

A Conversation on Industrialization and Roles of Higher Learning Institutions in Tanzania

Prof. Honest Prosper Ngowi¹

Pngowi@mzumbe.ac.tz, 255 754 653 740

A Public Lecture at MUST, 12th December 2019

Abstract

The lecture/paper dwells on the Tanzania's fifth phase government industrialization drive. The focus is on the roles that higher learning institutions (HLIs) can and have to play in the process. It is a conversation that interrogates the industrialization prospects of the fifth phase government. It traces the industrialization process from the early days of Tanzania's independence in 1961 and various efforts undertaken in the country's industrialization space to date. The conversation then zero-in on the potential and actual roles of HLIs in the Tanzania's new industrialization drive by the fifth phase government.

It is shown in the paper that Tanzania has made various attempts to industrialize since independence. There have been some success and failures before the fifth phase government's new industrialization drive. The paper further shows the types of industries that the fifth phase government desires and the roles that can and should be played by various HLIs in attaining the desired industrialization,

Key words: Industrialization, Higher Learning Institutions, Tanzania

¹ Mzumbe University Dar Es Salaam Campus College,

1. Introduction

The current move of industrialization in Tanzania by the fifth phase government 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)² and Kim, K. S (1966). 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 primarily oriented towards 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 investment for expansion of local import substitution industries (ISI). Incentive schemes to induce investments 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.

² 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

It was in the Second Five Year Plan which began in 1969 that the strategy was spelled out in detail. While calling for continuous process of transferring the means of production to the state, 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. Also emphasis was placed on the promotion of labor-intensive, small-scale firms and the decentralization of industry, where this was considered economically appropriate.

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. These are those that would promote Tanzania's capacity to be self-reliant in industrial production as well as those that would 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.

Tanzanian industry depends heavily on intermediate and capital goods imports. 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.

From the late 1970s, Tanzania began to be affected by a series of economic malaises of external origins: First, the war with Uganda; the second global oil crisis, the world price of coffee, which is Tanzania's main export product, declined. 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 percent. There were virtually no expansionary capital budget increases. The recurrent budgets had to be drastically reduced. 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 percent in 1983/84, at the same time giving 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.

In the mid 1980, there was 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. Among other things the former state owned enterprises (SOEs) were privatized. Over time there have been various efforts to industrialize including statements in the Development Vision 2025 and Sustainable Industries Development Strategy (SIDP) 1996 – 2020. It is seen therefore that the current (2016) industrialization move in Tanzania is not a new one.

Fifth Phase Government 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 new industrialization move is packed in various documents. They range from the ruling party's 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 grand 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.

1.1. Unpacking industrialization

At the core of succeeding in Tanzania's industrialization move lies understanding of what industrialization means and entails by all key stakeholders. This is because a problem known is a

problem half solved. 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 inter alia transformation of a primarily agrarian economy into a more specialized, capital – as opposed to labour – intensive economy. It took the form of Industrial Revolution in Western Europe and North America in the 18th and 19th centuries.

Elsewhere in the economic and business literature (see Bishop, 20xxxx), 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. Tanzania may need to adopt its own definition of industrialization but it should not miss out the key components of a true industrialized economy.

1.2. Potential benefits of industrialization

There are many potential advantages embedded within industrial economy. These include but are not limited to potentials for direct and indirect jobs and therefore incomes creation and improved standards of living. Industrialization also poses potentials for foreign exchange earnings through exports and foreign exchange saving through imports substitution. It can also generate government revenues from related taxes and none tax charges. 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. As a country we should not dwell on the potentials only but should make concrete moves to actualize the potentials.

2. 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 of Industry, Trade and Investments (MITI) inter alia. The

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

2.1. Industrialization in CCM Manifesto

What the fifth phase government is 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 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.

These targets are tall orders. 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.

2.2. 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 as he states that "... *nimeamua kulisema hili kwa kirefu sana*". 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.

2.3. 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 will be implemented annually through annual plans that will be funded by annual budgets. These annual budgets on the other hand will be guided by annual budget guidelines. One therefore need to understand the FYDP, the annual plans for the coming five years, annual budget guidelines and their corresponding annual budgets to unpack and analyze the extent to which the planned industrialization move will be unfolding and seeing the light of the day in the five years of the fifth phase government.

2.4. Interrogation on What It Takes to Attain The Desired Industrialization

The major debates and plans on Tanzania’ s economic future have recently dwelt on industrialization. Among the fifth phase government’s main economic plans is to have industrial economy. This is clear given the many potential advantages embedded within industrial economy. These include but are not limited to potentials for direct and indirect jobs and therefore incomes creation, foreign exchange earning through exports and foreign exchange saving through imports substitution, government revenues from related taxes and none tax charges as well as inter-sectoral linkages both backward and forward that trigger development of many other sectors. For eventual success in the desired industrialization in Tanzania, it is important to interrogate and contribute ideas on what it takes for Tanzanian-type economies to industrialize.

2.4.1. Desired industrialization

Drawing from President Magufuli’s speech in the Parliament on 20th November 2015, there are three main typologies of industries that the fifth phase government desires to attain. These are mass employment-creating industries; industries for domestic mass consumption goods and industries for export goods. On its part, the ruling party’s 2015 election manifesto aims to accomplish and implement the third phase of Sustainable Industrial Development Plan (SIDP) 2010–2020. It also aims at attaining industrial sector contribution in Vision 2015. It desires for

construction of agro-processing, middle, large and basic industries and industries that use domestic raw materials.

It also desires to strengthen existing industries and increase industrial sector GDP contribution from 9.9% in 2013 to 15% in 2020 and have 40% of Tanzania's employment coming from the industrial sector by 2020. It also desires to mobilize the private sector to invest in middle and large industries and protect them against competition from foreign industries. It also desires to increase sub-regional, regional and global preferential markets access. Good as these desires are, there are needs for for critical and constructive interogations on what it takes to attain the desired industrialization above. Selected thoughts are shared in what follows.

