Tanzania Towards Industrialisation



Reflecting on Education for Self-Reliance Policy

HEKIMA NI UHURU

hakielimu



TANZANIA TOWARDS INDUSTRIALISATION:

REFLECTING ON EDUCATION FOR SELF-RELIANCE POLICY

Report on Proceedings of the Symposium jointly organised by the University of Dar es Salaam Convocation and HakiElimu

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LIST OF ACRONYMS AND ABBREVIATIONS

ATE	-	Association of Tanzania Employers
ARU	-	Ardhi University
CAMARTEC	-	Centre for Agricultural Mechanisation and Rural Technology
CCM	-	Chama Cha Mapinduzi
COSTECH	-	Commission for Science and Technology
DUCE	-	Dar es Salaam University College of Education
EAC	-	East African Community
GDP	-	Gross Domestic Product
ICT	-	Information and Communication Technology
MP	-	Member of Parliament
MUCE	-	Mkwawa University College of Education
NSSF	-	National Social Security Fund
PMORALG	-	Prime Minister's Office, Regional Administration and Local Government
PPF	-	Parastatal Pension Fund
PICA	-	Directorate of Internalisation, Convocation and Advancement
TA's	-	Tutorial Assistants
TIRDO	-	Tanzania Industrial Research and Development Organisation
UDOM	-	University of Dodoma
UDSM	-	University of Dar es Salaam
UNESCO	-	United Nations Educational, Scientific and Cultural Organization

Executive Summary

One of the functions of the Convocation of the University of Dar es Salaam (UDSM) is to discuss matters within its area of competency and to dialogue with the government on various concerns that affect the welfare of the Tanzanian citizenry. Since its establishment, the Convocation has been holding regular Symposia to reflect on different themes. In 2017, the Symposium was jointly organised by the UDSM Convocation Executive Committee and HakiElimu and it brought together a total of 259 participants (cf. List of Participants in Annex A) from among the UDSM alumnae including graduates of the former University of East Africa (UDSM's predecessor) who reside in Tanzania, past and present academics and researchers from the UDSM, education stakeholders from various organisations and the private sector and civil society, diplomats, the media and members of the general public.

The theme of the joint Symposium was **"Tanzania towards Industrialisation:** Rethinking the Education for Self-reliance Policy' with four sub-themes namely: *"Why Should we Rethink 'Education for Self-Reliance Policy Today"; "Education for Industrialisation and Sustainable Development"; "In Search of an Alternative Approach to Education Transformation: Philosophy, Structure, Content and Pedagogy";* and *"Reflections on How to Respond to the New Demands on Tanzania's Education System in the Current Context of Rapid Global Changes".*

The theme was timely and deliberately picked due to a strong demand for serious reflection on the state of education today following a growing dissatisfaction with the overall performance of formal education at all levels, from pre-primary school, primary and secondary school to higher education and lack of clarity about the aims of education in the present context of neo-liberalism. It was also relevant for the current push towards industrialisation aimed at pushing Tanzania to become a middle income country by 2025.

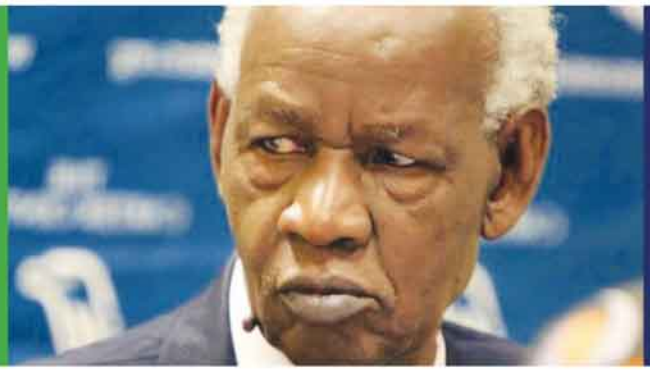
In light of the theme and sub-themes, the objectives of the joint symposium were to:

1. Reflect on the present state of education at all levels, and specifically in higher education, and identify the basic causes that contribute towards the problems noted;
2. Consider the kind of educational philosophy, structure, and content/ pedagogy that is desired in the future to achieve sustainable and inclusive development in general, and specifically in higher education; and
3. Develop strategies of action to achieve the changes required.

Many lucid and profound ideas came forth during the deliberations as participants shared their views, concerns and ideas. Among the key take home messages from the symposium were: the need to increase the efficiency of the education provided by making it vocational and by incorporating the concept of self–reliance so as to improve the employability of graduates; the importance of research and development in pushing forward the industrialisation agenda; and the need to re-kindle and nurture the spirit of patriotism, accountability and responsibility from the very basic level to support government's efforts and particularly efforts by the President to turn the country's economy around as we head towards becoming a middle income country.

The Symposium was held on 20th and 21st November, 2017 at the Nkrumah Hall of the UDSM and was presided over by Hon. Selemani Jafo, Minister of State in the President's Office responsible for Regional Administration and Local Government who officiated the opening session. It was organised around four Panel Discussions during which keynote presentations were delivered by keynote Panellists followed by further reflections from Discussants and then by plenary discussions (cf. Symposium Programme in Annex B). A detailed account of different sessions of the symposium is presented in the next section

Session 1



The Opening Session
Remarks by Hon. Rtd. Judge Joseph Warioba, President of the University Convocation

Hon. Judge Warioba started by thanking the President of the United Republic of Tanzania for accepting the invitation to officiate the Symposium: however, due to other responsibilities the President delegated the task to the Prime Minister. The Prime Minister worked in collaboration with the organising team during the preparation but he too could not make it and so he appointed Minister of State in the President's Office, Selemani Jafo, to represent him. It is worth mentioning that both the President and the Prime Minister sent their best wishes to the Symposium.

Hon. Judge Warioba talked about why the Symposium is held and explained that it meets a very important obligation for the benefit of the country. It offers an opportunity for in-depth deliberations on the direction of our education system, in the spirit of truth, transparency, freedom and integrity. It also provides an opportunity to identify strategies and new ways to address the challenges of eradicating the three (ignorance, diseases and poverty) enemies of our nation.

Every year the University Convocation organises a symposium as a way to bring together graduates and students. In 2017, the topic is Towards Industrialisation: rethinking the policy of education for self-reliance. He invited participants to share their views and contributions about higher education as we head towards an industrialised economy explaining that in order to be productive our education must be aligned to our political direction. After independence Tanzania followed the Ujamaa policy which believed in education for self-reliance. After the introduction of a liberalised and market economy we have not discussed in-depth about our education system. He shared his belief that we lost our sense of direction with the liberalisation policy.

He further informed participants that the role, status and contribution of the Convocation have expanded over the years. Members of the Convocation contribute towards development of the University as evidenced by the construction of a Students' Centre towards which they contributed some 3 billion Tanzania shillings. Members of the Convocation have also participated in fundraising and in the engagement of different stakeholders including; Azam TV which is supporting the Convocation to facilitate information exchange, the Barclays Bank which is sponsoring students in need and there are ongoing talks with the Parastatal Pension Fund (PPF) and the National Social Security Fund (NSSF) to explore ways to collaborate in various investment projects.

Walking down memory lane he talked about the strides that we have made in education since independence, explaining that when he graduated there was only one school in the division he comes from, and in his district there were only 4 schools which were similar to the current ward schools. Out of those 4, only one school belonged to the government. The zone that he comes from, which now has 6 regions had only 2 government schools. There was no University at the time. The UDSM was established in 1961 two months before political independence and it started with 13 students who later dropped to 11. At independent Tanzania had nine million people (population) and only two Tanzanian engineers. This translates to 1 engineer per 4.5 million people. Today, every village has a primary school;

every ward has a secondary school and others have more; we have 21 universities, 12 of which are public and if we count the branches we have about 30 universities countrywide. The University of Dodoma (UDOM) is the biggest in the whole of East Africa. We have made progress, he noted with pride.

