a source of labor force for the industrial sector. For this to happen, however, the released agricultural labour force must have what it takes to be absorbed in the industrial sector. The key issue is having skills. Arguably, labor force released from agriculture may struggle to be absorbed in the industrial sector especially if it is a highly capital intensive industrial setting that demands few and highly competent labor force. Labor force laid redundant in the agricultural sector is not likely to have the needed high skills for the industrial sector.

8 Role of Agriculture in Industrialization: Selected Challenges

Tanzania's fifth phase government's industrialization move in general and the role of agriculture in that process in particular stands to encounter a number of challenges. Among the general challenges to industrialization include inadequate resources both financial and non-financial. Other general challenges are those related to investment/business climate.

Various studies and reports have produced a wide range of issues that constitute challenging and constraining business climate in general and in specific countries, sectors and sub-sectors in particular. When the business climate issues are short of the needed level they are seen as challenging and constraining. They constitute unfriendly, none-conducive, unattractive and none-optimal business climate. They imply a deficit in the desired business environment. Such deficits need to be bridged through various interventions. They constitute issues of concern to business stakeholders.

Among the key issue of concern in the various World Bank's Doing Business Reports include the easiness of doing business in a given country as measured quantitatively and qualitatively by various indicators. These indicators include but are not limited to starting a business. Among the variables that are scrutinized in this category include the level of decentralization of business registration, needs for various inspections such as those done by health, town and land officers as a pre-requisite for a business license and business start-up costs. Another variable of interest is that of dealing with construction permits. Issues that are scrutinized include the easiness of the process of getting a construction permit and the price of obtaining a building permit.

Doing Business reports also look at the easiness of getting electricity including the cost of getting hooked to this important factor of production. The reports also look at the business environment in the context of registering property. Among the measures in this variable include the time it takes for registration of a property and involved costs. Getting credit is yet another important component of business environment. It looks at the easiness of getting credit for various business purposes including starting and expanding businesses. Another important indicator of business environment is protection of investors. Variables in this indicator include disclosure index, director liability index, and ease of shareholders suits index and strength of investor protection index.

Payment of various kinds of taxes to the government constitutes indicators of business environment as well. Inter alia, one looks at the number of taxes,

tax rates, predictability of fiscal regime, time it takes to pay taxes as well as availability of one-stop center for tax payment purposes. The trading across borders indicator of business environment includes streamlining trading in a number of ways including Pre-Arrival Declaration (PAD) system and electronic submission of customs declarations and other measures that reduce time and documentation needed to import goods and services. Other important indicators of business environment are the easiness of businesses to enforce contracts and resolving insolvency. The World Bank (2016)³ (as is the case for other World Bank’s Doing Business Reports) addresses similar business environment issues as those outlined above with different ranking of different countries over time.

At the country level with Tanzania as an example, issues constituting challenging business climate/environment have been documented in various works. The main one is arguably the Business Leaders’ Perception on Doing Business in Tanzania produced by the Business Environment Strengthening for Tanzania (BEST—AC). Among the indicators for business environment⁴ include easiness of doing business in the country as measured by availability of quantity and quality of a number of variables. Specific variables of consideration include telecommunication, security, skilled labor, employment law, environmental law, enforcing contracts, licensing and regulations, roads, ports and airports, ease of registering land, water, macroeconomic policy, access to finance, tax administration, level of taxation, corruption and power. Issues similar to the above have been covered in Ngowi (2015).⁵ Figure 1

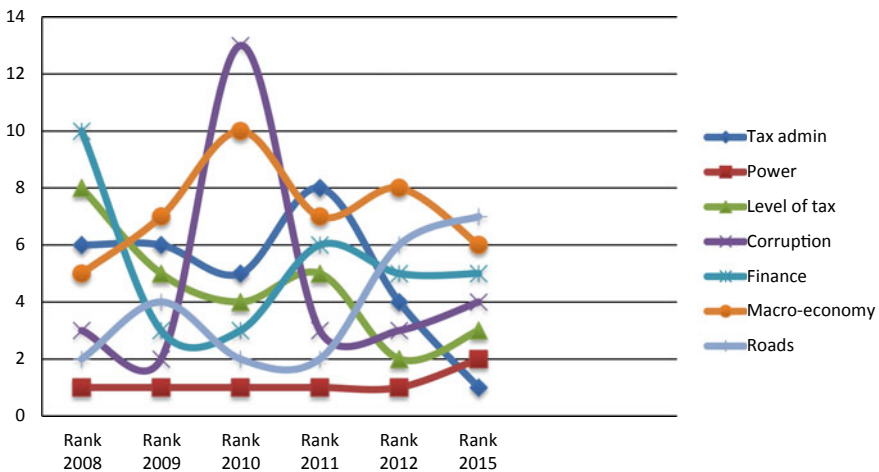


Fig. 1 Factors making business difficult in rank order 2015 (Source TPSF. Business Leaders’ Perception of the Investment Climate in Tanzania—2015)

from Tanzania Private Sector Foundation (TPSF 2015) shows factors that make business difficult in Tanzania.