2.4.1.1 Employment creating industries

The desire is to have 40% of employment in Tanzania coming from the industrial sector by the year 2020 although the current percent is not given in the said manifesto or President's speech. For Tanzania to attain the mass employment-creating industrialization, then it has to opt for labour intensive industrialization if it means jobs coming direct from industries. labour intensive production techniques employ more labour than capital and therefore create more jobs. However, there are several downsides of labour intensive production and by extension labour 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 industrial value chains 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 need to be adequately developed.

2.4.1.2. Industries for mass consumption

The fifth phase government targets industries that will produce goods for mass domestic consumption. They include but not limited to textile, footwear, cooking/edible oil etc. There are many economic advantages embedded in consumption of domestically produced goods and

services. They include saving of foreign currency that would have imported the goods, more domestic jobs creation and related individual incomes as well as government revenues through tax and non-tax charges. However, there is a need to interrogate the theory and practices of consumers behavior. Tanzania consumers as are consumers elsewhere, have their tastes and preferences for goods and services. The tastes and preferences may not be necessarily in favour of domestically produced goods. In Tanzanian context, there is emerging and complex high and middle class with by and large tastes and preferences skewed towards imported consumables. This can be attributed to higher quality and better brands of imports. For Tanzanian industries to produce goods and services for mass domestic consumption, there is a need to ensure that they meet the needs of consumers as captured in their tastes and preferences.

2.4.1.3. Export oriented industrialization

The fifth phase government desires to have industries that will export industrial goods. This is a good thing because inter alia, exports earn a country the much needed foreign currencies with the many and far-reaching advantages of this. In order to be able export industrial goods, domestic value addition and a move away from the current predominantly export of unprocessed raw materials is important. Among the key implication here is availability of and access to export markets for the 'made in Tanzania' industrial goods. Currently the main industrial goods from Tanzania include agro-processed products. In order to access the export market in a meaningful way, there is a need to meet and adhere to the demanded quality and standards. For food and beverage products for example issues of sanitary and phytosanitary conditions as well as traceability are very important. Important too, in exporting is the ability to meet and adhere to the needed quantity and supply frequencies. Performance of African countries – Tanzania included - in the AGOA market access opportunity should be able to give us lessons.

2.4.1.4. One Hundred Industries Per Region

In November 2017, the government, through the Minister responsible for local government and regional administration instructed that each region in Tanzania should create 100 industries within a year with December 2018 as the deadline. Guidelines towards this end were to be given by the government.

3. The Role of Higher Learning Institutions in Tanzania's Industrialization

HLIs have a pivotal role to play in industrialization. The roles include but are not limited to training in long and short courses, research, consultancies and outreach activities on industrialization and related areas. They have the role of giving intellectual leadership in the industrialization agenda and spaces. They have advisory role on various industrialization and related issues including legal, policy and regulatory frameworks necessary for industrialization. They are supposed and expected to be the movers and shakers as well as change makers of knowledge in the industrialization space.

3.1. How Can HLIs Play Their Roles

3.1.1. Training

HLIs have to train the labour force needed for industrialization. This has to be demand – rather than supply – driven. Training needs assessments (TNAs) have to be done in a participatory manner involving all key stakeholders. In this context and space, University – industry linkages are very important in various aspects. The aspects include curricula development and review in the bid of having inputs and flavor from the industry; industry/factory -specific case studies development for teaching purposes; guest lectures by captains and titans of the industry for hands-on and experiential knowledge delivery to complement theoretical teaching; industry/factory visits by faculty members and students to learn, understand and appreciate real-world as opposed to theoretical, imaginary and bookish industrial/factory contexts and issues; students industrial attachments in forms of field works and internships for hands-on experience on what is taught in class rooms.

3.1.2. Research

Generate new knowledge on industrialization and related issues through various kind of researches. They include from basic to cutting edge researches. These can be undertaken by students in various contexts including assignments such as term papers, projects, theses and dissertations. They can also be undertaken by faculty members on their own and/or in collaborations with students. Researches can also be undertaken by HLIs faculty members in collaboration with Think Tanks.

This implies adequate quantity and quality of resources including human and financial resources. Whereas the former resource has to be developed through training and re-training, the later can be mobilized in different ways. These include setting aside budgets dedicated for industrialization research; applying for various research funds from existing research-funding organizations. This implies that one has to know these organizations, dates for call for proposals, thematic areas being funded and other conditions such as proposals format, length, budget ceiling, duration, need for collaborators etc.

HLIs can also play their research role in industrialization through commissioned researches. These are demand – as opposed to supply – driven researches. Commissioning agents are normally end consumers of the research outputs. They can be the policy and decision makers, practitioners in various fields including industrialists, financiers etc.

3.1.3. Consultancies

HLIs have the mandate and role of conducting consultancies in various disciplines including industrialization. These are normally demand-driven assignments from clients. Typically clients would issue call for expressions of interest (EoI) and/or call for technical and financial proposals. HLIs have the role of reacting to these calls by writing and submitting winning EoIs and technical and financial proposals based on Terms of Reference (ToR) from clients. To successfully play this role, HLIs need what it takes to win these normally very competitive consultancy assignments. The need for adequate capacity and building the same in cases of deficits cannot be overemphasized.

3.1.4. Outreach activities

HLIs have the mandate and role of conducting outreach activities in form of free of charge services to communities. These can cover a number of activities based on real situation on the ground and demand from the would-be beneficiaries. Activities may include those related to industrialization such as training on opportunities from industrialization process, building capacities of local suppliers in the context of local and local-local content in the industrial and related sectors.