In spite of these achievements, there were a number of challenges:

- Tanzania has not reached a stage where it can confidently say that every child will get education;
- The transition rates from primary to lower and higher secondary schools and to university have been low; Tanzania still faces big challenges in infrastructure, such as classrooms, offices, toilets, and shortage of working facilities;
- Teaching staff in terms of numbers, their expertise, especially in maths and the sciences, as well as their remuneration need to be improved;
- Tanzania also has problems in the quality of education.

The quality of our education is deteriorating. In the past, a Standard 4 student could read, write and count. Today a Standard 7 student cannot do that. In addition, education does not help students in life in terms of imparting into them necessary skills to serve society. There are graduates at all levels of education who are unable to create self-employment. We need to ask ourselves whether our education is the right kind for our current needs and for the future. This is what we need to deliberate on and come up with recommendations. He added that communities are not happy with the effectiveness of education at primary, secondary, college and university levels. The critics on type of education point at the lack of a sense of direction and clear goals resulting from following the so called free market policy.

Hon. Judge Warioba also informed the audience that the role, status and contribution of the Convocation have expanded over the years: and that now there is a special directorate under which the Convocation is housed, the Directorate of Internalisation, Convocation and Advancement (DICA). Members of the Convocation include graduates from UDSM and affiliate universities and the sister college of the University of London (the UDSM was part of the University of London, then Makerere University in Uganda, then University of East Africa). The role of the Convocation has expanded due to structural adjustments initiated by the University Council.

Members of the Convocation are also contributing towards development of the University. For example, they raised some 3 Billion Tanzania shillings towards the construction of a Students' Centre and are participating in fundraising activities and engaging different stakeholders for different projects. So far, Azam TV is supporting the Convocation by facilitating information exchange. The Barclays Bank is sponsoring students in need, so far it has contributed 168 million shillings to help 23 students who have no parents or guardians. He said there were ongoing talks between DICA and the Parastatal Pension Fund (PPF) and the National Social Security Fund (NSSF) to explore ways to collaborate in various investment projects. He ended his remarks by thanking the management and DICA for all that they have been dong in the past and are still doing to date. He also thanked former directors, Dr. Nandera Mhando and Dr. Bashiru Ally for their contributions towards the success of the Convocation.



Prime Minister's Remarks; read by Minister of State in President's Office Regional Administration and Local Government Hon. Selemani Jafo

The Prime Minister's remarks stated that the University of Dar es Salaam is an icon in education and one cannot mention Tanzania and universities without mentioning UDSM. He was happy that the agenda of the Symposium offered a different flavour and topics which respond to the national agenda of industrialisation. He informed participants that the National Vision 2025 and five-year development plans and the 'Chama Cha Mapinduzi' (CCM) Manifesto define the country's direction to attain middle-income status. He congratulated the organisers of the Symposium for deciding to have a specific agenda to deliberate on how education can respond to that vision of being an industrialised country. The focus of the symposium was a visionary decision, he said, adding that education can help us get where we want to go. He also thanked HakiElimu for the hard and critical work that they do.

The main objective of the symposium was to come up with resolutions on how to revise our policy of education for self-reliance; he hoped that the deliberations would respond to that objective. He explained that we need to look at the educational programme to establish whether they can push the industrialisation agenda. He shared his observation that most graduates from the UDSM are dependent on formal employment and pointed to the need to change the content of the education policy to change that reality. He wished the participants in-depth and transparent discussions aimed at coming up with resolutions that will help our country, adding that his expectations and the expectations of the government are to get innovative ideas that will help graduates from both within and outside the country. By improving our education system, we can help Tanzanian graduates to use their education to bring about their own development and contribute to the vision of Tanzania as an industrialised country.

He reminded participants that they were representing thousands of Tanzanians who could not be at the Symposium and that their recommendation should help to improve the education system and make it more competitive. He referred to the East African Community (EAC), which provides more competition and opportunity, and explained that our graduates must be prepared to compete in the region, otherwise we will have graduates who merely escort others. The national Five Year Development Plan focuses on improving the education agenda to be more competitive.

The Honourable Minister expressed his hope that the good ideas that come out of the debate at the Symposium can be merged with the guidance provided in the Five Year National Development Plan to achieve the industrialisation vision. The said plan contains a wider strategy to improve primary and secondary education and especially higher education by improving the learning environment. The government has invested a lot in improving education to see how we can realise the industrialisation agenda. About Tshs. 427 billion has been set aside for student loans and about Tshs. 600 billion plus has been set aside for education sector infrastructure. The amount of money set aside for loans could build a road from Dar es Salaam all the way to Singida.

We also need to make our education more user-friendly. We offer PhD, Masters and Undergraduate degrees but we need to evaluate how we can use our education to respond to needs of the people and especially the needs of an industrialised

economy. He said, if we do not use our knowledge to build our nation, it will remain in books. He talked about the numerous research studies that have been done and the various exhibitions that have been held which show innovation and explained that if we promote innovations we can be a competitive state. He urged the audience to make a legacy of our country so that other countries can come and learn from us. He informed the audience that the President was very happy that the academics were deliberating on an agenda that is close to his heart. He will use the deliberations to push that agenda, adding that we are the ones who can build our nation using our expertise and knowledge.

The guest of honour shared his expectations that in the next couple of years, other countries will come and see the transformation that has resulted from the deliberation of this symposium. To this end, he urged participants to not limit themselves to only a few issues; instead they should expand the debate as widely as it can go. Explaining some of the developments towards industrialisation, the Honourable Minister informed the participants that so far, about 50 million shillings from Local Government Authorities' own sources was allocated for young people; and between 2.5 and 10 million shillings for small industries out of the budgeted 60 billion.

The guest honour expressed his belief that if Tanzanians make good decisions and try to learn from other industrialised countries, with our unity we can achieve our vision of being an industrialised country and a middle income state and make sure that our young people will have employment. Before declaring the Symposium open he reiterated that the deliberations from the Symposium would be incorporated in the government process targeting education for self-reliance.



Remarks by Mr. John Kalage, Executive Director of HakiElimu

Speaking as a co-host, Mr. John Kalage was happy that the Minister was representing the Prime Minister in initiating discussion on the type of education and mode of providing it by 2025. He felt that it was a timely discussion as there is need to critically review the quality of education being provided at all levels, from pre-primary to university level. Some analyst's have argued that Tanzania lacks a concise definition of the objectives of its education. In this regard, the Executive Director of HakiElimu recommended the need to re-define the objectives of our education system by asking ourselves the following key questions:

- Is education for self-reliance still relevant?
- Can the current education system push us to an industrialised state by 2025?
- To what extent does our education system help us to implement our goals – does it help our students to fulfil their expectations?
- To what extent do our policy makers take into consideration the views of various people when developing policies?
- Do our teachers have the right qualifications, working environment and remuneration?
- To what extent do parents understand the importance of education?

These questions and many others, he said, will help us re-assess and rethink whether we have the right education system that will deliver our ambitious plan to become a medium income country by 2025.



Remarks by Prof. James Mdoe, Deputy Permanent Secretary of the Ministry of Education, Science and Technology

Speaking on behalf of the Minister for Education, Prof. Mdoe congratulated the initiator of the idea to discuss our education in light of the industrialisation vision. He believes the resolutions that will come out of the deliberations will help us to achieve the objectives of that vision. He informed participants that the Ministry is working on changing the education policy so that it is geared to realise the vision of being an industrialised nation by 2025. Looking back in time he noted that in the past 5 decades, the UDSM has produced various experts who have contributed to the developments that we see today and urged the participants to think of what to do in order to move forward.

