THE NATIONAL COUNCIL FOR TECHNICAL EDUCATION

CONFERENCE REPORT ON QUALITY ASURANCE (QA) MONITORING IN TECHNICAL EDUCATION AND TRAINING (TET) HELD ON 28th AND 29th APRIL, 2016 AT THE ACCOUNTS PROFESSIONAL CENTRE (APC)-BUNJU, DAR ES SALAAM.

THEME: “QUALITY ASURANCE MONITORING AND LABOUR MARKET LINKAGES IN TECHNICAL EDUCATION AND TRAINING.”
Abstract
The conference on Quality assurance monitoring and labour market linkages in TET was organized by NACTE in collaboration with NUFFIC – Maastricht School of Management and the Institute of Education (IOE) of the University College of London (UCL). The conference brought together local and international participants with vast experiences on Quality Assurance Monitoring in technical education, to contribute on the best ways of addressing QA aspects in delivery of CBET programmes that are labour market friendly for sustainable development.

The guiding theme of the conference was “Quality Assurance Monitoring and Labour Market Linkages in Technical Education and Training”. The theme is in line with national education training policy (2014) and Tanzania Development Vision (2025) which places education high in its priorities as it lays foundation for skills development in the country. Quality Technical education plays a fundamental role in achieving the desired socio economic transformation. This can only be achieved by reforming the Technical education and Training delivery system with emphasis on production of skilled manpower with relevant competence in both productive and service delivery sectors. The education sector of Tanzania has realized an outstanding achievement in terms of equity access in education at all levels, but still remains with a challenge in addressing quality aspects of the same availed education. In addressing the noted gap, the ministry of education through its regulatory bodies is partnering with education stakeholders to come up with new QA methods/system that are in line with CBET.

To realize this new approach in TET, this conference was organized. The conference was officially opened by the Deputy Permanent Secretary of the Ministry of Education, Science, Technology & Vocational Training, Professor Simon Msajira and closed by Professor Sylvia Temu who is the Director of Higher Education of the Ministry of Education, Science, Technology and Vocational Training. Fifteen presentations were done covering 4 papers, 6 Research Findings and 5 Key Note Addresses. The presentations were done in five sessions, each chaired by a selected delegate. Discussions of the respective presentations were held every after a session.
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Prepared by The Hospitality Professionals
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<td>ATC</td>
<td>Arusha Technical College</td>
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<td>CBET</td>
<td>Competence-Based Education and Training</td>
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<td>CEDHA</td>
<td>Centre of Education, Development in Health Arusha</td>
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<td>DIT</td>
<td>Dar es Salaam Institute of Technology</td>
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<td>EQA</td>
<td>External Quality Audit</td>
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<td>IOE</td>
<td>Institute of Education</td>
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<td>IQA</td>
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<td>ISW</td>
<td>Institute of Social Work</td>
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<td>IUCEA</td>
<td>Intern University Council of East Africa</td>
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<td>LCE</td>
<td>Limited Competence Equilibrium</td>
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<td>MNGT</td>
<td>Modified Nominal Group Technique</td>
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<td>NACTE</td>
<td>National Council for Technical Education</td>
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<td>QA</td>
<td>Quality Assurance</td>
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<td>QD</td>
<td>Quality Development</td>
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<td>SAR</td>
<td>Self-Assessment Report</td>
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<td>TCU</td>
<td>Tanzania Commission for Universities</td>
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<td>TET</td>
<td>Technical Education and Training</td>
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<td>TI</td>
<td>Technical Institution</td>
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<td>TIA</td>
<td>Tanzania Institute of Accountancy</td>
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<td>UCL</td>
<td>University College of London</td>
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<td>ZIToD</td>
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OPENING CEREMONY

1.1 Official Welcome by the Acting Executive Secretary of TCU

Addressing the delegates on behalf of the NACTE Board Chairperson Eng. Steven Mlote, the Executive Secretary of TCU, Professor Yunus Mgaya introduced the motto of the conference, ‘Quality Assurance Monitoring and Labour Market Linkages in Technical Education and Training’ and gave an outline of the whole event. He began by recognizing the presence of various officials and welcomed all to the conference.

He emphasized that the conference was aimed at discussing the move from knowledge-based to Competence Based Education and Training (CBET) in Technical Institutions. He urged the delegates to share their experiences on matters pertaining to Quality Assurance in the Technical and Education Training System; and hoped that in the long run, Technical Institutions would be linked with the labor-market as an outcome of the conference.

In conclusion, he thanked and welcomed everyone in attendance and invited the Guest-of-Honor to officially open the conference.

![Figure 1: A Group Photograph of Distinguished Guests with the Guest-of-Honor](image)
1.2 Speech by Guest-Of-Honor

The event was officially launched by a speech from the Guest of Honor, the Deputy Permanent Secretary of the Ministry of Education, Science, Technology & Vocational Training, Professor Simon Msajira. He began by greeting all and appreciating the opportunity given to him. He also welcome all participants, local and international.

He said the conference had come at the right time and its theme “quality assurance monitoring and labour market linkages in technical education and training” was in line with the government agenda of addressing delivery of quality education at all levels. He therefore hoped the forum would provide a platform to the participants with varied experiences and expertise in the field of technical education to reflect on their roles in ensuring delivery of quality technical education for sustainable development.

He shared a few highlights of the National Education Training Policy (2014), which lays the foundation for skills development in the country. The Tanzania Development Vision 2025 aims at making Tanzania industrial-based and a middle income economy by the year 2025. He emphasized the strategic role of education, being a priority, in the development of skills required to solve the development challenges faced in the country. Technical and vocational education are expected to be important drivers in production of skilled manpower in terms of numbers and quality.

He also discussed the restructuring and transformation of the education system with a focus on creating and promoting skills in problem solving and creating innovation that will make us move forward at all fronts in both productive and service delivery sectors. The Ministry has taken steps of reviewing past education policies and formulating a comprehensive education and training policy, that aims at improving all levels of education and ensuring excellence of all so that recognizable and measurable learning outcomes are achieved by all, especially in foundational skills, vocational and technical as well as life skills. With the mandate of developing and producing quality human capital for national development, the Ministry aims at changing the skills creation and production landscape without which the ambition for Tanzania to become a middle income economy will remain a dream.
He also discussed the current increase in the number of students admitted into Technical Institutions and the need to match the market demand requirements / qualifications in order to increase labour competence.

The Guest-of-Honour also elaborated the importance of support provided by stakeholders to the quality regulatory bodies to come up with workable plans for ensuring quality of technical education to provide support to the bodies set by the government. However, the institutions are responsible for implementing the intended quality aspects.

He invited interested stakeholders in technical education to support the government endeavors in facing the challenge on the quality of education which involves equipping students with the skills which are linked with industry or labour market. He said the government would honor any constructive advice given.

In his conclusion, Professor Simon Msajira advised all to reflect on the past, learn from it and make a paradigm shift on the management of Technical Education in the country so that it plays a crucial role for Sustainable Development. He also said that modern effective education systems are crucial for sustainable and economic development.

He finally thanked the event organisers for inviting him and advised all delegates to listen carefully to the various presentations and share experiences in order to come up with resolutions and deliberations on how Technical Education will be shaped for sustainable development.
1.3 Vote of Thanks by Acting Executive Secretary, National Council for Technical Education (NACTE), Dr Adolf B. Rutayuga

In his speech, Dr Adolf B. Rutayuga thanked the Guest-of-Honor for valuing NACTE’s invitation to officiate the forum. He also thanked the Ministry of Education, Science, Technology and Vocational Training for its continued support and guidance through policies and guidelines in ensuring delivery of quality technical education in the country.