3.1.5. Conferences, Symposia, Workshops, Seminars and Public Lectures

Given their convening powers and ability, HLIs are supposed to be at the forefront in organizing conferences, symposia, workshops, seminars and public lectures on a number of issues including industrialization in its very broad sense. These are supposed to be platforms and avenues for free, intellectual, informed and considered sharing and exchange of knowledge including on industrialization. They can be confined into a department, faculty, school, campus, university or national and international in nature. On top of organizing these events, HLIs should also facilitate participation of its staff and students in such events organized by other institutions locally and globally. This calls for resources especially financial. They should therefore feature in HLIs corporate strategic plans (CSPs) and by extension in their annual plans and budgets.

3.2. What Has Been Done: Selected HLIs Cases

In what follows, a highlight of what has been done by some selected HLIs on the industrialization space in Tanzania in recent years is presented following a rapid survey by the author.

3.2.1. Mbeya University of Science and Technology (MUST)

- i) Public lecture 2019 themed: The Role of Higher Learning Institutions in Tanzania to the Nation's Industrialization Development Agenda.

3.2.2. Mzumbe University (MU)

- i) UNIDO Internship
- ii) Mwalimu Nyerere Day Papers (Industrialization theme)
- iii) Industrialization research funds: 100,000,000 Tshs
- iv) Students assignments: MBA Dissertation on Towards successful industrialization: Case study of Tanzania Brush Products Limited

3.2.3. Mwalimu Nyerere Memorial College (Dr kitale ; Chawa

3.2.4. University of Dar Es Salaam

- i) UDBS – ACAESB 2017: Theme: Fostering Inclusive and Sustainable Industrialization: Prospects and Challenges”, 17th International Conference on African Entrepreneurship & Small Business (ICAESB 2017). Organized by University of Dar Es Salaam Business School (UDBS)
- ii) 20th Annual International Academy of African Business and Development; Conference Theme - “Towards Industrialized Africa: Opportunities and Challenges” – UDBS, May 8th to 11th, 2019
- iii) Voice of Social Sciences Conferences

3.2.5. The Open University of Tanzania (OUT)

3.2.6. Institute of Financial Management (IFM)

- i) On 14th November 2019 at Diamond Jubilee (asked to present paper on Role of HLIs in industrialization)

3.2.7. Sokoine University of Agriculture (SUA)

- i) Annual Scientific Conference for the Tanzania ... Industrialization in Tanzania amid pressures of the ...xxx

3.2.8. The St. Joseph University In Tanzania

- i) First International Conference on “Innovation for Industrialization”

3.2.9. College of Business Education (CBE)

CBE has done the following to enhance industrialisation and middle income economy

- i) Since 2016 when the government moved its capital city to Dodoma CBE has been organising and hosting academic forum on “industrialisation and middle income economy realisation in Tanzania”. Each of these forums has been attracting more than 20 participants from both academic and industry. The theme for this year’s forum is “*Industrialization and Business growth for National Economic Development in Tanzania*”. 21/11/2019, guest of Honour Prime Minister of Tanzania.
- ii) In 2017, CBE organised the *7th Applied Research Conference in Africa (ARCA)* held at the College of Business Education (CBE), Dar es Salaam, from 17th to 19th August 2017, with THEME: Standardization for Sustainable Development in Africa: The Role of Researchers. The aim of the Applied Research Conference in Africa is to provide a platform for capacity building and networking among researchers in Africa
- iii) Furthermore, CBE has reviewed all its curriculum to reflect industrialisations. To this end the college has made it compulsory for all students to take modules on entrepreneurship and Information Communication technology that are prerequisites for innovations and industrialisation.
- iv) CBE has also invested massively on its unique industrialisation related programmes. The programmes are called Metrology and standardisation. This course is critical for industrialisation because it is all about effective weights and measurements on issues of environment, industries, health, mining [extractives] to mention just a few.
- v) In the past the course of metrology and standardisation was offered only at Bachelor level. However, recently in the quest to enhance industrialisation the programme is now offered at certificate, diploma, bachelor degree and postgraduate diploma. This is in order to extend such knowledge to middle carder population interested in the programme for both formal and informal employment.
- vi) CBE has been organising and facilitating short courses on entrepreneurship for industrial development through its various academic departments across its four campuses

vii) CBE is currently conducting short courses on KAIZEN which is the Japanese philosophy of improving industrial productivity through Continuous Improvement. This kind of training is intending to increase effectiveness, efficiency and economy in any kind of production. More than 50 SMEs have been benefiting from the training over the last three years

3.2.10. Cooperative University

3.2.11. Other Selected Organizations' Interventions of Industrialization

3.2.11.1. **The Economics Society of Tanzania (EST):** Theme: Industrialization for Inclusive Development in Tanzania; Dec 7th – 8th December 2018

3.2.11.2. **Institute of Risk Management Tanzania (IRMT):** 2nd IRMT Risk Summit. Theme: - Risk Management in Tanzania Development Perspective & Industrialization Agenda. 21st – 22nd November 2019

3.3. What Has Been Done by the Author (Prof Ngowi)

Selected List of Prof Ngowi's Works on Industrialization

A: Papers

- i) Key note paper/speech on **Towards Industrialization in Tanzania: What is the Role of Agricultural Sector?: Prospects and Challenges of the 5th Phase Government** at Sokoine University of Agriculture (SUA)'s Nyerere Day in October 2016
- ii) Key note paper/speech on **Education and Industrialization: Matching the Goals of Education to the Labour Market and Society Needs** at Mwenge University in November 2019
- iii) Conference paper on **Industrialization Strategies in Malaysia: Selected Lessons on Investment Climate for Industrialization in Tanzania** for REPOA Annual Research Workshop 2018