Despite the challenges that the education sector is facing, some of which were mentioned earlier, particularly the shortage of human resources (teaching staff), insufficient infrastructure and lack of adequate and appropriate teaching materials, the education sector has done fairly well, he said, adding that the state of our economy contributed to these challenges. He recommended that when we think of an industrialised economy our goal and efforts should be directed at producing graduates who can push the industrialisation agenda forward. He assured participants that the Ministry of Education will provide the necessary support to work on addressing the challenges. Efforts by the ministry so far include infrastructure development projects including the renovation of halls of residence (halls 2 and 5), renovation of laboratories and workshops in the College of Engineering, the ongoing construction of the new library, and the recently launched hostel which has the capacity of accommodating 3,840 students.

Further efforts include the construction of lecture theatres and funds that will be provided for the construction of a laboratory in Mkwawa College of Education (MUCE) Construction work at the Dar es Salaam University College of Education (DUCE) has been completed.

In conclusion, Prof. Mdoe assured the audience that the government recognises the challenges that institutions of higher learning are facing and that the Symposium offers an important forum for debate on how to address the various challenges. He encouraged openness in the deliberations warning that if we do not invest enough in education we will not realise our vision. He ended by saying that the Ministry was eagerly waiting for the resolutions of the Symposium.



Keynote address: The Philosophy of Education for Self-Reliance and the future of education in Tanzania; why should we rethink the 'Education for Self-Reliance' Policy Today?

Prof. Rwekaza Mukandala,
Vice Chancellor, UDSM

Prof. Mukandala began his keynote address by sharing stories about young graduates who left their countries in search of employment in other countries, to emphasise the brain drain from Tanzania, to neighbouring countries to do manual jobs. He informed the audience that out of 100 young Africans who travel out of their countries in search of jobs, only about 10% benefit economically; the majority die on their way there and those who make it end up being locked up for illegal entry and face a lot of hardships. Besides immigration outside Africa, there is also immigration within Africa and within the country where young people migrate from rural areas to urban centres in search of employment and a better life. Some, including University graduates, end up getting involved in drug use or drug pushing businesses. The biggest push is lack of employment opportunities and we need to ask ourselves why so many young people do not use their education to help them run their lives as formal employees or self-employed, he said, noting that the abandonment of education for self-reliance is one of the contributing factor's to this problem.

Prof. Mukandala then shared his thoughts about why employment is a big problem in Tanzania and in Africa in general. He referred to Mwalimu Nyerere's definition of education as a process of preparing a person to deal with their environment so that they become producers rather than exploiters and observed a close relationship between education and community development, in that, the quality of education relies on the good relations between the education system and the political and economic systems. In this context, education must prepare young people to generate knowledge.

Prof. Mukandala talked about the history of education in Tanzania and the rise of education for self-reliance in four main periods. Before colonialism there was a good relationship between education and other sectors and education was free. During the colonial era, education was provided in line with the colonial system and it was discriminatory. After independence the colonial systems continued until 1967 when the philosophy of education for self-reliance was adopted to support the ideology of socialism. Strong systems were established between education, economy, politics and culture, and education was free all the way to university level. Moreover, students were trained to be patriotic and they participated in productive activities that built their confidence. The education for self-reliance philosophy came from the ideology of Ujamaa and self-reliance was Mwalimu Nyerere's idea aimed at eradicating the three key enemies of the nation; poverty, ignorance and diseases. Education targeted everybody. The focus was on self-reliance and many strategies were developed including adult education and the Musoma Resolution where high school leavers had to work for two years after their compulsory year at national service before joining institutions of higher learning. The Musoma Resolution expanded primary and secondary education and pushed for fairness in access.

There is a good link between education for self-reliance and industrialisation. In addition to the directive to send all children to school, the focus in the schools at that time was on both academic and practical subjects. Manual work was part of the curriculum and was examinable. The then Minister responsible for Education recommended a schedule to implement classroom and out-of-class work, which

was examined and assessed. Education and productivity were implemented together and the expansion of secondary education and practical (trade) education were introduced. Entrants to University were assessed on their pass mark in secondary school and the expectation was that on graduation a student would get a job. The government intervened to make sure that on graduation, students received sufficient knowledge and skills to run their lives using the education they have attained. Education also helped to create equality and motivated students to like manual work. Numerous projects were established. The policy that everyone must work helped to reduce loitering, did away with exploitation and developed the country economically. It also helped to reduce migration from rural to urban areas.

From the 1980s to 1990s the economy deteriorated due to the effects of the Kagera war and the rise in oil prices. The country got into debt and the implementation of the policies that had worked so well was affected. The government had to cut down further investments in education and cost-sharing was introduced for basic social services. Later on there were political changes and the multi-party system was introduced which led to changes in the curriculum from civic education to free market. Schools were free to buy the books they wanted to suit their own syllabus.

In 2005 it was realised that the curricula required more involvement of students as there was too much dependence on the teacher's knowledge and as a result a country was producing graduates who were not knowledgeable enough, who focused on passing exams rather than seeking and acquiring knowledge beyond mere memorisation and regurgitating half-understood truths. In 2010, there was devolution of responsibilities in education to the Prime Minister's Office that was aimed at improving efficiency. However, there was interference in functional duties and in implementation. For example, The Ministry of Science, Technology and Higher Education and the then Prime Minister's Office Regional Administration and Local Government (PMORALG) were involved in the employment of teachers. There were also changes in the curricula with unclear implementation guidelines. In 2014 an education and training policy was developed to address the challenges and create a friendly environment. As we are three years into implementation of that policy, we need to assess the extent to which the policy has been effectively implemented.

The current education provided is presumably in line with the national Vision 2025 which guides government efforts. The education has five main goals, to improve the standard of living, to improve national security, to enhance good governance, to develop an educated society and to strengthen the national economy. The vision is based on a free market economy and globalisation characterised by repatriation of profits, an increase in unemployed and unemployable students and a lot of destitute people. The free policy fuels the free market economy; it is expensive and has created cracks in the society. We have lost human resources to unproductive activities and we are copying foreign cultures and practices. This is in conflict with the concept of education for self-reliance. There is inadequate knowledge among graduates which is insufficient to meet the demands they face in life.

Challenges in the education sector include:

- The teaching style, low efficiency, low morale and inadequate preparation of teaching staff
- The entry qualifications to higher education have been lowered (students who have only one principal pass are being admitted)
- Teaching has become the 'go to' profession when all else fails

Talking about what needs to be done to turn things around, the VC congratulated the President for his efforts to make Tanzania a middle income country and an industrialised economy. However, he also identified challenges that need to be dealt with in the process. Equality in the provision of quality education needs to be guaranteed. Education guideline No. 3 states that primary and secondary education will be provided free

of charge but this is just in theory because there are schools that still charge. Also, even though enrolment in higher education has increased markedly the quality of education being provided does not meet the required and expected standards.

There is a need to put more emphasis on the curricula to make sure there is a link between science and technology and investment. More investment is needed in these two areas to motivate students to pursue courses that will provide employment options for them on graduation. There is also a need to review the supervision guidelines. Currently there are different curricular, different focuses and different approaches. We need to review the type of institutions that we need. Most universities run similar programmes so they produce students with similar qualifications in the same fields. We need to focus more on technical education and research. There is very limited investment in research despite its importance to a country's development.

We have made a lot of progress in ensuring that more children join primary school and we have improved access to higher education through student loans. In general, more money is being invested in the education sector, but it is still not enough; there is a need to find alternative ways to sponsor even more students. Also, to ensure employment of graduates, they must have access to land so that they can produce. Currently, land has been set aside for large investors.