9 Challenges Related to Agricultural Sector

It has been documented above that the agricultural sector has a noble role to play in Tanzania's new move on industrialization. On top of the general challenges to industrialization outlined above, there are a number of agriculture-specific challenges that are likely to be encountered along the industrialization process. These challenges are closely related and intertwined.

The challenges include low budgetary allocation in the agricultural sector. Among other things, the Maputo Agreement of the African Union heads of states that each African country should set aside at least 10% of its annual budget for agriculture has not been implemented in Tanzania.

Other challenges facing the agricultural sector in Tanzania include small farm sizes leading to inability to enjoy economies of scale; low productivity caused by inter alia poor farming practices; low quality and quantity of agricultural outputs needed for industrialization; inadequate steady supply agricultural outputs (for example fruits and vegetables for agro-processing) partly due to seasonality; low growth rate of the sector (less than 4% for a number of years); low mechanization; inadequate access to finance due to both supply and demand-side constraints and issues; low commercialization; rain-dependence; post-harvest losses; inadequate agricultural infrastructure including roads, markets, irrigation system, etc.

Unless these and other challenges are properly addressed by both the public and private sector including the academia, agriculture will not be able to play its rightful noble role in Tanzania's new industrialization drive. This is because of the dependence of the industrial sector on the agricultural sector. Under the concept of co-movement of sectors, if the agricultural sector fails to deliver due to the outlined challenges among others, the industrial sector will fail to deliver as well.

10 Conclusions

Based on the discussions in this chapter, it is clear that the agricultural sector is of great importance in the desired industrialization move by the fifth phase government of Tanzania. Its importance is seen in the context of inter-sectoral linkages theoretical framework. Among other things, there is input–output relationship between the agricultural and industrial sectors. In this context and framework, the agricultural sector has the potential to provide industrial raw materials for agro-processing industries which are among the types of industries that envisages to have. It provides food for the industrial and related labor force. This is very important in industrialization in general and industrialization that aims at creating mass employment as that of Tanzania's fifth phase government.

The agricultural sector provides market for some industrial outputs both intermediate and final and can be among sources of finance for industrial development at micro and macro-levels. The latter will happen when there is saving from agricultural activities that can be invested in industrial sector. Therefore, there are very high expectations from the agricultural sector if the new industrialization move is to succeed. However, there are a number of challenges that need to be addressed to avoid the agricultural sector becoming the missing link and constrain in the industrialization move. These challenges have been highlighted in the chapter and should be solved for agriculture to play its expected role in Tanzania's new industrialization drive.

11 Recommendations and Ways Forward

A number of recommendations are outlined in what follows in the context of the central issues raised in this chapter.

For the desired industrialization to be attained in Tanzania, there is a need for very conducive, friendly and supportive investment and business climate across the sectors in general and in the agricultural sector in particular in the context of this work. The conducive investment/business climate variables include but are not limited to issues related to infrastructure both hard and soft and especially rural agriculture infrastructure in its very broad sense. This includes roads, irrigation infrastructure, rainwater harvesting infrastructure, markets, storage facilities and other agriculture-supporting infrastructure. Other variables include utilities especially electricity for agro-process and agro-storage facilities such as refrigerators and cold room; water for irrigation, agro-processing and household use; appropriate quantity and quality of

skills and talents among the labor force in general and for agriculture and related activities in particular; good fiscal regime including relatively low tax and fees rates and fewer number of the same, predictability, easy tax returns, participatory taxation, re-investing tax and fees as well as crop cess revenue in the sector among others.

There is a need to learn from earlier industrialization moves in Tanzania and elsewhere in general and the role played (or not played) by the agricultural sector. The key issue is to learn what works, what does not work, why and what should be done differently in the new industrialization drive in the context of this chapter.

The Government (both local and central) has to allocate fairly large amounts of financial and non-financial resources to the agricultural sector including funds for research and development (R&D). This will contribute to inter alia reducing and ultimately ending the challenges faced by the sector. The results will be high productivity, reduced post-harvest losses and rapid growth of the sector. Since Tanzania is a signatory to the Malabo Agreement that requires all African countries to allocate at least 10% of their total national budgets in agriculture, the country should honour this commitment.

Key stakeholders in the agricultural sector should address the various challenges that the sector faces that can constrain the industrialization process. The stakeholders include the government, private sector, development partners, Civil Society Organizations (CSOs), the media, academia among others.

There is a need for all stakeholders to recognize the role of the sector in its broad sense in industrialization and give it the correct and deserved weight.

It is important to note that agricultural development—as is the case with industrial and other sectors development—is a cross-cutting issue that needs balanced development of many other sectors in the context of inter-sectoral linkages.