He pointed out that the key policy issues, related to technical education, raised by the Guest-of-honor would be discussed and experiences as well as best practices and lessons related to skill development shared by the conference participants. The participants would also come up with constructive deliberations which would translate the policies into reality and hence realize quality technical education. The sharing would be through presentation of papers on quality assurance and researches. In addition, research findings would inform the Council on best ways and means of delivering quality technical education.

Dr. Rutayuga assured Prof. Msajira that, NACTE as a regulator of technical education will continue to assist and support technical institutions in the delivery of quality technical
education, promote and maintain approved academic standards. In order to realize this, NACTE will continue to work in collaboration with development partners and other interested stakeholders in implementation of projects that address quality related issues in technical education.

In addition, Dr. Rutayuga appreciated the emphasis of the Guest-of-Honor on taking advantage of ICT as a tool for facilitating delivery of technical education. He said, it had been an eye opener to the Council to re-think and reflect on its role in regulating delivery of technical education in the country. He said the Council would explore possibilities and opportunities for expanding enrollment in technical education and diversify its modes of delivery to include the use of ICT in order to reach more students. He also said that the Council would also explore on developing e-learning materials so as to widen equity access to technical education.

In his conclusion, he thanked the Guest-of-Honor again for officiating the Forum, and on behalf of the Council assured him of NACTE’s commitment to deliver quality technical education by ensuring effective quality assurance mechanisms are in place.

1.4 Conference Expectations

Ms T.F Mponzi began her speech by expressing gratitude to the Guest-of Honor for according honour to the Council and for his participation in the Conference.

The conference, having drawn participants with varied expertise in the field of technical education, had several expectations. These she shared and said they would help in evaluating achievement of the conference objectives.

She started by informing all that NACTE has in place academic quality standards and has propounded ‘best value’ concepts which cover broadly key parameters that matter in the delivery of quality technical education. She elaborated on the role of stakeholders in ensuring that these standards and concepts add value to improvement of technical education. She also added that technical education providers are required to comply with NACTE set standards in order to produce graduates who are competent and meet the expectations of the labour market. Training providers are required to adopt, implement and
continuously evaluate their quality policies and plans in order to achieve the expected results by, reflecting on the delivery of quality technical education and frequently consulting with key stakeholders at various stages of the training processes.

Ms Mponzi also added that, the institutions being considerably diverse and yet expected to meet the same standards of good practice, the Council hoped that such forums give the technical education providers the opportunity to share experiences and learn from each other.

In addition, the Council expected that the conference would enable participating training providers to:

(a) Re-generate themselves in respect of quality academic standards as propounded by NACTE;
(b) Work towards producing qualified and competent graduates;
(c) Provide demand driven academic programmes;
(d) Recognise the varied needs of a wider range of students;
(e) Embrace learning strategies such as work-based and e-learning etc.; and
(f) Assess themselves and the way they provide technical education.

Also the Council expected that conference participants who were not training providers, being key and very important stakeholders of NACTE, would add a significant value in realizing the objectives of the Council.

She urged learners to be on top of the agenda in order to support NACTE in its efforts to scale up the accreditation of academic programmes to enable Tanzanians compete effectively and benefit from regionally expanded labour markets.

In her conclusion, she said that learners in technical education fields expected all to implement whatever would be deliberated in the conference and hoped that each participant would ensure that their personal expectations were met.
PRESENTATIONS

1.5 Key Note Addresses

1.5.1 The Importance of Labour Market-oriented Education by the CEO of The Association of Tanzania Employers, Dr Aggrey Mlimuka

In this paper, the perspectives of employers as to why labour-market oriented education is important were discussed. The government efforts to make the country a middle-income economy by 2025 were discussed; for this reason there is need to increase employment opportunities from the industry sector by 40% by 2020. Challenges faced by employers in as far as the current graduates are concerned were also discussed.

![Dr. Aggrey Mlimuka explaining the importance of Labour-Market Oriented Education](image)

Labour-market oriented education is important because it;

- Aids in building domestic capacities, resources and abilities to produce skilled workers for economic growth
- Leads to increased competitiveness and productivity
• Facilitates the improvement in the planning of education by the relevant ministry and other educational authorities.
• Supports entrepreneurship training,
• Enhances productivity through technological advancement,
• Makes it much easier to identify challenges
• Helps to deal with the acute unemployment problem. Annually, 80,000 new job-entrants are produced. However, it was noted that only 5% of these gain access to formal employment.

**Challenges**

• Mismatch between the supply of skills and demand as the graduates are not well-skilled
• Negative attitudes towards work
• Lack of motivation
• Reluctance of to change
• Unwillingness of graduates to learn
• Poor communication skills

In order to face the challenges, suggestions of what should be done were made as follows;

• Employers should be involved during the formulation of the curricular to ensure that the curricular fulfil the skill-market demands,
• Graduates should be able to take ownership,
• Research should be promoted in technical Institutions and in the country as a whole to keep up with the ever changing technology and;
• Graduates should be prepared for self-employment.

In his conclusion, Dr Mlimuka further advised NACTE, TIs and Universities to collaborate their efforts in eliminating the prevailing negative perception on the quality of TI graduates.
1.5.2 Improving CBET in Tanzania: A New Quality Assurance and Quality Development Agenda for NACTE and Technical Institutions by the Ag Executive Secretary, NACTE, Dr A. B. Rutayuga

In this paper, quality and standards with regards to Technical Institutions and NACTE were shared. Quality Assurance (QA) is hinged on Registration and Accreditation Processes.

Challenges to Quality Assurance and Quality Development in Institutions were discussed and the recommendations suggested to face these challenges.

![Figure 4: Dr. Adolf B. Rutayuga delivering his presentation](image)

Quality is defined subjectively and is multi-dimensional. When looking at quality, there are three aspects to consider; the input, process and output. It also involves bringing together perspectives of different stakeholders.

Following are a few definitions of Quality:

- Excellence of provision (Being the best, being excellent)
- Threshold (view of regulator)
- Added value (view of students)
• Fitness for/of purpose (view of external assessors)
• Value for money (taxpayer/ government view)
• Client satisfaction (view of students/ employer)

Standards
These can be defined as the level of demonstrated competence that everyone should recognise and aspire for. It is also what is expected in the modern age, to make any economic and social progress possible. Standards are used to assess quality.

Evidences in assessing quality in technical institutions in Tanzania include:
• Academic quality (accreditation) standards
• Quality control and quality assurance system
• Quality management plan (QMP)
• Self-assessment report
• Quality management structures
• Performance indicators (PIs)
• Registration of teachers
• Assessment and examinations
• Admission of students

He emphasized that the system is so demanding, hence Technical Institutions struggle to comply.

Challenges to assuring and developing quality in institutions
It was stated that the concept of quality is being supported by a one-dimensional paper-based process that mostly asks for compliance; possibly done without sufficient engagement and communication. As a result, the main issue becomes monitoring and the quality of that relationship, rather than systematic capacity building.

It was revealed that constrained financial and human resources leading to the inability to maintain the higher standards. Insufficiency in human resource capacity may lead to
inability to share QA responsibilities and inadequate capacity to deliver, assess and evaluate competence-based curricula

The presenter also pinpointed limitations in Management support capacities like inadequate internal management support, TIs’ reluctance to enhance quality standards after being accredited and insufficient participation of non-academic staff, and students in QA processes.

The other challenges faced are the limitations in Self-assessment systems capacities which include limited financial resources to support preparation of documents, limited ability to interpret the accreditation standards and the lack of honesty by some institutions in their self-assessment reports, which challenges further improvement.

In addition, there are inadequacies in developing internal sustainable systems such as the governance structures, strategies, and systems in institutions; information and technological resources as well in teaching and learning environment. Communication with and involvement of stakeholders was also seen to be insufficient; and the research capacity and culture are also weak.

**A New direction in management of quality and standards**

NACTE needs a more expansive concept of QA that places a new emphasis on communication, engagement and ownership. There is need for an active joint development and capacity building agenda between NACTE, technical institutions, and other stakeholders.