Professor Mukandala reiterated the need for education to prepare graduates to deal with challenges in life, explaining that the education system needs to balance between self-reliance, socialism, nationalism, and patriotism. He concluded by sharing his belief that education for self-reliance will catalyse the construction of industries.



Discussant: Prof. Abel Ishumi

Discussing Prof. Mkandala's paper, Professor Abel Ishumi gave a very brief and focused analysis of the keynote address. He agreed that education for self-reliance enables a person to be self-supportive. However, he argued that the concept of self-reliance was not invented by Mwalimu Nyerere. It was initiated by him, but it already existed, even before and during the colonial era. During colonial times education was vocationalised. The methods of learning and tools for learning helped students to be self-reliant. The problem, he said, is that colonialism was associated with bad things therefore we threw the bath water with the baby. After independence we introduced academic education where a student goes to school, sits in class and goes back home.

In 1972, Mwalimu Nyerere pushed for the revision of the curriculum to introduce various areas of focus including technical education and agriculture, but it did not get enough support so it ended in 1983. We then came back to general education. In 1984 the curricula were revised again and it went back to academic education. Students crammed and sat for exams with the intention of passing. We need to ask ourselves why

we educate our children. What is the main objective of our education? Currently, students graduate but they are not employable.

Prof. Ishumi believes that if Tanzania is serious about being an industrialised country we need to impart skills and not merely knowledge. We need to vocationalise institutions of higher learning and integrate practical subjects into their formal curricula. We also need to diversify the content of education on the basis of the economy. Agriculture-based industrialisation is one area that can be implemented across the country and it should start at secondary level. Germany, Finland and the Netherlands have vocationalised their education system and this has reduced rates of unemployment in these countries. We made mistakes and we need to rectify them, he concluded.



Vote of Thanks delivered by Prof. Penina Mlama

"Mcheza kwao hutuzwa!" That is how Prof. Mlama started her vote of thanks. That Swahili phrase means 'a person who does well gets awarded'. The Prof. used it as she congratulated the Guest of Honour, who is a graduate of UDSM for his efforts in talking about education, particularly for coming to talk at the institution of which he is a product.

She urged that the deliberations at the Symposium should provide answers to the national debate especially ideas that will improve the education we provide as we head towards becoming an industrial economy. She was happy that the Symposium is contributing in the evaluation of the quality of our graduates and how they can compete in the market and was encouraged by the assurance that the government is ready and willing to incorporate the deliberations in the education policy, noting that often academics talk, but their points are not taken up. She was also encouraged by the message from the President that he is willing to listen to the ideas generated during the Symposium and by the freedom to talk freely.

As academicians and graduates of UDSM she assured the guest of honour that the University of Dar es Salaam will never stop the flow of free, genuine and critically analysed ideas to develop our nation. As academicians they will never forget the words of Mwalimu Nyerere spoken in 1963 when opening the East Africa Institution, where he declared that education must be revolutionary. She further assured the guest of honour that the UDSM will save the people of Tanzania from poverty by contributing to the journey of becoming an industrial economy and middle income country, by talking openly, analysing issues and contributing freely.

Before concluding her vote of thanks she noted that Nkrumah Hall where the Symposium was being held has historically been the nucleus of serious discussions and that UNESCO had declared Nkrumah Hall a natural cultural site. She ended by pledging to continue debating and contributing ideas while thanking the President for reminding UDSM about its role in the development of our country.

Session 2

Panel 1:
Education for Industrialisation and Sustainable Development, Chaired by Prof. Lucian Msambichaka



Panellist: Prof. Mkumbukwa Mtambo

The focus of Prof. Mtambo's presentation was on the importance of research and development. He informed the audience that all developed countries eradicated poverty through industrial economies with heavy investments in research and development. There is a link between industries and development, but also, meaningful industrial development requires intense competition and the biggest weapon in the competition is to build capacities of human resources. That, he said, is where the importance of education comes in. Research and development has a special role in industrial development and the achievement of high and middle income status. He cited the experience of two 'Asian Tigers': Singapore and Malaysia to drive his point home. These countries have invested heavily in research institutes, adding that universities are included in the list of institutions that conduct research for development.

While acknowledging efforts in conducting research in the country, Prof. Mtambo noted that the products of these research endeavours have not hit the market in the form of patents; hence, the lack of visibility of the benefits of research. He informed participants that the outputs of research should be knowledge and skills that can be seen in the form of new technologies, new products, processes of production, improved systems and, improved products. Examples of research results that he gave include: how a computer can communicate with a machine, how to improve shelf life of agricultural products and natural technologies such as ox-ploughs. However, most of these research products are lying idle and need to get to the market; and research that has resulted in actual products, prototypes such as the vehicles manufactured by Nyumbu and tractors manufactured by CAMARTEC, are merely being used for exhibitions.

These products have not hit the market. Tanzania has more than 40 research institutions that are coordinated by the Commission for Science and Technology (COSTECH) and which are spread out in various ministries. However, the objectives of these research institutions are different. There is limited investment in these institutions due to inadequate financial resources; weak and underequipped laboratories; and limited expert human capital particularly in gas and oil exploration. Tanzania also lacks an innovative culture; and the relationship between research institutions, universities and industries is poor (there are no industries that can use technologies that are products of research). Equally serious is the fact that there is a generally poor understanding of the importance of research for industrial development.

As a way forward Prof. Mtambo recommended the need to ensure adequate financing of research and development; and the need to increase access to

financial resources by developing sustainable mechanisms for fundraising. The government has resolved to use 1% of the country's GDP on research and development to support big national projects. However, institutions of higher learning such as the UDSM should be involved in these major projects like the proposed new railway line and gas line from Uganda. At the same time local fund raising from individuals, industries and local organisations should be improved. To ensure adequate (numbers and skills) human resources (HR) to drive the industrialisation agenda, he recommended the need to look at the education system and develop a system that embraces the innovation culture. This can be achieved by encouraging research from an early age. One way of doing that is by having a system for talent identification, followed by deliberate nurturing of the identified talents so that they can be harnessed for industrial development.

Tanzania needs to develop a mechanism to motivate talented individuals to harness their talents for the benefit of the nation. There is also need to develop management systems that target markets and look for opportunities. To achieve this, the human resources (HR) available must be strategically placed and supported by advanced managerial and organisational practices. To drive innovation and guide and provide reliable technological information and forecasting, we need to have think tanks in every unit that will identify technologies which can change lifestyles, and which can propel us forward. For example, in the next 20 years we will have cars run on electricity and they will need batteries. Tanzania has graphite that can be used to make those batteries, which is an area that needs to be explored. At the same time, these think tanks should identify technologies that may be obsolete after some time so that further investment in developing them can be halted in favour of new innovations.

Prof. Mtambo empasised about the need to be on the same page and work in collaboration and coordination while raising awareness among industrialists and policy makers, and mobilising relationships between institutions so that we can use our meagre resources more economically and more strategically. For example, currently, the Tanzania Industrial Research and Development Organisation (TIRDO), the UDSM and ARU are working together in a shoe manufacturing factory in Karatu that manufactures about 4,000 pairs of shoes per day and 3,000 pairs of shoe soles per day. The trio (TIRDO, UDSM and ARU) are also working together to build two large companies in Simiyu, one will be manufacturing water to be used for drips and cotton for hospitals. PPF and the Prisons Unit (Magereza) are also working together on some other project. Such collaborative endeavours can push us faster rater than working in silos.

In conclusion, Prof. Mtambo argued that investment in education cannot be avoided if we want to have sustainable industrial development. We need to develop an innovative culture from early levels to build skills. He emphasised a need to have closer relationships between research institutions, institutions of higher learning and industries.