- iv) A conference paper on **Industrializing Through the Fourth Industrial Revolution Technologies: Is the Accountancy Profession in Tanzania Ready?**, for National Board of Accountants and Auditors (NBAA) annual conference 2018
- v) A key note paper on **Towards Industry-led Economy in Tanzania: The Role of Development Planners**, for the 9th IRDP Convocation, 1st December 2016
- vi) Conference paper on **Emerging Roles of Accountancy Profession in Tanzania's Industrialization Drive: The Case of Reporting Beyond Financial Matters** for National Board of Accountants and Auditors (NBAA) annual conference 2017
- vii) Conference paper on **Implications of the Fourth Industrial Revolution Technologies on Supply Chains**, for Procurement and Supply professionals board annual meeting in 2018
- viii) Journal (Uongozi Journal) paper on **Towards successful industrialization: The case of Tanzania Brush Products Limited**

B. Newspaper articles on industrialization

Selected articles from my Citizen on Saturday Column (Economics Made Simple)

- i) **The Fourth Industrial Revolution in SADC Context** (August 17th 2019)
- ii) **Towards Industrial Economy in Tanzania: Lessons From SADC** (July 27th 2019)
- iii) **Implications of the Fourth Industrial Revolution Technologies to Labour Market**, November 17th 2018
- iv) **The Fourth Industrial Revolution in Tanzanian Context**, 27th October 2018
- v) **Selected Industrialization Challenges in Tanzania**, September 2019
- vi) **Linking Research Institutions With Industrialization**, July 7th 2018
- vii) **Selected Possible Industrialization Strategies For Tanzania**, 9th December 2017
- viii) **Matching Education to Industrial Labour Market Needs**, 27th November 2017
- ix) **A Discussion on the Number of Industries in Industrialization Process**, 11th November 2017

- x) **Industrialization in Tanzania: Interrogating Reviving of ‘Dead’ Industries, 23rd**
September 2017
- xi) **Is Decline in Industrial Goods Export: A Concern on Industrialization In Tanzania?, 2nd** September 2017
- xii) **Unpacking Tanzania’s Industrialization Move**
- xiii) **Interrogation on What It Takes to Attain The Desired Industrialization In Tanzania**
- xiv) **What Budgetary Measures Will Deliver Industrialization for Mass Employment?**
- xv) **Industrialization for Mass Employment in Tanzania: A Wishful Thinking?**
- xvi) **Role of Interns in Tanzania’s Industrialization: Lessons From Mzumbe – UNIDO Project**
- xvii) **Many more going back to 2016**

Selected Industrialization Articles in Mwananchi Column (Tujadili Uchumi)

- i) **Ulelewa Mpana wa Kiuchumi Dhana ya Ufufuaji Viwanda, 19th** July 2019
- ii) **Mageuzi ya Nneya Viwandana Maana Yake Kwa Taasisi za Elimu, 15th** November 2018
- iii) **Mageuzi ya Nne ya Viwanda Yana Maana Kubwa Tanzania, 1st** October 2018
- iv) **Sekta ya Umma na Sekta Zina Majukumu Tofauti Katika Uchumi wa Viwanda, 4th**
September 2018
- v) **Kuna Changamoto Anuwai Katika Kuwa na Uchumi wa Viwanda, 27th** September
2018
- vi) **Mwingiliano wa Taasisi za Utafiti na Viwanda, July** 2018
- vii) **Uchumi wa Viwanda Kwa Programu ya Kuendeleza Sekta ya Kilimo Awamu ya Pili**

- viii) **Baadhi ya Mambo Muhimu Katika Mjadala wa Bajeti ya Viwanda, 10th May 2018**
- ix) **Majukumu ya Serikali na Sekta Binafsi Katika Uchumi wa Viwanda, 21st December 2017**
- x) **Yanayotakiwa Katika Bajeti Kuu Ili Kufanikiwa Katika Uchumi wa Viwanda**
- xi) **Many more going back to January 2016**

C. Selected Videos on Ngowi’s Various Presentations (From my own television – Ngowi TV – www.ngowitv.co.tz)

- i) <http://www.ngowitv.co.tz/we-dont-need-to-tax-more-we-only-need-to-tax-better-prof-ngowi/>
- ii) <http://www.ngowitv.co.tz/ernst-young-budget-breakfast-2019-2020/>
- iii) <http://www.ngowitv.co.tz/mzumbe-yaendesha-mafunzo-ya-ujasiriamali-na-ugavi-kwa-wajasiriamali-wadogo/>
- iv) <http://www.ngowitv.co.tz/managerial-economics/>
- v) <http://www.ngowitv.co.tz/category/ngowitv/nukuu-za-prof-ngowi/>
- vi) <http://www.ngowitv.co.tz/education-in-africa-has-not-liberated-the-poor-prof-ngowi/>

4. What Needs to be Done

It is seen from the selected list above that a number of HLIs have engaged themselves in various interventions on industrialization mainly in the context of the 5th Phase Government industrialization agenda. However, more needs to be done given the huge potentials in these and other HLIs. On top of doing more than what has been done by the identified HLIs, more needs to be done on what has been done already as partly outlined in what follows.

4.1. **Disseminations:** Wide and proper disseminations including simplifications

utilities especially electricity and water; appropriate quantity and quality of skills and talents amongst the labour force; good fiscal regime including relatively low tax rates and fewer number of the same, predictability, easy tax returns, participatory taxation, re-investing tax revenue in the sector and much more.