In order to do this there is need for NACTE to endeavor to know more about the TIs and their challenges. Stakeholders should improve the means of communication and dialogue to deepen evidence and to identify the capacities to be built; and also focus on investment in financial, physical and human capacity.
Furthermore, Dr Rutayuga emphasised the need to simplify the QA system practiced under NACTE, which appears to be a very demanding system on paper but lacking the follow-up and support due to inadequate funding and human resources. In his conclusion, he suggested that the role of NACTE and the responsibilities of the TIs be changed from being control to improvement-oriented.

1.5.3 Towards a New Approach in Quality Monitoring for Technical Education and Training by Mr. Vroeijenstijn Ton, Maastricht School of Management – Netherlands

In this paper, the NACTE quality monitoring handbook and how it can be used to improve the current system were discussed. This handbook was based on the IUCEA handbook, “A Road Map to Quality” and adapted to the context of Technical Education in Tanzania.

Firstly, the following shortfalls of the current system were discussed:

- Too much bureaucracy and complications,
- Imbalance in the roles of NACTE and the institutions
- The system is not user-friendly.
- The burden for the institution and for NACTE is too high
- The need for documents and procedures to be revised
- The tasks “quality monitoring” and support/guiding function are not clearly distinct and separated.
The Handbook will support the TIs in:

- Implementing good practices for quality assurance. On this note, the fact that The TI’s are in the first place responsible for the quality and not NACTE was discussed.
- Developing an adequate Internal Quality Assurance system that fits international developments.
- Discovering their own quality by offering self-assessment instruments for IQA, the program, and for the institutions as a whole.

As a result of implementing the booklet, NACTE will have less control, but more trust in the TIs; the responsibilities of TIs and NACTE will be balanced, the system will be based more on Self-Assessment Reports (SAR) rather than just documents.
Contents of the Handbook

The handbook provides guidance to TIs on Quality Assurance and also discusses the roles of NACTE in QA as well.

- **Internal Quality Assessments and External Quality Audits**
  Below are some actions to assure quality in technical institutions. Each institution should;
  - Appoint a Quality-officer and set up a quality center;
  - Implement a well-functioning Internal Quality assurance system;
  - Conduct a self-assessment of its IQA system and the institution itself every 5 years and also regularly assess tis programs
  - Develop a quality management plan yearly

**Tasks of the QA-officer/QA-unit**
- Promoting quality awareness
- Development of a clear quality policy in the institution.
- Implementation and maintenance of a robust Internal Quality Assurance system
- Supporting general management to find out the quality of the institution and institutional management.
- Supporting departments in the self-assessment process for discovering the quality of the programs
- Organizing student evaluations
- Organizing tracer studies
- Organizing Staff developments activities
- Support faculties/departments in designing new curricula.

- **Role of NACTE in Quality Monitoring**
  NACTE has three roles;
  i. Checking quality by registering and accrediting institutions, accrediting programs and performing quality audits
During registration, the TIs should provide the necessary information to NACTE after which NACTE will verify documents. If need be, a site visit will be planned and a report submitted to the board and Council. Lastly, a decision will be made on the application.

It is advised that a registration licence should expire every 2 or 3 years, after which the TI can be accredited. A TI should evaluate its IQA system every 3 years and NACTE should also endeavour to perform Quality Audits.

The emphasis of NACTE should be on Institutional Accreditation and an institution can always request a Quality Audit.

ii. Providing advice to the government and institutions as well as the clearing house function and;

iii. Supporting the quality initiatives. This can be done by providing training through seminars to promote staff development, supporting database job profiles, supporting QA officers in implementation of the QA systems, and supporting the institutions in conducting self-assessments.

Way Forward (Recommendations)

In his presentation, Mr. Vroeijenstijn Ton suggested that TIs should provide NACTE with feedback on the handbook and on the new approach. In addition, NACTE should endeavor to implement the use of the handbook and orient the TIs on how to use it, develop a strategic plan for the transformation from the old system to the new approach, start new registrations and new assessments, based on the handbook and develop a time schedule of three years for accreditation of institutions that are not yet accredited.

He also advised that the capacity of the NACTE zonal-offices be strengthened; and the Ministry and NACTE discuss the necessary budget.
**Final Remarks**

In his conclusion, the TIs should take the challenges and responsibility for quality by appointing QA-officers and setting up a QA centers and QA-officers network as well as implementing the handbook.

It was finally advised that NACTE give more trust to the TIs and develop a strategy for the transition of the old to the new approach; and also, the Ministry should support the changes.

1.5.4 **Labour-Market Linkages from a Triple Helix Point of View by Prof. Diederik de Boer, Maastricht School of Management – Netherlands**

This presentation aimed to discuss how to seize the opportunity and become competitive by understanding the importance of Triple Helix for Technical Institutions. Experiences from the case of Brainport in the Netherlands were shared and how the same can be used to benefit Tanzania.

Prof Diederik said that the presentation marked the end of a capacity building project ‘Labour Market Development for Technical Education in Tanzania’. It was a four year-programme with RT’s, Tracerstudies, Training on the further development of a sound quality education system and also training and handbooks on competence based learning. It is found on the NACTE’s website. This labour market analysis was also linked to new technologies in the Netherlands. The megatrends for 21st Century involving politics, climate change, energy or resource scarcity, technology, internet etc were discussed.

**Triple Helix**

It was mentioned that the innovation started by linking industry with stakeholders of education such as universities, TVET institutions and the government; using the industry policy (2000), for the purpose of promoting local economic development (Etzkowitz, 2003).

Triple Helix focuses on the three spheres based on the theory of cluster development. Clusters are “geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field” (Porter, 1998). They provide a framework for implementing public policy and organizing public-private collaboration to enhance competitiveness i.e. free economic zones. Clusters can be
categorized as pre-clusters (Independent firms and institutions), emerging clusters (firms’ linkages and industry concentration), expanding clusters (growing linkages) and lift-off (high inter-firm linkages and critical mass). Cluster development analysis includes economic foundations (HR, Technology, Capital and finance, physical infrastructure, regulatory environment); supply industries (input materials, distribution, trade and other supporting services) and core cluster firms. Clustering enhances competitiveness and leads to triple helix therefore:

- Its comparative becomes competitive
- It creates availability and pooling of skilled labor force and talented people
- It creates availability of specialized service suppliers
- It improves market access (economies of scale)
- It circulates information (university-firms-government)
- It creates trust and support between government and institution

**Experience in the Netherlands**

It started in 2000 by peaking in the Delta (Greenport, port of Rotterdam, Schiphol, etc), per province; top-sectors (water, agro food, Life Science & health, Chemicals, High Tech, Energy, Logistics, Creative industry) and Triple Helix campuses such as Airport, Seaport and Brainport. The Brainport 2020 was selected because it is a breeding Southeast Netherland’s ground for innovation and the home to world-class companies, knowledge and research institutions. The Brainport is a place where solutions are created for the world's problems, upon the strengths and the foundations of Philips. The project started in 2010 by targeting people, business, technology and the government.

The key values were solutions, outcomes, relationships, people, network-partners and ecosystems instead of products, output, transactions, technology, suppliers and individual parties.
Brainport 2020 started by investing in education and innovation where by 1 million in R & D led to 8 jobs in R & D and then to 24 jobs in production, 24 jobs in logistics and 24 jobs in services. It also developed triple helix campus that involved Maastricht Health, Chemelot and Smart service campuses whereby more than 6000 jobs and 170 spinoffs were created. Furthermore, it developed LED Network and ecosystem (PPP) projects such as Chemic Innovation and learning lab called apprenticeship programme, Promotion to choose technical education, Development of technical and science topics at secondary schools and Commercialisation of research (patents). The results of LED only were 50 realised projects, Investment of LED € 2.2 million, Investment by other parties of € 12.5 million, extra turnover of € 720 million, extra R&D-investments € 110 million, more focused training of about 30,000 students and more 1,200 jobs.
Lessons learned
From the project, TVET Organizations and Universities learnt how to identify the source of regional economic development, focus on new mechanisms and invest products such as Applied research, In-company training and PPP projects.