Discussant 1:
Prof. Bernadeta Killian

Prof. Killian likened the relationship between education and industrial development to that of a chicken and an egg. She shared her belief that an industrial revolution should be talked about as national revolution. Also, when planning and developing HR to drive the industrial revolution, we need to balance between low, medium and high levels of education so that we can produce low, medium and highly skilled human resources. Currently, there is a critical shortage of skilled labour force. We have 84% low skilled and 3% highly skilled. This is important to bear in mind because many countries with middle income economies have 55% low skilled and 12% highly skilled. The role of institutions of higher learning cannot be overemphasised in balancing the human resource need. One way of achieving this, she said, is to review and amend the education policy to meet the needs of a middle income country. For example, there is a dire shortage of engineers in the country. There are only 13,000 engineers while the country needs 175,000 of engineers to get to middle income status. Educational institutions have a tendency to produce middle level staff; and universities need to increase the number of top and middle level skills that they are producing. The reason many graduates are not employed is because there is a skills mismatch between the needs in the market and the produced qualification.

She recommended that the education be tailored in a way that it supports and nurtures innovation and curiosity among students. Educational institutions need to evaluate themselves to see if their teaching approaches encourage inquiry-based learning. At the moment, 75% of university's schedules use lecture methods; while the 25% earmarked for seminars is not utilized due to shortage of teaching staff. Assessment of students is based on theoretical knowledge. Other challenges include classroom size and teaching resources. She also recommended investment in Information and Communication Technology (ICT), which is currently limited to one subject – a computer course, rather than mainstreaming ICT in all subjects. Tanzania needs to strengthen its human resource base that is creative and innovative. It also needs to conduct research to produce new knowledge and new technology. Research is the backbone of industrial development; we need to use research findings in our teaching. Echoing what the keynote presenter said, Prof. Killian also mentioned the need to invest more financial resources in research endeavours, noting that Tanzania invests very little in research yet we want to industrialise. She acknowledged institutions that have made some strides in research such as the UDSM which aims to be a research University. This will help to strengthen the link between education and industrial development.

The criteria to assess whether a university is a research institution is the number of PhDs among its teaching staff. Knowledge transfer is more effective when there are more PhDs. This year the UDSM produced 80 PhDs. This is very low when compared to South Africa which plans to produce 5,000 PhDs per year by 2030. To achieve the HR required for industrial development, Prof. Killian suggested having higher numbers students in Masters and PhD programmes particularly in statistics, engineering and other science-based subjects, for which we need to have short-term plans, mid-term plans and long-term plans. She also recommended the need to make changes in the curricula, policies and legislation. Furthermore, the

government must be ready to invest more in research. In developed countries the government plays a big role in investing in research. "When we talk about industrial revolution we also need to talk about education reforms", she offered.



Discussant 2:
Prof. B. Mutagahywa

Prof. Mutagahywa reiterated the importance of education for industrial development but cautioned that it must not be politicised if we want it to get us to middle income status. He believes that revisiting the concept of education for self-reliance provides an opportunity to improve the quality and efficiency of our education system and he shared an academic philosophy which recognizes six cognitive functions, which are to:

1. Combine parts to make a new whole
2. Evaluate
3. Analyse
4. Apply
5. Understand
6. Remember

He listed a number of advantages of education for self-reliance, which he said, will help us to move away from producing students who cram and reproduce what they have been taught, and instead turn out students who are able to perform the six cognitive functions listed above to produce something new, something different. Students would be trained to be inquisitive and curious and forced to participate in the generating knowledge. They will also learn soft skills such as team work, collaboration, critical thinking and evaluation which are required for success in both formal employment and self-employment. However, in order for education for self-reliance to have an impact on students, teachers need to walk the talk. They need to change the way they teach and prepare students for employment and self-employment. If we embrace the philosophy of education for self-reliance, the curriculum will have to be better linked to the needs of the economy. The government needs to create space for innovation through recognition and rewards.

Prof. Mutagahywa believes that regardless of how big or small our pool of skilled human resources, it should be able to contribute to industrial development. For example, the pharmaceutical industry can be a packing industry or an industry where you create pharmaceutical ingredients. Tanzania needs to look at the entire value chain and see at what level we can participate. He urged that the government work with private sector to achieve the vision of being a middle income economy by coming up with strategies for industrial sectors like textile, pharmaceuticals and others as well as the legal framework to support and promote these sectors. He concluded that research must be funded by the government for public good; and universities have a role to play in this.

Highlights from the Plenary Discussions –
In the light of what was presented and discussed, the audience raised the following issues in the plenary session:

- There is limited spill-over effect, especially among employees working in foreign companies who are expected to replicate the knowledge and skills at

home. This is a challenge to the education institutions which are expected to impart a sense of curiosity, inquisitive mind and a knowledge-sharing culture;

- There is need to develop a knowledge resource data base so that we know where people with particular types of expertise are;
- The national curricula need to encourage curiosity and inquiry-based learning;
- There is need to work on improving numbers; Tanzania has the lowest participation rate in IHLs in the world (it is only 3%). We need to expand high school education (Form 5&6) to increase the numbers of students joining universities. The linkage between academy and industry needs to be strengthened - the two need to work together;
- There is need to revisit the quality of teaching retaining retiring professors, improving teaching infrastructure by use of technology, and by not allowing Tutorial Assistants (TAs) and lecturers to teach final year students cannot provoke critical thinking. We are diluting the provision of education by using cadres below Professors to teach final year students;
- The government should go a step further and provide guidelines on how to implement Policies;
- The drive for industrialisation should be taken as an opportunity by Institutions of Higher Learning to expand their programmes and improve their delivery. Senate has the power to change the way we produce graduates by directing more efforts on competence-based learning and teaching;
- To move from research to industries there is need to be proactive by participating in developing alternative policies or strategies and introducing new spaces that helped developed countries to make progress; and
- There is also need to encourage patriotism among students and use own resources to invest in improving teaching, learning and research so as to support the good intentions of the government instead of waiting for it to fail.



Hon. Selemani Jafo, Minister President's Office Regional Administration and Local Government

Session 3

Panel 2:
In Search of an Alternative Approach to Educational Transformation: Philosophy, Structure, Content and Pedagogy, Chaired by Prof. Abel Ishumi



Panellist: Prof. Suleman Sumra

In his presentation, Prof. Sumra took the audience back 50 years to the time when education for self-reliance was implemented in the country and Tanzania was recognized for its impressive achievements. He believes that the philosophy is still relevant for both the economy and at personal level.

The focus of education in the 1960s was on preparing children for life in rural areas; however now there is no clear focus as graduates are interested in looking for life in urban centres. The country is different; the agriculture sector which used to drive the economy is slowly overtaken by minerals and other sectors. To a greater extent all-weather roads have increased throughout the country; there are more schools in villages; and more electricity connections, along with mobile phone access which has made communication more friendly. It is obvious that the country is in the process of moving forward.

Prof. Sumra reiterated what was pointed out earlier that in late 60s and early 70s the goal was to get a job in the government sector. Today youth have opportunities in the private sector and in different fields including newspaper, radio, hospitality, music, and sports for example. There are vast areas of opportunity but the education system has not responded to the changing needs. Schools still prepare children for formal employment. The classrooms are the same, the way teachers teach is the same, and what they teach, and how children learn has not changed. In short, the country needs to be more innovative in education.