- 6.2. 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 this time around.
- 6.3. The Government (both local and central) has to allocate fairly large amounts of financial and none-financial resources to the agricultural sector including funds for research and development (R&D). This will contribute in 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.
- 6.4. Key stakeholders in the agricultural sector should address the various challenges that the sector faces that can constrain the industrialization process
- 6.5. There is a need for all stakeholders to recognize the role of the sector in its broad sense in industrialization a
- 6.6. It is important to note that agricultural development – as is the case with industrial development – is a cross-cutting issue that needs balanced development of many other sectors in the context of inter-sectoral linkages
- 6.7. Higher learning institutions in general and SUA in particular should demonstrate (more) intellectual leadership in agricultural development in general and as related to industrialization in particular. This should be seen in its training, research and dissemination agenda including well articulated university – industry linkages as well as commercialization of research findings
- 6.8. All higher learning institutions and universities in particular should provide intellectual leadership by way of research, training, service to the community, interrogating and advising on industrialization in general and the role of agriculture in the industrialization process in particular. For this to happen however, both financial and none-financial resources are needed. These have to be mobilized by the government, the institutions themselves and other stakeholders such as the private sector and development partners

References

- Barbiero, T. P and Brown, A. A (1991). The Role of Agriculture in Industrial Development Symbiotic vs. Parasitic Relationship. *The American Economist*, Vol. 35, No. 1 (Spring, 1991), pp. 21-29. Published by Sage Publications, Inc
- Bishop, M (2009). *Economics: An A – Z Guide*, Profile Books Limited, London
- 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
- Ngowi, H. P (2016). What Does It Take to Attain The Desired Industrialization by Tanzania’s 5th Phase Government? Selected Economic Thoughts. Paper Presented at REPOA’s Annual Research Workshop held at the Ledger Plaza Bahari Beach Hotel, Dar es Salaam, Tanzania; April 6-7, 2016
- Pass, C., Lowes, B., Davies, L (2000). *Dictionary Economics*. Harper Collins Publishers
- 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

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

Appendices: Selected Prof. Ngowi's Articles³ on Industrialization

Article 1: Linking Research Institutions With Industrialization

Honest Prosper Ngowi, Pngowi@mzumbe.ac.tz; +255 754 653 740

Tanzania's 5th phase government main economic goal revolves around industrialization. This is a path towards higher goal of attain middle income economy. Drawing from President Magufuli's maiden speech in the Parliament in November 2015, there are three main typologies of industries that the government desires to attain. These are mass employment-creating industries; industries for domestic mass consumption goods, industries for export goods and industries that will use domestic raw materials. On its part, the ruling party's 2015 election manifesto aims to accomplish and implement the third phase of Sustainable Industrial Development Plan (SIDP) 2010–2020. It also aims at attaining industrial sector contribution in Vision 2015. It desires for construction of agro-processing, middle, large and basic industries and industries that use domestic raw materials.

It also desires to strengthen existing industries and increase industrial sector GDP contribution from 9.9% in 2013 to 15% in 2020 and have 40% of Tanzania's employment coming from the industrial sector by 2020. It also desires to mobilize the private sector to invest in middle and large industries and protect them against competition from foreign industries. It also desires to

³ From his weekly column in Mwananchi (Tujadii Uchumi every Thursday) and The Citizen on Saturday (Economics Made Simple)

increase sub-regional, regional and global preferential markets access. There are many success factors for the desired industrialization. Among these include linking research institutions with the industrialization process.

Research and Industrialization

Research is about unearthing the unknown. It is very important in informing various processes including industrialization any country including Tanzania. Industrialization process has a lot of unknowns that need to be known through research. Such researches include basic and advanced ones. They inform various aspects of industrialization. In the context of Tanzania's industrialization goals, both basic and advanced researches are needed. They include research on industrial goods demand domestically and abroad, industrial raw materials, production processes, industrial wastes and their disposals and much more. All these researches call for proper linkages between research institutions on one hand and industries on the other. 1

Towards Linkages

The needed linkages between research institutions and industrialization entail linkages between research institutions and industrialists. These institutions have to produce demand-driven as opposed to supply –driven researches. For this to happen, a very close and proper university-industry linkage is important. The world of industry, predominantly private sector, has to inform the research institutions about their needs for research. Research institutions on their part have to conduct industry research needs assessment. This is important in ensuring that industrialization and related researches are not done for their own sake but for informing specific industrialization aspect.

Matching Demand With Supply

In attaining the needed linkages, matching the demand and supply side of research is very important. For this to happen, there is a need for proper and carefully planned and executed consultation and dialogue between the supply and demand sides of research equation. Needs of the industry have to be matched with what research institutions have to offer. In this context, matching can be done in various ways that directly or indirectly link the supply and demand sides of research equation.

In ideal situation, industries are supposed to have research departments that would conduct researches to fit their needs. In the context of specialization however, it is better for industries to do what industries do better. What they do better is undertaking industrial production as opposed to conducting researches. By implication, research institutions have to undertake research for industries. This can happen through industries contracting out researches to research institutions. Typically this would involve industries calling for expressions of interests or full technical and financial proposals from research institutions. It can also happen through research institutions commercializing their research findings. In this case research institutions would place in the market place their research findings. These can include prototypes that can be developed into full products.

What it Takes

Proper linkages between research institutions on one side and industries on the other call for a number of enabling factors and key players. These include proper policy, legal and regulatory frameworks. It also takes availability of adequate quantity and quality of resources including financial and human. Among other things, adequate funding of research institutions for them to be able to conduct the needed basic and advanced researches for industries is very important. It is in this context that adequate budgetary allocation for research in any country including Tanzania is very important. Adequate research funds are vital for high quality research needed for industrialization.

Article 2: Matching Education to Industrial Labour Market Needs

Honest Prosper Ngowi, Pngowi@mzumbe.ac.tz ; +255 754 653 740

Industrialization is among the key goals of the fifth phase government in Tanzania. This is seen in several places including in the Second Five Years Development Plan and annual plans and budgets following it. Among the latest (November 2017) moves is the directive for every region to construct 100 industries within a year or so. There have been several discussions on the new move of industrialization by the fifth phase government. Discussions have been in various contexts including conferences, workshops, media discussions and much more along those lines. This piece is extracted from the key note paper presented by Professor Ngowi at Mwenge University's Annual Conference on November 23rd 2017.