Triple Helix challenges in Africa
There are still challenges that need to be addressed in Africa. These may include keeping up with the knowledge revolution, creation of critical mass of skills and talent, focus on international quality standards and establishment of strong links between businesses and training institutions.

Conclusion
As he concluded his presentation, Prof de Boer raised the following questions with regards to application of Triple Helix in Tanzania;

i. Can Tanzania think about the establishment of a LED network, a network of business, TVET/ University, and Government?

ii. Can Tanzania set up a LED fund for PPP projects and focus on its strengths like Zanzibar in tourism, Morogoro in agriculture or Dar es Salaam in Banking, IT and smart data?

1.5.5 Research as a Communication Tool: Experience from Research Capacity Building Project by Prof. Ken, UCL-IOE, University of London
This paper provided a conceptual overview of the research projects undertaken by NACTE as part of Capacity Building. Being the twin of the new QA/QD, the research approach is part of the new direction. All efforts were aimed at looking beyond the Good Bureaucracy to become an organizational ecosystem.

The Research and Capacity Building Programme
NACTE staff undertook small-scale research projects in areas related to the development of CBET. These projects included developing a research-based approach to their work, improving communication, engagement and support for TIs and producing new knowledge about the progress of CBET implementation.
The Limited Competence Equilibrium (LCE)
During the researches, quality of vocational facilities, the effectiveness of practical teacher training, the relationship between stakeholders and the understanding of CBET by practitioners and students were looked at.

General limiting findings drawn from the researches included policy borrowing of CBET and language, top-down regulatory culture, underdeveloped communication and engagement culture and a difficult implementation environment.

When creating a skills ecosystem, several actions take place simultaneously and in stages. These include;
  i. A shift from top-down regulation to more communication and collaborative action with TIs and wider stakeholders
  ii. Focus on specialist and social skill development in NACTE and TIs
  iii. Government investment – human and infrastructure
  iv. A planned wave approach to QA/QD development

Figure 7: Prof. Ken discussing the experience from Research Capacity Building Project with NACTE
In order to make the new culture permanent, there is need to develop a researcher cohort and community of practice involving both NACTE and TI practitioners, TIs and social partners should be involved in TVET research and development, and possibly a new TVET Research Centre will be set up and supported by UCL IOE and Mzumbe University.

Conclusion:
The paper presentation was concluded by a discussion of the “Hapa Kazi Tu” slogan and its wider meanings. The slogan is against corruption and aims at promoting development. It also means hard work and commitment, integrity and honesty, collaboration and participation and self-reliance

It was noted that, in TVET, the ‘new research culture and the development strategy’ is a contribution to “Hapa Kazi Tu” and the deepening of its meaning.

1.6 Papers Presentations on Quality Assurance Monitoring in Tanzania: A New Perspective

1.6.1 Quality Assurance: An Introduction to A New System, First Experiences By Adelaide Bituro Director CME, NACTE

This study was based on analyzing and self-assessing the current Quality Assurance (QA) process using the drafted QA handbook in three pilot projects; institutional accreditation, program accreditation and quality audit for the purpose of improving and finalizing the handbook.

Research Methodology /Activities

During the research, 18 eighteen (18) TIs were trained in three different sessions, Institutional self-assessment sessions were held using the new handbook, selection of forty seven (47) experts and ten Expert Teams formed. Five of these teams were QA teams, three were Institutional Accreditation and the other two were Program Accreditation teams. Also, external assessment visits were done to ten TIs.
Research Findings

Results of the research highlighted the following:

- Some of TIs self-assessments reports provided inadequate information. They used the existing NACTE document instead of the new handbook. In addition, some were not critical in their SARs.
- External assessment visits reports were submitted but the information were not clearly stated and they differed in terms of quality.

![Figure 8: Ms Adelaide Bituro presenting her research findings](image)

<table>
<thead>
<tr>
<th>Project Type</th>
<th>SAR Received</th>
<th>Unsatisfactory</th>
<th>Not Submitted</th>
<th>Visited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional Accreditation</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Program Assessment</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Institutional Quality Audit</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Recomendations

In conclusion, this study of the pilot projects for the new QA approach was considered to be successful but, recommended that TIs and Expert Teams be trained further on the use of the QA handbook, more time be allocated for training and external visits, roles of QA officers and units be strengthened and the QA Handbook should be put to use.

1.6.2 Promoting Quality Awareness: A Quality Audit Case by Mr. Semvua Abdu Abdallah, Arusha Technical College (ATC), Arusha

This study aimed at ensuring that graduates meet the needs of society with adequate knowledge, skills, attitude, confidence and quality degree of qualifications by using the QA Handbook.

Research Methodology

In this study, QAS documentation was reviewed by comparing the Old method where NACTE was the main player in controlling and guiding Quality Assurance Matters for seventeen (17) years of practice and the new method with improved version of Quality Management Systems to cope with changes.

Research Findings

This study noted that:

- Some of the areas in ATC operated within the conformity of its best practices and norms of NACTE therefore they required some improvements.
- The QA Handbook also raised awareness of Quality matters in ATC through realizing its strengths and weaknesses; and hence ATC was encouraged to publish its own Quality-Handbook

Recommendations

In summary, this study recommended that the Quality Handbook be improved according to the TIs’ stakeholders’ views, there is need to create awareness so that institutions can develop their own Quality Handbooks, the institutions need support to meet relevant ISO Certified Standards and the new method will allow ATC to own strong Internal Quality Assurance Management System accountably, effectively and customer centered.
Observation

In comparison to other TIs, ATC seems to have already started using the competence based education and training system. They seem to be better off in the application of the QA monitoring system in CBET.

1.6.3 Promoting Quality Awareness in Institutions: Institutional Assessment Report by Abbas M. Mohamed, ZIToD

This paper discusses a typical Internal Quality Assurance system and a sub-sequential Institutional Self-Assessment report by Technical Institutions as part of dissemination strategy to stakeholders. The term “Quality” was defined as a matter of satisfying the stakeholders in an adequate way. Stakeholders in Technical Education can be distinguished as the government, employers, academic world, students, parents and the society. Each stakeholder has his or her own ideas and thus needs to formulate the requirements clearly and openly too.
Self-assessment of the IQA system at the Institution

Internal Quality Assurance (IQA) system is the system that helps to assure that quality of the institution is meeting the criteria of NACTE. The QA unit organizes a self-assessment of the quality assurance approach in the institution. IQA system may differ from one technical institution to another and therefore the guidelines given for the self-assessment of the system should not be seen as a straitjacket, but rather a benchmark. Institutions should ask themselves the following questions during assessment;

i. Do we reach the standards of NACTE?
ii. Do we reach internationally accepted standards for IQA?
iii. If we do not reach the NACTE standards or the international accepted standards, then why not and what can we do to change it?

In conducting critical evaluation, institutions can use an IQA system. This system treats Internal Quality Assurance, Monitoring and Evaluation instruments, QA procedures to safeguard specific activities and specific QA instruments.

The Self-Assessment Report (SAR)

A Self-Assessment Report (SAR) is the report that contains the basic information that formulates the quality improvement plan for the coming years after completing the SWOT analysis of the institution. This report can also be used by the NACTE expert team to assess the institution for Institutional Accreditation.