Education is supposed to be driven by Vision 2025 which envisages that Tanzania will be a semi-industrialised country by that year. The role of education is to make Tanzania a learning society. The link between education and growth is not measured as human capital, rather knowledge capital. In this way, children do not attain much. Vision 2025 will be achieved through 5-year development plans but we need highly skilled people to drive the economy. The private sector is affected by lack of skilled labour. The efficiency of a Tanzanian workers is low compared to workers in other countries that is why the quality and quantity of products are low and not competitive in the market. Our education needs to do two things: meet manpower requirements which can be achieved through increased enrolment; and produce the required skills which can be achieved through improved quality of education. The biggest problem is in the quality of learning. A recent study showed 11% of children in Std 7 were totally illiterate in Kiswahili and 52% cannot read a Std 2 English text book. Half of our children are incapable of benefiting from secondary education because they lack the basic foundation. With such a weak foundation base it is difficult to catch up at higher level, which means these children have wasted half their lives.

Prof. Sumra sought to explain the reasons why we are performing so poorly at primary level and listed the following reasons:

- Limited teaching and learning materials – text book availability is limited;
- Poor pupil-teacher ratio;
- Poor attendance of both teachers and pupils; teacher absenteeism is very high. On any given day 14% of teachers are absent from school, others are in school but not teaching, and those in the classroom spent a lot of the time talking about other things. Children learn for only 2.47 hrs instead of the required five hours. There are no regional variations; teachers' absence is happening all over the country.
- The ability of teachers to teach basic reading, writing and arithmetic in public schools is inadequate only 1.5% of surveyed teachers scored at the required level. Performance in maths and science is even worse; the pass rate is below 20% for maths for the last 7-8 years.

There is a huge difference between private and public schools. Fees in private schools vary significantly and most private schools use non-Tanzanian curricula. Their pupils do not sit for the Tanzanian exam. Out of 100 top performing schools only 6 were government schools. The difference between the top and bottom performing schools in government and private schools means the majority of children who go to government schools do not get access to higher education and therefore do not join universities. For them, the hope of getting out of poverty is a distant dream.

As a way forward, Prof. Sumra had the following advice:

- To change what we teach, how we teach and how we assess teachers. Teachers should refrain from teaching to make sure that the children pass exams; they should teach to impart numeracy, literacy, digital and financial skills. Teaching at primary level especially needs to improve significantly because that is the foundation level.
- To push for an education that seeks to develop social skills, problem-solving, critical thinking, scientific thinking so that students are taught how to learn and keep on learning.
- To focus on teaching science, engineering and technology at lower levels and change the way we assess students from actual knowledge to knowledge application.

The two discussants who shared their views on the topic in question took two different approaches. Dr. Shukia focused on the importance of early education and Prof. Possi focused on children with special skills and those with special needs. Their submissions are summarized below.



Discussant 1: Dr. Richard Shukia

Dr. Shukia was of the opinion that the philosophy and framework of education for self-reliance has no problem and that the challenge is in its implementation. He explained that early education is critical and that all the skills mentioned are important for a student and must be nurtured from pre-school level. More so because children are born with high levels of curiosity which gets blunt as they engage with their environment – their parents, teachers and the society.

Dr. Shukia argued that pre-school education is a critical and vital part of education and that we need a mind-set change and an overhaul in our thinking which puts more focus on higher levels. To start with, we need skilled teachers in the early years. With the current teacher-student ratio of 1:169 you need a very skilled teacher to be able to manage that large number of students in one class. There is need to inculcate a sense of self-reliance at pre-school level.



Discussant 2: Prof. Mwajabu Possi

Prof. Possi's presentation was based on a personal experience. There are two types of children with special needs: gifted and those with handicaps. She maintained that there is need to pay attention to, and provide for special education, both in terms of special skills and special needs. She emphasised the need to have a curriculum that is supportive of children with special needs and those with special skills. Children with special skills need to be taught to be innovative by tasking them with more difficult assignments and activities, with a view to nurturing innovation and creativity. Those with special needs require access to appropriate learning materials (e.g. Braille machine and visual aids). These materials are supposed to be provided by teachers who have the right expertise in teaching children with special needs (e.g. sign language and ability to read Braille machine), and a school environment with friendly infrastructure (such as special ramps for children with a physical disability).

Prof. Possi pointed out the misconception whereby special skills are equated with high scores and children with special skills are regarded as high academic achievers rather than children with special skills and talents. She recommended a review of our curricula to incorporate factors that will nurture innovation and creativity, specifically curriculum modification that will help to develop incubators to grow a cadre of innovative skills including technical, engineering and other innovations. She went as far as suggesting that children with special skills be taught to invent teaching aids for children with special needs.

There is also a need to think of mechanisms to identify children with special skills and create learning-friendly environments to impart self-reliant skills. She also recommended the need to increase our knowledge in various areas to be able to cope with the demands of children with special skills and special needs, adding that students with special skills should be given priority and we should develop outreach programmes to reach more children including in rural areas. She believes that children with special skills can take us into the industrial economy if capacitated. However, this requires policy decision.

Highlights from the plenary discussion

Resulting from the plenary discussion a number of issues were raised. These included the following:

- Teaching skills are inadequate across all levels. One of the reasons behind this inadequacy include, the teaching profession does not attract high performers, due to poor remuneration and low recognition. The government is supposed to pay decent salaries and other benefits to teachers;
- There is a growing tendency to push children through different levels of schooling even when they did not qualify. For example, standard Four

and Form two exams have become a mere formality. The government should make these exams a screening mechanism;

- The education system does not seem to prepare students to fully understand and appreciate the importance of natural resources, which are the major means for industrial production. The government should revisit its educational objectives so that they do not only prepare students to understand and appreciate the importance of natural resources; but also, understand and appreciate themselves, as well as humanity in general, and become patriotic in protecting natural resources and use them for industrial development.
- Liberalisation of education has killed the spirit of self-reliance; simple tasks like sweeping, watering vegetable gardens and working in small projects at school taught students about self-reliance and hard work. Children nowadays find hard work repulsive. Ministries responsible for education should ensure that these activities are revived and became part and parcel of leaning. Curricula at all levels of learning should reflect the needs of the economy; ministries responsible for Education, Industry and Trade should work together, especially at policy making level to incorporate skills needed for various industrial processes. The Asian Tigers such as Singapore, Malaysia and South Korea took this route and succeeded, Tanzania should emulate this approach.
- The current education system regards good crammers in schools as smart/bright and gives them responsibility of handling huge projects, though they do not have practical knowledge. Education should focus on competence building, critical thinking, inquisitive mind and problem solving. Moreover, these skills can be acquired only when the language of teaching and learning is understood by both teachers and students.
- Education has become a commodity with different values and price tags; those who can afford purchase the best commodity and this has created a gap between the haves and the have not. The Government should make sure education becomes a social service and a human right for everyone for the national interests by ensuring equality and equity.



Session 4

Panel 3:

Reflections on how to respond to the new demands on Tanzania's Education System in the Current context of rapid global changes.