On Education

Education is a process not an event. It is related to facilitating learning. It is associated with acquisition of knowledge, skills, values, beliefs, and habits. Education should be about bringing up, nurturing and rearing. It is a process of receiving or giving systematic instruction and transmission of certain attitudes, knowledge and skills. Education in the context of industrialization should be understood in the broad context of investment in human capital in forms of human resources (HR). Human capital is highly needed for successful industrialization. It forms one among very key factors of production in forms of labour. Both formal and informal education and at all levels including life-long learning is very important for successful

industrialization. Education is a means of empowering those who get it and plays key roles in development of societies.

Education and Industrialization

Education should be given with particular and targeted goals. It should be linked with social and economic development of the society. It should not given in vacuum but in a given context. In industrialization context, it should be given with the desired industrialization in mind. It should address the needs of successful industrialization and therefore be matched with the industrial labour market needs.

Role of education in industrialization

Education is among the best investments in human capital for successful industrialization. Education proves skills to boost industrial production and productivity and therefore competitiveness. It is very important in enabling innovation and rapid technological progress needed for industrialization. It is crucial in improving HR in the many and long industrial value chains and nodes in the context of inter-sectoral linkages.

What should education do?

It is important to depart from narrow approach of looking at the role of education in terms of just what learners are taught. The education process is supposed to instill in learners many values over and above what one is taught directly. Processes such as strict time tables, group and individual assignments, class presentations, disciplines, evaluation systems including examination procedures and their rules are supposed to shake and shape learners and give them values over and above what is taught in class.

Values from education

Education is supposed to bring with it a number of values at the minimum. These include confidence, exposure, daring, innovation, risk-taking, civilization, positive thinking, problem solving, perseverance, articulation, being systematic and orderly, discipline, team spirit and networking, capability to adapt, change orientation, flexibility, humility, humbleness, boldness and many others. All these are very important for success in any economic undertaking including industrialization. All these are equally and arguably likely more important in industrialization process than the actual and direct technical subjects being taught

Meeting labour market needs

Factors of production are transacted in labour market that is increasingly becoming very competitive and globalized. Education should very much match the needs of the labour market. It should be relevant to the end users, it should be demand-rather than supply – driven and should be aligned to the world of work realities on the ground at a particular locality. It should cater for the general and specific needs of the captains and titans of the industry. This is because employers want what educated people can do not just what they know. Education provision should be realistic to the situation in the labour market supply and demand sides. It is very important to note the very great dynamic, turbulence, unfolding and non linear nature of the labour market though. It is also crucial to consider labour market needs in the short, medium and long term as well as striking the very delicate balance between theoretical and vocational, practical skills and competences.

Industrial uniqueness

As one attempts to match education to industrial labour market needs, it is important to note that industrialization is a process with its own unique industrial culture, attitude and tradition. As is the case for entrepreneurship, arguably not everybody is born industrialist. Some can be made through education systems. It is worth taking into account that industrialization needs multidisciplinary approach. Market research on the needs of industrial labour market needs will determine how much of what is needed when and where.

Entrepreneurship education

In matching the needs of education to the labour market we should not forget entrepreneurship. We should not focus on education for industrial job seekers only and forget education for industrial jobs creators. Matching education for industrial self employment both directly and indirectly is crucial. Education has to produce jobs creators not just job seekers only. In capital intensive industrialization, jobs will come from related industrial jobs. It is important to match education to these needs as well. One should match education to industrialization entrepreneurship. It is important to educate entrepreneurs in the context of industrialization.

How to match the needs

There are various possible strategies to match education with the industrial labour market in particular and other labour markets in general as well. These strategies include but are not limited to various forms of university-industry linkages including joint curricula development and review. Other strategies include participatory and consultative approaches, field attachments and internships, apprenticeship, career guides, tracer studies and even establishing industry universities as is the case with teaching hospitals in the medical field.

Article 3: Role of Interns in Tanzania's Industrialization: Lessons From Mzumbe – UNIDO Project

Honest Prosper Ngowi, Pngowi@mzumbe.ac.tz; +255 754 653 740

Plans on Tanzania's economic future revolve around the axis of industrialization. Among the fifth phase government's main economic plans is to have industrial economy. Potential advantages of industrial economy include but are not limited to direct and indirect jobs and by extension incomes creation. It can also generate foreign exchange through exports and foreign exchange saving through imports substitution. The government stands to get revenues from related taxes and none tax charges as well as inter-sectoral linkages both backward and forward that trigger development of many other sectors.

There are many success factors for this grand industrialization mission. Among these include the role of interns in industrial Small and Medium-size Enterprises (SMEs). Emerging pieces of evidenced from the internship project by the United Nations Industrial Development Organization (UNIDO) and Mzumbe University Dar Es Salaam Campus College (MUDCC) show that graduate interns can play key role in industrialization. They have been among the key catalysts in the development of industrial SMEs. They therefore have noble roles in the country's industrialization.

Mzumbe – UNIDO Internship

Under the United Nations Joint Programme for Youth Employment (JPYE), UNIDO and MUDCC are jointly implementing a project on “Enhancing Youth Employability and Entrepreneurship in Tanzania”. The project aims at increasing employability of young Higher Learning Institutions (HLIs) graduates by placing them as interns in SMEs in particular in productive sectors such as manufacturing and agro-processing. The internship is taking place between March and May 2016 but preparations began well back in December 2015. Having been in action in industrial SMEs since early March 2016, interns have demonstrated that they can play crucial role in developing these SMEs thereby contributing in the country’s grand industrialization move.