The content of the SAR follows the lines of the aspects and each aspect should be treated as follows:

- Describe clearly the state-of-the art by which an outsider must understand the situation.
- Analyze the situation. What is your opinion about it? Satisfied or not? If not, why not?
- Describe how far you meet the formulated criteria. What evidence can you provide?
- Describe the weaknesses and the strengths.
The Content of the self-assessment report at institutional level include:

i. Introduction
ii. Requirements and expectation stakeholders
iii. The organization
iv. Educational effectiveness
v. Quality Assurance
vi. Achievements of the institution
vii. Strengths-weaknesses analysis

Recommendations and Way-forward

It was recommended that the self-assessment of the institutions should be followed by institutional accreditation by NACTE. Therefore, NACTE should spread this new system to the technical institutions by supporting them in capacity building so that they can adopt it immediately. On the other hand, the institutions should take the responsibility for quality assurance that will lead the programs thus satisfying the stakeholders.
1.6.4 Promoting Quality Awareness: Experience from Programme Accreditation by Dr. Peter Sala, Centre for Educational Development in Health Arusha, Arusha

This paper discussed how Institutions can use the Handbook to self-assess their programs.

The Centre for Educational Development in Health Arusha (CEDHA) as an institution was officially established in 1983, as a health technical institution with the main duties of Training (long and short courses), coordinating training in health institutions in the Northern Zone and providing technical support to regions and councils in issues related to health.

Program Self-Assessment

As part of a pilot project for Quality Assurance in TIs, the institution was selected to conduct self-assessment at program level (Diploma in Health Personnel Education (DHPE)). One staff member attended 1-day training organized by NACTE.

At the end of the project, feedback to the management was given on the Quality handbook and an action plan formulated.

A multidisciplinary team was formed and oriented on quality aspects for the assessment as described in chapter 7 of the handbook.

The work plan was prepared, shared with management and the quality aspects distributed to the team through documents which included; various minutes of academic meeting, assessment scoring forms, mentorship guide, program staff CVs, job descriptions, performance appraisal forms, externals examiners reports, situational analysis reports, stakeholders meeting reports, student evaluation reports, strategic plan and Interview key informants.

The QA team conducted institutional physical visit to assess the number, size and condition of classrooms, library, dining hall, recreational facilities, staff offices, teaching laboratories, and teaching equipment.

The QA team also conducted meetings with institutional staff and the management team.
All twenty two quality aspects mentioned in the quality handbook were used as a guiding tool for program self-assessment

The information collected was described and analyzed. Evidences for meeting the criteria were drawn, strengths and weaknesses formulated and an action plan was also formulated for improvement.

Figure 11: Dr. Peter Sala explaining the Experience from Programme Accreditation using chapter 7 of the Quality Handbook

Role of the handbook
The quality aspects being well clustered made it easy to use the handbook in assessing and also in formulating the QA unit. The book offers the 22 quality aspects for program evaluation and; standards, criteria, explanation and evidences defined for each.

Outcome of the Self-Assessment
Following are some of the lessons learned from the SA;
• Management should make a multidisciplinary group responsible for the SA.
• A clear timetable should be made and adhered to.
• SA can be done with very minimal cost
• Honesty during report writing and commitment to the exercise are important
• Draft reports should be discussed within the team, other staff and with management

Through the SA exercise:
• The institution formulated a QA team
• The SA identified weaknesses, such as the mentioned hereafter, which needed immediate actions
  ➢ Formulation of departmental Vision and Mission,
  ➢ Benchmarking of the program by module and;
  ➢ Conducting of a tracer study

The CEDHA QA team agreed to use the tool in institutional assessment, Quality assessment and assessing other programs

1.7 Research Findings Presentations

1.7.1 Stakeholders’ Perception Regarding Qualifications of the competence of Technical Teachers in the delivery of CBET Programmes in Technical Institutions by Joyce Dimale, NACTE, Dar es Salaam

This study aimed to find out the opinions regarding teachers’ competence in delivering CBET programs in Technical Institutions.

The study raised the following questions:

i. What is a competent teacher?
ii. What challenges do technical teachers face in delivering CBET programs?
iii. What should be done to improve technical Teacher competence?

Research Methodology

The research was done through focus group discussions and Principals and teachers from three technical institutions and two organizations (Regulatory Authority and Health care provider) were interviewed.

Research Findings

Following are some of the findings of the study:

• Some teachers do meet academic qualification in the subject area.
• Teachers lack CBET trainings knowledge and skills.
• Teachers are not registered by the professional boards.
• Some of teachers are not up-to-date according to the technology.
• There is a problem of centralized recruitment process.
• Unpleasant environment for teaching and learning (infrastructure, information resources and facilities).
• Poor communication skills using English language.
• Technical teachers are not adequately motivated.

Figure 12: Ms Joyce Dimale delivering her presentation

**Recommendations**

This study also indicated what can be done to improve the teachers’ competence in delivering CBET Programs. In summary, the following were recommended:

• Ensuring that teachers with relevant qualification are recruited and are registered by the relevant Professional board
• Conducting regular CBET trainings and seminars and exposing teachers to the industrial world of work
• The institutions should be involved in the recruitment process of Technical Teachers.
• There should be some improvement in infrastructure, teaching and learning facilities; and teachers’ incentives and motivations.
• There is a need to reinforce the usage of English language.

Therefore this study concluded that both stakeholders and institutions should identify a range of problems, suggest their strategies and form cooperation between them so that their problems can be solved accordingly.

1.7.2 Evaluation of Competence Based Curriculum Implementation Process by Emmanuel Mwemezi, NACTE, Dar es Salaam

The study aimed at eliciting learners’ and trainers’ positive and negative constructive feedback for improving the CBET curricula execution in technical institutions; after indicating that there was dissatisfaction from non–researched reports. Competence-based Education (CBE) is a form of education that attempts to certify student progress on the basis of demonstrated performance in some or all aspects of their role.

Research Methodology

Data was collected through Modified Nominal Group Technique (MNGP). The nominal group process involves problem identification, solution generation, and decision making. It combines both qualitative and quantitative methods.

The research involved a total of ninety (90) respondents from three institutions from different subject areas - ISW, DIT, and TIA where by each TI selected 20 final year (level 6 & 8) students from taught programmes and 10 teaching staff from each Technical institution.

The research questions were as follows:

i. What are STRENGTHS of current CBET curriculum Teaching and Learning Approaches?

ii. What WEAKNESSES of CBET curriculum Teaching and Learning Approaches?
iii. How could teaching and learning process be IMPROVED to meet expectations of stakeholders?

![Figure 13: Mr. Emmanuel Mwemezi presenting results from a mini-research on the Evaluation of Competence Based Curriculum Implementation Process](image)

**Research Findings**

The study focused on finding strengths and weaknesses of CBET curriculum teaching and learning approaches. Table 2 and Table 3 illustrate the results.

Table 2: Strengths of CBET Curriculum

<table>
<thead>
<tr>
<th>Trainers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Makes students responsible learners</td>
<td>Student takes responsibility of own learning</td>
</tr>
<tr>
<td>Associates college learning with real world of work</td>
<td>Students understand outside work environment in learning process</td>
</tr>
<tr>
<td>Stimulates thinking and creativity in teaching and learning</td>
<td>Produce competent graduates</td>
</tr>
<tr>
<td>Keeps learning on-track</td>
<td>Links theory and practice</td>
</tr>
<tr>
<td>Promotes use of a variety of assessment</td>
<td>Promotes participatory learning</td>
</tr>
<tr>
<td>Trainers</td>
<td>Students</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Not familiar to new students</td>
<td>High number of students in class make learning difficult</td>
</tr>
<tr>
<td>Resources are not sufficient for big number of students</td>
<td>Teaching and learning methods have never changed</td>
</tr>
<tr>
<td>Not practiced at lower level of education</td>
<td>Teachers are not familiar with CBET teaching</td>
</tr>
<tr>
<td>Accessibility to practical is difficult</td>
<td>Teaching materials are not sufficient and outdated</td>
</tr>
<tr>
<td>Less weight is assigned to course work</td>
<td></td>
</tr>
<tr>
<td>CBET facilitation skills not known to new trainers</td>
<td></td>
</tr>
</tbody>
</table>