Panellist: Prof. Joel Samoff

Reflecting on how to respond to the new demands on Tanzania's Education System in the Current context of rapid global changes prof Samoff had this to say;

- He reterated the idea of Mwalimu Nyerere that Tanzania needs to run while others walk. A quick interpretation of this philosophy is that Tanzania needed to do more to catch up.
- He said education needs to be seen as an integrated process and that one part of education cannot be improved by starving the other. What we learned from education for self-reliance is that both basic and adult education is important. For example, in the 1960s Tanzania, a poor country, was a leader in education in the world, in its recognition of the importance of holistic education.
- Mwalimu Nyerere once noted that the problem in our education sector started when Tanzania imported external standards of education. The uncritical importation of external standards is what pulled us back as we lost focus on the need to promote literacy as a whole. Education for self-reliance was a radical analysis; its re-conceptualisation did not reach effectively to higher education and research. The uncritical adoption of external standards led to a separation between basic education and adult education. What followed thereafter has proved problematic.
- Prof Samoff emphasised that in order to have quality education there is a need to have confident teachers, confident teacher educators and an effective teaching system.
- To ensure competence and confidence in teachers for schools and teachers training colleges, there is need to invest in quality research on various aspects that would inform of best ways of teaching, management and mechanisms to address educational challenges at all levels. However, our research has been facing a lot of problems. National funding for research has been minimal. The problem in Africa, however, has been heavy dependence on foreign aid for most of its research and policy-oriented decisions.
- The dependence has led to specification of research topics and the methods of conducting research. This is a critical question to explore, yet none of the researchers have found our research constrained or influenced by foreign funding. Government should increase funding of educational reserch to avoid external dependence, which most of the time comes with biased conditions.
- Prof Samoff's additional point was that framing happens when we uncritically adopt ideas that come from external standards. For example, is to think about the notion of spending on education as an investment in human capital. When we do that, the tools of investment ranking come in. Should

the money go to basic, vocational, technical, higher, pre or in-service teacher education? Should it go for textbooks or what? We don't ask about policy, we don't ask about the interest of the citizens; we ask how we can return. Students are thought of as a business rather than a community or citizens. Business has become a way of doing things. It is a fact that we need external funding and that research flourishes when it is a collaborative activity; however, there is need to recognise the framing and address it critically. It is clear that the policy of education for self-reliance is still very valid; therefore, the country should set out its goals of education that will guide it towards becoming a self-reliant middle-income industrial nation.



Discussant 1: Prof. Esther Mwaikambo

Universities need to produce experts who will work in industries and be self-reliant. The question is where to start. It has to start with strengthening the provision of basic sciences – physics, chemistry and mathematics which are building blocks of all sciences. There is a myth among young people that science is very hard and that it does not pay, so they shy away from science subjects. Science is not hard; it depends on how you were taught and what you were taught.

There are several examples of people who invented things because the environment for studying was conducive. For example, Louis Pasteur, the trail blazer who studied chemistry, and at a young age he invented a vaccine for rabies or the Swedish Svante Arrehnius, and he won the Nobel Prize for showing the effects of the level of concentration of carbon dioxide on temperature (climate change). These examples show that if you expose a Tanzanian to the right environment and nurture the right mind-set, they too can invent things, but they need exposure at a young age. Children understand when they learn practically. We have big shortcomings in resources and teaching materials for enhanced inquiry-based learning.

The main challenges in teaching and learning basic sciences are:

- The subjects are not liked
- There are no qualified teachers
- Insufficient equipment and materials
- Lack of political will for higher budget allocations for basic sciences.

If we want to change the situation:

- Education stakeholders especially government need to push for the creation of a conducive environment for the studying of science subjects
- There is need to develop critical mass of good quality science teachers to teach basic sciences
- There is need to construct state-of-the-art laboratories to support the teaching and learning of basic sciences
- There is need to create good conditions so children would to like to study basic sciences

The investment in science, teaching style and quality of teachers to guide these students are key requirements. Similarly, there is need for a robust policy to recognise inventors so as to motivate further investments that can encourage others. In addition,

there is need to link industry and academics in a way that both parties will benefit and develop idea incubators.

The nation should ask whether the graduates we are producing are in line with the needs of the society. Students need to get exposure when they are choosing what to study. For this, universities should develop curricula that fit the needs of industry's short and long term needs. There is need to understand the relationship between science, technology and education and ensure that career scientists are enabled to try out their ideas or inventions.

As a way forward there is need to think of changing how educational institutions teach basic sciences and use inquiry-based learning. Children will understand better and can become good researchers. Emphasis should be put on encouraging communication, creativity and innovation among our students. The Ministry needs to identify and develop a cadre of teachers who can nurture these aspects at an early age. To get well seasoned science students at higher level there is need to change the traditional way of teaching secondary science education. Finally, the government and the community should sensitize children about the importance of science subjects and their marketability.



Discussant 2: Prof. Justinian Galabawa

Professor Galabawa started by emphasising the need to stay focused and to refrain from reinventing the wheel. He cited four articles written by different academics which talked about various aspects related to the theme of the symposium; including an article by Gabriel Ruhumbika which talked about the contribution of the UDSM to the 28th anniversary of TANU - 20 years of leadership; an article by the late Amon Nsekela about the public enterprise as an organ of economic development and industry; an article by Dr. Nicas Mahinda about the possibilities of using coal and iron ore for industrial purposes, which contains fuel resources location map and the amount of mines available; and an article by Ibrahim Kaduma on 20 years of TANU education. Technical schools and self-reliance have also been discussed by the likes of Prof. Simon Mbilinyi, Robert Mabele and others in relation to the establishment of industries and economy using a manpower approach to education planning. Again, the late Mwalimu Nyerere wrote about the Arusha declaration 10 years after and reviewed equality, education, agriculture, industry, and government ownership of industries. He also emphasised the importance of democracy and agriculture as the foundation of a government-led industrialisation, and the need for discipline, efficiency and a spirit of self-reliance. We need to tap into that wealth of wisdom and guidance.

Talking about how to respond to the new demands he proposed an education system that is hinged on intellect and passion. He requested participants to travel back to 1961 when researchers were looking at how to ensure education moves with time and avoid misallocation of candidates in vocational industrial training. He also reminded participants to remember three things that Mwalimu Nyerere was pushing:

- Universal education
- Education that does not remove students from their environment
- Education for theoretical intent as well as for practical application

He also urged on the need to look at the education context, particularly at what skills are required for the industries that are being planned. We need to identify what skills we want - high, middle or low, and have a rejoinder policy from the lower level.

Professor Galabawa called for the re-examination of our economic context as well as transitioning ourselves from being a dependent nation facing restrictions from larger organisations. To achieve this, we need to demonstrate high competency in agricultural production to be able to push industrialisation. With regards to trade, we need to address cross-border marketing of our products. We are now being ruled by technological advancements that will soon replace the need for human resources. Our research institutions need to have a strategy to invent technologies. Tanzania has the ability to replicate what the Asian Tigers did, and we can start working towards that direction; commencing with the type, content and approach that the education system is currently delivering in schools and higher learning institutions.

Concluding his argument, Professor Galabawa recommended the need "to go back to the concept of self-reliance, rethink our manpower approach to education and skills training, promote skills that will give us rural transportation and push for ways to establish backward and forward linkages".



Discussant 3: Dr. Joviter Katabaro

Dr. Katabaro on the other hand focused his argument on administration and management of our education system. He said some education stakeholders have made the mistake of thinking that mass education will translate to economic development, whereas we just need nearly (1%) highly trained people who can bring innovation in society. The way we run our education programme will determine our success in this endeavour. It is not true that the more University graduates we produce the more developed we will be economically. When producing graduates, we need to look at more than just numbers. We need to equip our students with skills, nurture creativity and people management, because recruitment is looking for that as well as emotional intelligence, judgement, and decision making skills, cognitive flexibility and more. Students who are taught to cram, do not fit the bill. About 90% of employers say their employees had no knowledge of information technology. They were academically qualified but they didn't possess analytical, presentation or problem-solving skills and had no adequate imagination.

He recommended the need to develop a mechanism to identify talents that could be applicable in every industry. For example, for the service industry, customer care which is determined by a person's communication style should be the focus. Also, in order to mass-produce skilled personnel, every district should have a good secondary school that teaches agricultural science: Ruvu, Kibiti, Tarime and Kilosa. There is a need for technical schools as well. The aim should be to provide practical learning for all higher learning students which can be achieved through teaching practice, practical internships and industrial placements. Out of the three years of study, students

should be placed in an office or company to learn skills, including behavioural skills. We also need to develop a good learning environment and research facilities. Moreover, there is need to promote our local products.