Higher learning institutions (HLIs) in general should demonstrate (more) intellectual leadership in agricultural development in general and as related to industrialization in particular. This should be seen in their training, research and dissemination agenda including well-articulated university–industry linkages as well as commercialization of agricultural and related research findings

All HLIs and universities in particular should provide intellectual leadership by way of research, training, consultancy, service to the community (outreach), interrogating and advise on industrialization in general and the role of agriculture in the industrialization process in particular. For this to happen, however, both financial and non-financial resources are needed adequately. These have to be mobilized by the government, the institutions

themselves and other stakeholders such as the private sector and development partners

Notes

1. Kim, K. S. (1996). Issues and perspectives in Tanzanian industrial development—with special reference to the role of SADCC. Working Paper #87—December 1966. The Helen Kellogg Institute for International Studies.
2. SIDP.
3. World Bank (2016). *Doing Business 2016: Measuring Regulatory Quality and Efficiency*. Washington, DC: World Bank Group.
4. Tanzania Business Leaders' Perceptions of the investment climate in Tanzania.
5. Ngowi, H. P. (2015). Analytical brief on private sector development and enterprise competitiveness for Tanzania.

References

- Ajakaiye, O., and Page, J. (2012). Industrialization and Economic Transformation in Africa: Introduction and Overview. *Journal of African Economics*, Vol. 21, No. suppl_2 (January 2012), pp. ii3–ii18. <https://doi.org/10.1093/jae/ejr049>.
- Bishop, M. (2009). *Economics: An A–Z Guide*. London: Profile Books Limited.
- Boehlje, M. (1996). Industrialization of Agriculture: What Are the Implications? 30 Choices First Quarter.
- Coffey, J. D (1993). Implications for Farm Supply Cooperatives of the Industrialization of Agriculture. *American Journal of Agricultural Economics*, Vol. 75, No. 5. Proceedings Issue (December 1993), pp. 1132–1136. Published by: Oxford University Press.
- Corbridge, S. (1986). Capitalism, Industrialization and Development. Research Article online at <https://doi.org/10.1177/030913258601000103>.
- Hayter, R., and Patchell, J. (2016). *Geography of Industrialization*. Oxford Bibliographies.
- Kim, K. S. (1966). Issues and Perspectives in Tanzanian Industrial Development—With Special Reference to the Role of SADCC. Working Paper #87—December 1966, The Helen Kellogg Institute for International Studies.
- Msami, J., and Wangwe, S. (2017). Industrial Development in Tanzania in *Manufacturing Transformation: Comparative Studies of Industrial Development in Africa and Emerging Asia*.
- Melton, E. (1987). Proto-Industrialization, Serf Agriculture and Agrarian Social Structure: Two Estates in Nineteenth-Century Russia.

- Nzau. (2010). Africa's Industrialization Debate: A Critical Analysis. *The Journal of Language, Technology & Entrepreneurship in Africa*, Vol. 2, No. 1, p. 146. ISSN 1998-1279.
- Opoku, E. E. O., and Yan, I. K. (2018). Industrialization as Driver of Sustainable Economic Growth in Africa. *The Journal of International Trade and Economic Development*, Vol. 28, No. 1.
- Pass, C., Lowes, B., and Davies, L. (2000). *Dictionary Economics*. Harper Collins Publishers.
- Rweyemamu, J. (1973). *Underdevelopment and Industrialisation in Tanzania: A Study of Perverse Capitalist Industrial Development*. Oxford: Oxford University Press.
- Sampath, P. G. (2014). Industrial Development for Africa: Trade, Technology and the Role of the State. *African Journal of Science, Technology, Innovation and Development*, Vol. 6, No. 5.
- Shigehisa, K. (1996). *The Role of Agriculture in the Early Phase of Industrialization: Policy Implications of Japan's Experience*. Published in: EAST ASIAN DEVELOPMENT: Lessons for a new global environment, Vol. No. 5, No. Project sponsored by the Government of Japan (February 1996), pp. 1–21.
- Skarstein, R., and Wangwe, S. M. (1986). *Industrial Development in Tanzania: Some Critical Issues*. Dar es Salaam: Tanzania Publishing House.
- Sutton, J., and Olomi, D. (2012). *Enterprise Map of Tanzania*. International Growth Centre
- Szirmai, A., and Lapperre, P. (2001). *The Industrial Experience in Tanzania*. New York: Palgrave.
- TPSF—Tanzania Private Sector Foundation. (2015). Business Leaders Perception on Doing Business in Tanzania.
- UN Industrial Development Organization (UNIDO). (2004). *Tanzania Review of Industrial and Trade Performance; Macro-economy Commodities; Industrial Subsectors; Export Processing Zones*. Vienna: UNIDO.
- URT—United Republic of Tanzania—Vision 2025.
- URT—United Republic of Tanzania. (2016) Five Years Development Plan (FYDPII).
- URT—United Republic of Tanzania. (2016). The 2016/17 Annual Plan.
- URT—United Republic of Tanzania. (2016). The 2016/17 National Budget.
- URT—United Republic of Tanzania. (2016). The 2016/17 Budget Speech by the Minister, Ministry of Industry, Trade and Investment.