**Recommendations**

In summary, the following were recommended:

- Students’ assessments should be improved in order to collect evidence for learning and;
- Training institutions should keep abreast with change in technology and reduce class sizes and accommodate according to their present facilities. In addition, they should extend more time for field work (practical training) for students

In his conclusion, Mr Mwemezi suggested that CBET be introduced from the basic level of education and facilitation training be frequently provided to the trainers especially to newly recruited teachers.
1.7.3 Importance of Effective Communication between NACTE and Technical Institutions on Compliance of NACTE Standards for CBET Curriculum Development and Validation in Tanzania by Halima Mbilinyi, NACTE, Dar es Salaam

The study aimed to investigate communication barriers leading to non-compliance of NACTE Standards for CBET curriculum development and validation. The Research also outlined the questions for the study as follows:

i. What are NACTE’s and technical institutions’ perceptions of NACTE standards for CBET Curriculum development and validation?

ii. What are NACTE’s and technical institutions’ views as to how NACTE Standards for CBET curriculum development and validation are communicated?

iii. What are communication challenges towards compliance of NACTE Standards for CBET curriculum development and validation?

iv. How can the communication process be improved in relation to engagement with NACTE standards?

Research Methodology

Semi-structured interviews were conducted with four (4) institutions. Out of 31 respondents, twenty were teachers, four were Heads of curriculum section/QA Officers, four were chairpersons of Student Organization, and three were NACTE representatives from the Curriculum Section.
Research Findings
Following were the results of the study; these were drawn from the perceptions of both TIs and NACTE to NACTE Standards:

i. From the NACTE team, it was concluded that the standards were acceptable and useful to TIs but financial constraints and poor communication between the institutions and NACTE pose the greatest challenges.

ii. On the other hand, TIs Perceptions led the research team to conclude that it was ineffective and limited. Furthermore, the TIs complained about lack of seminars and trainings on existing and new standards from NACTE.

Recommendations
The study concluded that communication is a vital tool and a two-way street. Therefore;
- NACTE procedures need to be well communicated to stakeholders for meeting the set objectives
- NACTE should provide systematic, proper and timely training, seminars and conferences on curriculum matters to TIs
- NACTE should advocate for quick response for all communication to and fro institutions
- NACTE should start making advisory meetings with institutions in order to understand the challenges facing institutions in meeting standards
- TIs should take the initiative to ensure all standards are known to all implementers
- TIs should involve their teaching staff on matters related to curriculum as they are key resources for meeting the competences required in particular training

Therefore, since communication is vital, the TIs should ensure a two-way communication process with NACTE is initiated and strengthened in order to enhance quality delivery of TET.

1.7.4 Factors Affecting Implementation of Competence-Based Education and Training (CBET) by Technical Institutions by Syoni Nalogwa, NACTE, Dar es Salaam

This was a mini-research done by a team of three people Agnes Ponera, Adelaida Bituro and Syoni Nalogwa to investigate the reason as to why the implementation of CBET is slow and yet there is broad agreement on it among Institutions.

The research was done by interviewing students and teachers from three Technical Institutions.

**Findings**

These, as discussed hereafter, were based on the opinions of the interviewees.

Teachers and students agreed that CBET involves facilitation, promotes students’ involvement, enhances innovativeness and creativity, is labour-market driven and requires less theory and more practical.
However, despite all the above positivity on CBET, the implementation of the same is still slow. The students and teachers had the following to say about the implementation of CBET;

Teachers’ opinions:
- They do follow NACTE guidelines; i.e. Combine Competence-based Education and Training (CBET) and Knowledge-based Education and Training (KBET) in delivery
- Students are given assignments, do perform laboratory experiments and projects, participate in industrial site visits, presentations and group discussions
- On campus practical's
- Industrial practical training (IPT)

Students’ opinions:
- A combination of lectures and practicals is used at the institutions
- Currently, students are taught more theoretically than practically
- The technicians that train them are incompetent
- There is a problem of inadequate equipment
- Not all teachers implement CBET at the institutions
Limiting Factors on the Implementation of CBET

- Lack of awareness on CBET approach
- CBET implementation is not a priority to Management of Technical Institutions
- Students’ reluctance
- Inadequacy of resources
- Inadequate qualified supporting staff
- Lack of field placement
- Inadequate teaching staff
- Lack of staff motivation

Measures to Enhance CBET Implementation (Recommendations)

The findings enabled the research team to come up with ways to ensure the effective implementation of CBET. All respective stakeholders need to get involved in their respective capacities as discussed hereafter;
Parent Ministries/Owners need to;

- Provide financial support, adequate equipment and tools
- Streamline CBET from low to tertiary levels
- Recruit staff and promote them in a timely manner and;
- Revise the scheme of service so as to include support staff

NACTE should create Awareness on CBET by organizing seminars, training and forums for Tis as well as providing CBET manuals or guidelines

Technical Institutions should endeavor to create awareness to students and staff, provide adequate infrastructure, learning resources and equipment and also employ adequate and qualified teaching and supporting staff

Employers should provide placement for industrial practical training to students and attachment for teacher for industrial currency.

1.7.5 Partnership between Technical Institutions and Engineering Industry in Addressing Manpower Needs of the Labour Market in Tanzania by Alex Nkondola, NACTE, Dar es Salaam

A team of four people; Alex Nkondola, Christina Kumwenda, Irene Hilary, Mariam Millinga and Rainery Mwinuka carried out this research to evaluate the partnership between Technical Institutions and the Engineering Industry.

Following are the reasons why this research was done;

i. Existence of skills gap between TET graduates and labour market demands

ii. Weak partnership between technical institutions and the industry

Research objectives

The objectives of the research were as follows;

i. To explore the degree of partnership working between technical institutions and the engineering industry

ii. To find out ways in which partnership working with the industry can address manpower needs of the labour market in Tanzania and;

iii. To find out how strong partnership can contribute to the quality of TET Graduates
The quality of TET Graduates depends on dimensions of partnerships including, but not limited to provision of training needs for programmes, curriculum development, students’ field training, teachers’ work-based training and resource collaboration.

**Methodology**

- The research was done qualitatively and for data collection, TI managers and staff; and managers in engineering companies were interviewed.
- The research involved three technical institutions specializing in engineering programmes and three companies specializing in mining, soft drinks and beer production.

**Findings**

The research findings were based on the perceptions of employees and Technical Institutions as discussed hereafter.

Employees’ perception were as discussed hereafter;

- Minimal involvement of the industry in provision of training needs for the training programmes
- Employees said they are hardly involved in the Curriculum Development process
- Employees advised that a formalized arrangement on students’ field placements be put in place. They do not like the fact that students search for their own field placement areas.
- They also complained about the negative attitude of students towards work
- Teachers don’t go for work-based training in companies
- Low level of resource contribution; companies do not often budget for it and don’t receive requests from the institutions
- Companies report shortage of resources and so fail to contribute resources
TIs’ perceptions were as discussed hereafter;

- Managers of the Technical Institutions said there is an imbalanced partnership working in curriculum development
- They also said that some employees are reluctant to take students for field placements
- Scarcity of field attachment areas as companies accept few students
- Lack of work-based teacher education and so few teachers receive industrial training
- Low level of resource contribution by the industry
- The budget set aside for training is inadequate.
- Experts from industry are reluctant to participate in teaching

**Conclusions based on the research findings**

The research team, at the end of their project, concluded that there is;

- Weak partnership working between training institutions and the engineering industry
• Minimal involvement of the industry in provision of training needs for the training programmes
• Imbalanced partnership working in curriculum development
• No formalized arrangement between institutions and companies on students’ field placements
• No policy for teachers’ work-based training & skills enhancement at the Institutions
• Inadequate resource contribution by the industry e.g. funds, expert and facilities to the institutions
• Inadequate involvement of experts from the industry in teaching

Recommendations
The research team recommended that strong partnership working between institutions and the engineering industry be established, co-production of training and skills development be promoted and formal agreements between TIs and companies regarding students’ fieldwork be formulated. Also, there is need for training programmes to be matched to occupational profiles and requirements of the employers, teachers to be granted access to work-based training in industry, industry experts to be involved in teaching and proper resource collaboration.