The context of the word "Rethinking", should imply a review of education for self-reliance at all levels. Dr. Katabaro equated the motto "Hapa Kazi Tu!" with the motto "Freedom and Work."

General Observations and Recommendations

After presentations and discussions, participants in the plenary also contributed to the themes. A few observations and recommendations were made as follows:

Observations

- Acquisition and internalisation of knowledge is what pushes creativity; you cannot teach creativity. Learning institutions should focus on facilitating a teaching and learning environment and process that could enable students to be creative and innovative.
- Tanzania needs the kind of education that is able to identify and nurture talents of each student.
- Education starts at family level; parental involvement in children's education is key.

Recommendations

- We need to learn from global experiences. Everywhere in the world training has moved from education institutions to the work place. There should be linkages between educational institutions and the world of work to ensure safe marriage between theory and practice.
- There is a need to find ways in which educational institutions could cooperate with industries to identify market needs, provide opportunities for practical training and experiences.
- Employers should be made aware that graduates need time and opportunity to learn on the job.
- While working with industries to play their part we need to encourage volunteerism among university students. Volunteering at work sites provides the needed practical training while helping students to showcase what they are capable of. Institutions such as the Association of Tanzania Employers (ATE) and Institutions of Higher Learning should champion these initiatives.
- There is a need to re-think academic terms for all courses so they are in line with the system for Law and Engineering, where there is a full additional year focusing solely on practical training.
- Quality education should be emphasised at all levels from pre-primary level and career guidance as students get into higher grades. Students need to be educated in a way that equips them with both knowledge and skills.
- Vocational skill orientation should be offered from primary level in order to familiarise pupils with the world of work. At 'O' level the orientations should be in the form of entrepreneurship skills while at 'A' level options should be provided for subsidiary subjects that would pave the way for core courses at university level.
- Finally, universities need to enable students to learn and create new skills. Educators must not shy away from the role of improving efficiency and increasing productivity. They need to encourage learners to take risks and aim at excelling in their careers.

Session 5



Summing Up and Closing Summary and Conclusions by Dr. Bashiru Ally

The relevance of education for self-reliance cannot be overemphasised. Students need to be educated in areas that they can use later in life. The education system should be looked at in its totality so that there is consistency in the movement of a student from pre-school to university and eventually into the market.

Education should emphasise practical training, have an early detection system where children with special skills and talents are nurtured, and have an early identification mechanism for children with special needs. The efficiency of the education system should be assessed in term of not only content but also teaching and learning methods. Both soft skills and hard skills should be provided to encourage students to use their own brain to think (critical thinking), their hands to act or creat and hearts to feel and develop their society.

In all this, inclusive democracy should be the foundation. The budget for education needs to be revisited. Currently, Tanzania spends only 16% of the national budget on education. The Government should recognise the crucial role of teachers and treat them well. Their teaching and living environment should be improved by making efforts to ensure facilitative teaching tools and improved housing and remuneration for teachers. On the part of students, there is a need to identify talents and direct them to appropriate technical schools.

There is need to think about the role of community involvement in increasing education for efficiency and self–reliance. Communities should be sensitised and mobilised to support the move towards education for self-reliance. It is advised that one model school be established in every region that would help push the industrialisation agenda that is being pursued. This should go hand in hand with having an organ with authority to regulate and coordinate changes in education including organised research. Above all, there should be re-kindled and nurtured spirit of patriotism, accountability, responsibility, unity and environmental protection at the basic level.



Closing remarks by Prof. Rwekaza S. Mukandala

The Symposium was officially closed by the Vice Chancellor Prof. Mukandala. In his brief closing remarks, he thanked participants and presenters-particularly Prof. Sumra and Prof. Samoff who had travelled into Tanzania specifically for the Convocation Symposium. He also thanked HakiElimu for joining forces with the University of Dar es Salaam to work on an important event. He thanked the President of the Convocation, Hon. Rtd. Judge Joseph Warioba, for his dedication and for volunteering to work to make this the Symposium a success, adding that this was not the first or second symposium that he had participated in. With these brief remarks, he wished everyone all the best in their endeavours, while, for those who were travelling away from Dar es Salaam, he wished them a safe journey back home.



Annex B: Symposium Programme

Day One: 20th November 2017		
Time	**Event**	**Responsible Person(s)**
09:00-10:00	**Arrival and Registration**	**Organising Committee**
10:00-13:00	**Session 1: Official Opening and introductory Speech**	**Hon. Rtd. Judge Warioba, Chairperson**
!0:00-10:05	National Anthem	University Choir
10:05-10:15	Welcoming Remarks	Hon. Rtd. Judge Joseph Warioba, President of University Convocation
10:15-10:20	Greetings	Mr. John Kalage, Executive Director, HakiElimu
10:20-10:25	Remarks from Ministry of Education	Deputy Permanent Secretary, Prof. James Mdoe
10:25-10:30	Special Song	University Choir
10:30-10:35	Welcoming the Guest of Honour	Hon. Rtd. Judge Joseph Warioba, President of University Convocation
10:35-11:00	Opening Speech	Hon. Selemani Jafo, Minister President's Office Regional Administration and Local Government
11:00-11:40	**Keynote address:** Why Should we Rethink 'Education for Self-Reliance Policy Today'?	Prof. Rwekaza. Mukandala, Vice Chancellor, University of Dar es Salaam
11:40-11:50	Discussant	Prof. Abel Ishumi
11:50-12:30	**Plenary Discussion**	**ALL**
12:30-12:35	Song	University Choir
12:35-12:40	Vote of Thanks	Prof. Penina Mlama
12:40-12:50	Photo Session with Guest of Honour	Public Relations Officer
12:50-13:00	Guest of Honour visits Exhibitions	Vice Chancellor
13:00-14:30	**Lunch Break and Exhibitions**	**ALL**
14:30-16:20	**Session 2: First Panel Discussion** Education for Industrialisation and Sustainable Development	**Prof. Lucian Msambichaka, Chairperson**
14:30-14:45	Presentation	Prof. Mkumbukwa Mtambo
14:45-15:15	Discussants	1. Prof. Bernadeta Killian 2. Prof. Beda Mutagahywa
15:15-15:20	Song	University Choir
15:20-16:20	**Plenary Discussion**	**ALL**

Annex B: Symposium Programme

Day One: 20th November 2017		
Time	**Event**	**Responsible Person(s)**
16:20-16:35	**Session 3: Second Panel Discussion** In Search of an Alternative Approach to Education Transformation: Philosophy, Structure, Content and Pedagogy	**Prof. Abel Ishumi, Chairperson**
16:20-16:35	Presentation	Prof. Suleman Sumra
16:35-17:05	Discussants	1. Dr. Richard Shukia 2. Prof. Mwajabu Possi
17:05-18:05	**Plenary Discussion**	**ALL**
18:05-18:30	**Tea and Networking**	**ALL**
Day Two 21st November 2017		
08:30-09:00	**Arrival and Registration**	**Organising Committee**
09:00-10:50	**Session 4: Third Panel Discussion** Reflections on How to Respond to the New Demands on Tanzania's Education System in the Current Context of Rapid Global Changes	**Moderator: Hon. Peter Serukamba (MP), Chairperson**
10:50-10:55	Song	University Choir
10:55-11:55	**Health Break**	**ALL**
11:55-12:00	Song	University Choir
12:00-12:30	**Session 5: Summing up & Closing**	1. Rapporteur 2. Prof. Rwekaza Mukandala, Vice Chancellor



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P.O Box 79401 • Dar es Salaam • Tanzania
Tel (255 22) 2151852 / 3 • Fax (255 22) 2152449
info@hakielimu.org • www.hakielimu.org