On the interns

In the context of the Mzumbe – UNIDO project, interns are young men and women who have graduated from HLIs. They are working in SMEs to practice what they have learnt from school. They are not in field attachments neither are they in part time jobs. A total of 409 graduates applied to be in the internship project in the pilot regions of Dar Es Salaam, Arusha, Mwanza, Mbeya and Zanzibar. The applicants came from a background of 77 different courses of study and from 61 different HLIs both local and foreign. Those who applied to be considered graduated between the year 2016 and 2000. A whole 80.9% hold first degrees, 13.7% hold diplomas and 5.4 hold masters degrees.

On the involved SMEs

The involved SMEs are from the manufacturing sector in the five pilot regions. The majority of SMEs interested in interns are located in Dar Es Salaam (35.6 percent) followed by Mbeya (29.8 percent), Mwanza (17.1 percent), Arusha (14.1 percent) and Zanzibar (3.4 percent). Knowing the potential value and contribution of interns in SMEs development, these enterprises have demanded 53 various kinds of skills from the would-be interns. The main skills demanded are marketing (27.3 percent), accounting (8.8 percent), machine operators (4.2 percent), Information and Communication Technology (3.9 percent) and design (3.5 percent). Percentage share of the other skills range from 0.2 percent to 3.2 percent.

What have interns done?

Since early March 2016 the interns have done tremendous work in the development and transformation of the SMEs. There are cases where they have conducted market research for SMEs thereby increasing possibilities of more sales and associated revenues, profits and general growth. They have also assisted SMEs to reach more and new markets, putting their accounts in better shape, structuring better the human resources systems, improving procurement procedures, enabling leveraging of ICT and much more.

Role played by quantity surveyor

There are numbers of success stories that can be narrated on what interns have done for development of the industrial sector SMEs thereby contributing to the country's industrialization plan. A female quantity surveyor is placed at a metal fabrication SME at SIDO Vingunguti in Dar Es Salaam. The company is a subcontractor of many big companies. It has no permanent quantity surveyor expert but uses services of a part time one. The intern was given Job Description (JD) and practical example and manual of how to make quantity survey when tendering for various bids.

The company owner guided her few times but now she is doing very well. She is now doing all the quantity survey works in tendering. According to the SME, the intern came in with theories without practical experience. But now she is increasingly becoming more practical and hands-on. She has contributed substantially in the SMEs' quantity surveying work.

Role by electro-mechanics

Another success story of contribution by an inter in SMEs development is that of an electro-mechanics intern. He is placed at a plastic manufacturing SME at SIDO Vingunguti in Dar Es Salaam. Among other things, he is using his university education in servicing machines. He also inspects and maintains machines and has installed computer systems to update the machines. He has educated the colleagues he met at the company operating machines the theories of why machines operate the way they do.

Ways forward

Preliminary findings from the Mzumbe – UNIDO project have produced pieces of evidence showing among other things that interns can potentially contribute a lot in Tanzania’s grand industrialization move. They have contributed in the improvement and development of manufacturing SMEs in the five pilot regions. Stakeholders including the government, private sector organizations, parents and guardians need to support and sustain internship interventions.

Article 4: Ni Muhimu Kuoanisha Elimu na Mahitaji ya Soko la Ajira la Uchumi wa Viwanda

Profesa Honest Prosper Ngowi, Pngowi@mzumbe, +255 754 653 740

Kati ya mambo makuu yanayosisitizwa na serikali ya awamu ya tano katika maendeleo ya uchumi ni kuwa na uchumi wa viwanda. Hili ni jambo zuri sana kiuchumi kwa sababu ya faida za kuwa na uchumi wa viwanda. Faida hizi ni pamoja na uwezekano wa kuleta na kuongeza ajira za moja kwa moja na zisizo za moja kwa moja, mapato ya kikodi na yasiyo ya kikodi, fedha za kigeni, kukuza sekta nyingine zinazofungamana na sekta ya viwanda kwa kuwa soko kwa sekta hizi na kwa kuzipatia malighafi na bidhaa nyingine. Kiujumla uchumi wa viwanda unaongeza uwezekano wa kukua kwa pato la taifa na kuchangia katika kupunguza umasikini hasa ule uliokithiri. Kati ya mabo muhimu kwa mafanikio ya uchumi wa viwanda ni elimu. Pamoja na mambo mengine, ni muhimu kuoanisha elimu itolewayo na mahitaji ya soko la ajira kwa ujumla na soko la ajira katika muktadha wa uchumi wa viwanda kimahususi. Makala haya ni ufupisho wa mawasilisho ya Profesa Ngowi katika kongamano la kitaaluma lililofanyika katika Chuo Kikuu Mwenge Moshi Novemba 23 mwaka 2017.

Kuhusu Elimu

Elimu ni mchakato unaowezesha kujifunza, sio tukio la mara moja. Mchakato huu unawezesha upatikanaji wa ujuzi, maarifa, tunu, tabia na kadhalika. Elimu inahusu malezi na makuzi kwa lengo la kutoa maelekezo mbalimbali. Katika muktadha wa elimu kwa uchumi wa viwanda, elimu inapaswa kueleweka katika mtizamo mpana wa uwekezaji katika rasilimali watu. Huu ni uwekezaji muhimu sana kwa sababu ya umuhimu wa rasilimali watu katika maendeleo na mafanikio ya shughuli yoyote ya uchumi na viwanda katika muktadha tulionao.

Elimu na viwanda

Elimu haipaswi kutolewa katika utupu bali katika muktadha na malengo fulani maalumu. Ni lazima ioanishwe na maendeleo ya jamii inayohusika kwa namna mbalimbali ikiwemo kijamii na kiuchumi. Katika muktadha wa uchumi wa viwanda ni lazima elimu itolewe ili kukidhi mahitaji ya mafanikio ya uchumi huu. Kwa maana hiyo, ni lazima kuonisha elimu inayotolewa na mahitaji ya soko la ajira la uchumi wa viwanda.