1.7.6 Effectiveness of CBET Training Programmes offered by Technical Institutions in Tanzania by Aloyce Birusya, NACTE, Dar es Salaam
This presentation discussed results from a mini-research that was done by Aloyce Birusya from NACTE. The presenter began by elaborating on the objective of the CBET approach training programmes and said that they intend to ensure effectiveness and efficiency in practical knowledge and skills training in Technical Institutions.

Problem Statement: This research was done as a result of the perception among members of employers and education stakeholders that the quality of education training in Technical Institutions is declining due to inefficiency of practical skill training. For this reason, the quality of TET graduates does not match the market demands.
Methodology: This research deployed a survey approach using two similar sets of structured questionnaires. During the research, 20 teachers and 80 students selected from four Technical Institutions were asked three questions;

i. To what extent do technical institutions contribute to students’ competence skills acquisition?

ii. What factors affecting the implementation of CBET approach curriculum training programmes in technical institutions?

iii. What are strategies for improving the implementation of CBET approach curriculum training programmes?
Findings

The responses to the questions were as shown in Table 4

Table 4: Interviewees' Responses

<table>
<thead>
<tr>
<th>S/N</th>
<th>Statement</th>
<th>Responses (% agreement)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Teachers</td>
</tr>
<tr>
<td>1.</td>
<td>All students get the opportunity to practice the relevant skills during practical lessons</td>
<td>45</td>
</tr>
<tr>
<td>2.</td>
<td>Poor financial resources in Technical Institutions is not a challenge on CBET implementation</td>
<td>15</td>
</tr>
<tr>
<td>3.</td>
<td>Technical education training is not attractive to the society</td>
<td>10</td>
</tr>
<tr>
<td>4.</td>
<td>Adequate teaching staff and facilities are sufficient to support teaching programmes</td>
<td>10</td>
</tr>
</tbody>
</table>

The general findings of the research were as follows;

- Majority of teachers and students thought that;
  - students did not get sufficient opportunity to practice the relevant skills during practical lessons;
  - poor financial resources in Institutions is a major problem for CBET implementation;
  - teachers handling practical lessons demonstrate the relevant skills during lesson;
  - technical education training is attractive to the society and;
  - most technical students were academically good

- Majority of teachers agreed that “field supervision is adequately done and reported but the majority of students disagreed with the statement.

- Majority of teachers and students disagreed that having adequate qualified staff and teaching facilities alone is sufficient to support programmes and services.

- Majority of teachers and students agreed that most institutions did not have sufficient practical experienced teachers and appropriate training materials to support the educational programme.
**Conclusion based on the research findings**

The research team concluded that Technical training education is attractive to the society; as it improves productivity and overcomes the problem of unemployment but,

- There are inadequate financial resources and practical demonstration in the institutions;
- Students lack support on practical training due to lack of inadequate facilities;
- Some Institutions do not carry out field and do not have field supervision reports and;
- All of the above have a negative effect on the acquisition of practical knowledge and skills.

Also, having adequate teaching staff and facilities is not sufficient to support programmes and services, other things like staff motivation, good working environment, good governance are required.

**Recommendations to Technical Institutions**

The research team recommended that TIs should ensure that practical lessons are both effective and efficient to develop practical skills necessary for the world of work and address the poor financial resource to support CBET curriculum programmes. They should also promote industrial attachment programmes for students and supervision for realization of quality in practical skill training.
DISCUSSIONS

After every session, vibrant discussions were held and most of the delegates asked questions. They also had the opportunity to recommend on what can be done according to the key issues addressed, researches and papers presented. The main goal was to solve the various challenges found in the TET in Tanzania. Discussions were led by experts who were appointed chairs for the different sessions. Many of the contributors were teachers, government officials, research experts and academicians, members from donor organizations and members from non-governmental organizations (NGOs).

*Note: For more details on all presentations, please see the annexes/attachments.*

Table 5 is a summary of the questions, recommendations and clarifications provided by stakeholders during the discussion.

<table>
<thead>
<tr>
<th>S/N</th>
<th>QUESTIONS /CONTRIBUTIONS</th>
<th>RECOMMENDATIONS/CLARIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>How can TIs get feedback about their graduates for the case of those that are employed only after joining university; whose products are such graduates?</td>
<td>• Normally TIs graduates go to Universities for further studies. The product should be looked at holistically; feedback should be related to the job one gets as only the job can distinguish the source of skills in use and where they were attained from.</td>
</tr>
<tr>
<td>2.</td>
<td>Stakeholders pointed out that there is a need to have QA promoting system in TIs. How will employees support TIs to better the QA position?</td>
<td>• Employers are ready to serve the TIs and cooperate; provide for placement as well and help with the design of the Practical Training program. The employers’ association should be put to use by TIs.</td>
</tr>
<tr>
<td>3.</td>
<td>How will the handbook support the quality culture that is missing?</td>
<td>• Culture is not complained about. It was noted that Quality lies in the eye of beholder and therefore must be defined from what is expected from TIs. • Also, some faults can be solved by employers • The Handbook must work for the benefit of TIs.</td>
</tr>
<tr>
<td>4.</td>
<td>Mismatching of the skills to TI</td>
<td>• Due to financial constraints, institutions don’t have</td>
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Prepared by The Hospitality Professionals
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
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</table>
| graduates.                                                             | facilities of high technology to match those in the industry  
- Also, TIs do not involve the industry in their curricula development. As a result, what is taught is not what employers require.                                                                                                                                                   |
| 5. Which markets do TIs in Tanzania focus on? Is it the domestic or International one? | • Both markets are targets hence the need for quality. Sensitization on Quality is required to promote it.  
- Critics, though not always right, of the system help open eyes to the truth and faults. It is good to listen to them, reflect on what they say and make decisions on how to move forward.  
- Transparency is very important.  
- The Authority was advised to see how TIs are programmed.                                                                                                                                                                    |
| 6. Is the current NACTE system as complicated as was discussed? Is it really very bureaucratic and user-friendly? If yes, the authority needs to show the way forward | • Education starts from kindergarten, and so there is need to instill positive attitude in children while they are still young; “Make Hay while the Sun shines”  
• Charity begins at home, and so the attitude one has mostly depends on their upbringing.  
• Clear communication is needed for the betterment of all  
- Critics, though not always right, of the system help open eyes to the truth and faults. It is good to listen to them, reflect on what they say and make decisions on how to move forward.  
- Transparency is very important.  
- The Authority was advised to see how TIs are programmed.                                                                                           |
| 7. Attitude is a big issue: Negative attitudes cuts across from students to TIs to NACTE, what can be done to change? | • The Online system doesn’t accommodate but institutions can still interview the prospective students to be sure of their qualities.  
• Carrier guidance and counselling should be introduced in TIs  
• There is an issue of admitting students with low scores; such students are supposed to attend foundation classes, however some TIs claim to have such but they do not.                                                                 |
| 8. How does NACTE ensure that the student applicants are competent for the programs they apply for? | • The Online system doesn’t accommodate but institutions can still interview the prospective students to be sure of their qualities.  
• Carrier guidance and counselling should be introduced in TIs  
• There is an issue of admitting students with low scores; such students are supposed to attend foundation classes, however some TIs claim to have such but they do not.                                                                 |
| 9. How does NACTE ensure that the                                                                 | • NACTE established central recruitment system; however                                                                                                                                                                                                                   |
applicants are competent for the jobs they apply for? The online system only considers certifications. There is need to include level of competence in the recruitments process.

<table>
<thead>
<tr>
<th>10. Critical shortage of staff from NACTE</th>
<th>• NACTE admitted this was a serious problem; and promised to recruit more staff.</th>
</tr>
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<tbody>
<tr>
<td>11. When will the handbook be ready?</td>
<td>• The handbook is still in preparation and awaiting views from participants</td>
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<tr>
<td>12. How come only 40% of TIs are accredited</td>
<td>• TIs need to work seriously towards accreditation</td>
</tr>
<tr>
<td>13. Why should Institutions stay on provisional registration?</td>
<td>• On being provisionally registered, Institutions are required to report to NACTE after two years in order to be accredited. Without fulfilling this requirement, they automatically stay on provisional registration. During this time, they are not allowed to admit students.</td>
</tr>
<tr>
<td>14. Why are some stakeholders not attending the conference?</td>
<td>• All the stakeholders were invited, some could not make it.</td>
</tr>
</tbody>
</table>
| 15. How come NACTE has less consideration for a student applying to private institutions? | • NACTE does not intervene the students’ choice  
                                           • TCU also respects priorities of the programs made by the applicants |
<p>| 16. Are the passes of PCB curriculum?    | • CAS considers the curriculum of the institutions depending on the subjects |
| 17. Due to shortage of nurses, Entry level 5 graduates are employed in higher levels (hospitals); who should be blamed for this? | • Entry levels have their qualifications and institutions have the curriculum of CBET. If every party takes its responsibility of following the curriculum and delivers it as approved, then there won’t be the need to blame anyone. |</p>
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<th>18.</th>
<th>Why NACTE does not mention its challenges?</th>
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<tr>
<td></td>
<td>• NACTE was requested to share the challenges in their presentations.</td>
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<th>19.</th>
<th>Why is the government biased?</th>
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<td></td>
<td>• The Government establishes policies and guidelines.</td>
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<td></td>
<td>• The Government cannot intervene or contradict the private sectors’ needs.</td>
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<th>20.</th>
<th>What can Tanzania learn from Netherlands and move from one level to another</th>
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<tr>
<td></td>
<td>• To meet the national dreams, all stakeholders should be involved.</td>
</tr>
<tr>
<td></td>
<td>• Tanzania has a lot of sectors. Though not that simple there is need to prioritize just a few of the sectors to work on. Tanzania has to make a choice to specialize some areas and compete with others.</td>
</tr>
<tr>
<td></td>
<td>• The Handbook should be shared with all stakeholders.</td>
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<tr>
<td></td>
<td>• Tanzania, in order to reach the vision 2025 goal of becoming industrialized needs to concentrate more on Technical Institutions rather than universities. The TIs should therefore be improved and supported. The TIs should come together, share experiences and learn from each other with focus on the future.</td>
</tr>
<tr>
<td></td>
<td>• The TIs, with the help of NACTE, should be grouped zonally and these zones should be specialized to serve specific needs/markets.</td>
</tr>
<tr>
<td></td>
<td>• Disadvantages should be confronted, to build advantages. As such Tanzania should focus on what it has to build its own economy, rather than want to be like other economies, whose conditions are completely different.</td>
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<tr>
<th>21.</th>
<th>What should be done to eliminate the English language problem?</th>
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<tbody>
<tr>
<td></td>
<td>• In practice, the language used in the field is Kiswahili. This problem can only be solved if English is taught from the grassroots.</td>
</tr>
</tbody>
</table>
CLOSING CEREMONY

1.8 Winding Up and Way Forward
Addressing the delegates, the Chairman of the Conference Organizing Committee, Mr. Emmanuel Mwemezi, expressed his gratitude to the Director of Higher Education of the Ministry of Education, Science, Technology and Vocational Training, Professor Sylvia Temu for attending the conference. He also appreciated the presence of all delegates.

He shed some light on all events that had taken place and highlighted the key issues discussed by all key speakers. He emphasized that the conference had been fruitful and dynamic; and so achieved its objective as depicted in its theme, ‘Quality Assurance Monitoring and Labour Market Linkages in Technical Education and Training’.

He urged delegates to share their experiences from the conference and advised that whatever had been discussed should be put to practice.

Mr. Mwemezi also added that NACTE would work on all constructive recommendations made and continue to support the Technical Institutions. He advised all stakeholders to provide support whenever required and be able to help reach the National goals of the Nation; i.e. Vision 2025.

In his conclusion, he thanked all for attending the conference and wished them luck.

1.9 Closing Remarks
In her speech, Professor Sylvia Temu expressed her gratitude for having been invited to close such a prestigious conference. She was glad to hear such would be held annually contrary to the fact that the previous one was held in 2013.

She added that by attending, all participants had achieved their value for money with emphasis on the time resource.

Professor Sylvia Temu commended NACTE for a job well done and appreciated all stakeholders especially the foreign partners like NUFFIC and IOE-UCL.
She also said that the conference had come at the right time and its theme was just perfect as it supports the government endeavors to prepare for the future. Also, she emphasized the need to train students in such a way that they acquire skills not for the current, but future work. Contrary to this, graduates may end up possessing qualified but irrelevant papers.

As a recommendation, the Director of Higher Education suggested that NACTE benchmark itself against other Institutional bodies like those in Uganda, Kenya, etc.

In her conclusion, she urged Technical Institutions to set conditions that will attract female students and so promote gender equality. She also advised them to promote research at their institutions.

Professor Sylvia Temu finally advised Technical Institutions to start using the handbook and not keep waiting for its approval by the board as it is ready to use. And with these final words, she wished all safe journeys back home and requested foreigners to stay longer and tour Tanzania.
Figure 18: The Ceremonious Arrival of Professor Sylvia Temu accompanied by distinguished guests and delegates
References

i. Conference documents

ii. Conference presentations
Annexes/Attachments

List of presentations

1. The Importance of Labour Market-oriented Education by the CEO of The Association of Tanzania Employers, Dr Aggrey Mlimuka
2. Improving CBET in Tanzania: A New Quality Assurance and Quality Development Agenda for NACTE and Technical Institutions by the Ag Executive Secretary, NACTE, Dr A. B. Rutayuga
3. Towards a New Approach in Quality Monitoring for Technical Education and Training by Mr. Vroeijenstijn Ton, Maastricht School of Management – Netherlands
4. Labour-Market Linkages from a Triple Helix Point of View by Prof. Diederik de Boer, Maastricht School of Management – Netherlands
5. Research as a Communication Tool: Experience from Research Capacity Building Project by Prof. Ken, UCL-IOE, University of London
6. Quality Assurance: An Introduction to A New System, First Experiences By Adelaide Bituro, Director CME, NACTE
7. Promoting Quality Awareness: A Quality Audit Case by Mr. Semvua Abdu Abdallah, Arusha Technical College (ATC), Arusha
8. Promoting Quality Awareness in Institutions: Institutional Assessment Report by Abbas M. Mohamed, ZIToD
9. Promoting Quality Awareness: Experience from Programme Accreditation by Dr. Peter Sala, Centre for Educational Development in Health Arusha, Arusha
10. Stakeholders’ Perception Regarding Qualifications of the competence of Technical Teachers in the delivery of CBET Programmes in Technical Institutions by Joyce Dimale, NACTE, Dar es Salaam
11. Evaluation of Competence Based Curriculum Implementation Process by Emmanuel Mwemezi, NACTE, Dar es Salaam
12. Importance of Effective Communication between NACTE and Technical Institutions on Compliance of NACTE Standards for CBET Curriculum Development and Validation in Tanzania by Halima Mbilinyi, NACTE, Dar es Salaam
15. Effectiveness of CBET Training Programmes offered by Technical Institutions in Tanzania by Aloyce Birusya, NACTE, Dar es Salaam