Umuhimu wa elimu uchumi viwanda

Elimu ni kati ya uwekezaji muhimu sana katika rasilimali watu kama tunataka uchumi wa viwanda ufanikiwe. Pamoja na mambo mengine elimu ni muhimu kwa kuongeza uzalishaji na tija viwandani. Hii hupelekea kuongeza ushindani wa viwanda katika dunia iliyo na ushindani mkubwa sana, elimu ni muhimu sana kwa ubunifu na maendeleo ya teknolojia. Vyote hivi ni muhimu sana kwa maendeleo na ustawi wa uchumi wa viwanda. Elimu ni muhimu sana kwa rasilimali katika minyororo yote ya thamani ya uchumi wa viwanda na mafundo yake.

Yapaswayo kufanywa na elimu

Katika mijadala ya umuhimu wa elimu ni muhimu kuondokana na mitizami finyu ya kutizama umuhimu katika lile linalofundishwa tuu. Kama mchakato, elimu inapaswa kufanya mengi kwa anyepitia katika mchakato huo. Ni zaidi ya kumpatia maarifa ya somo analosoma tuu. Mchakato wa elimu unapaswa kumjengea anayeipokea hulka na tunu muhimu sana zinazohitajika katika soko la ajira kwa ujumla wake na lile la ajira katika uugumi wa viwanda kimahususi. Mchakato kama ratiba kali mashuleni, kazi na mazoezi ya vikundi na mtu mmojammoja, uwasilishaji mbelea ya madarasa, nidhamu, tathmini ikiwemo mchakato wa mitihani na taratibu zake inapaswa kumtingisha, kumuimarisha, kumkomaza na kumkuza anayepitia katika mchakato wa elimu katika ngazi yoyote ile. Mwisho wa siku haya huwa muhimu sana katika soko shindani sana la ajira kwa ujumla na la uchumi wa viwanda kimahususi.

Tunu kutoka katika elimu

Kama ilivyoelezwa awali, elimu inapaswa kumpatia anayepitia mchakato wake tunu kadha wa kadha. Hizi ni pamoja na kujiamini, kujitambua, kufahamu na kuelewa mambo kwa upana, udhubutu, ubunifu, uwezo na kujaribu, ustaarabu, fikra chanya, utatuzi wa matatizo, uvumilivu, uwezo wa kuwasiliana, kufanya kazi na wengine na pia peke yake, mitandao, unyambulikaji kuokana na hali, fikra mbadala, upole, ukomavu kifikra na mambo mengine kama haya. Yote haya ni muhimu sana katika kufanikiwa katika shughuli zozote za kiuchumi na uchumi wa viwanda kimahususi.

Mahitaji ya soko la ajira

Soko la ajira ni soko ambalo rasilmali watu kwa maana ya nguvu kazi huuzwa na kununuliwa. Soko hili linazidi kuwa na ushindani mkubwa siku hadi siku. Pia linazidi kuwa la kimataifa kutokana na utandawazi mkubwa. Ni muhimu kuoanisha elimu itolewayo katika ngazi zote na mahitaji ya soko la ajira. Ni lazima elimu ihakisi mahitaji ya mlaji wa mwisho wa zao la elimu katika soko la ajira. Ni lazima itolewe kutokana na uhitaji katika dunia ya kazi. Elimu lazima izingatie mahitaji ya soko mahalia ikikumbukwa kuwa waajiri wanaangalia vitu mahususi katika nguvu kazi. Kimsingi mwisho wa siku wanaangalia kile mfanyakazi anachoweza kufanya sio tuu kile anachojua.

Ni muhimu sana kutoa elimu kulingana na uhitaji wa soo kwa wingi na ubora, katika muda mfupi, wa kati na mrefu. Ni muhimu kukumbuka kuwa soko la ajira linabadilika mara kwa mara, lina changamoto nyingi na kuna ubunifu wa hali ya juu. Soko ili sio mstari ulionyooka bali ni ule uliopindapinda mara kadhaa. Katika kuoanisha elimu na mahitaji ya soko ni muhimu vilevile kuwa na mizania sahihi katika viwango mbalimbali vya elimu. Pia ni lazima kuwa na mizania sahihi kati ya elimu ya nadharia na vitendo kwa kadiri ya mahitaji ya soko la ajira la uchumi wa viwanda. Ni muhimu kuzingatia pia kuwa sio kila mmoja anaweza kuwa mwanakiwanda. Kuna tabia, nidhamu na matakwa maalumu ya mtu kuwa mwanakiwanda. Elimu kwa ajili ya uchumi wa viwanda lazima itambue na kuandaa wanaviwanda sahihi.

Namna ya kuoanisha

Kuna mbinu mbalimbali za kuoanisha elimu na mahitaji ya soko katika muktadha wa makala haya. Mbinu kuu ni ushirikishaji na mashaurino kati ya watoa elimu na soko la ajira. Ni lazima kuwepo muingiliano kati ya watoa elimu na soko. Hii inaweza kuwa katika ngazi mbalimbali

kama vile kutengeneza na kufanya mapitio ya mitaala. Nyingine ni kutoa mafonzo kwa vitendo viwandani ma kualika walio viwandani kufundisha na kutoa mwongozo katika taasisi mbalimbali za elimu. Pia ni muhimu kutoa miongozo ya ajira kwa wanafunzi na kufanya tafiti za kuuliza waliokwisha kuhitimu nini kibadilishwe katika mitaala kutokana na uzoefu wao. Pia tunaweza kwenda mbali hadi wenye viwanda kuanzisha taasisi za elimu za kikudhi mahitaji yao.