

Aligning TVET Training to the Big 4 Agenda



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It is my great pleasure to join the Rift Valley Technical Training Institute (RVTTI) on the occasion of the 8th International TVET and Interdisciplinary Conference. I take this opportunity to congratulate the institution for their great accomplishments in research and innovations. I recognise that the underlying success has been through hard work, resilience and commitment to excellence.

This year, the theme of the conference, “Implementing the SDGs for Green Economies and Societies: The TVET Agenda”, is geared towards sharing the most promising practices in TVET. This is important because high performance in increasingly competitive global economies combined with the need to address global challenges posed by climate change, environmental degradation, health and poverty, requires successful adoption of innovative strategies for growth that should be supported by the TVET sector.

I am proud to note that during this international conference, RVTTI, together with international partners – the UNESCO-UNEVOC and IDRC – are also launching their projects to be jointly undertaken at RVTTI. They are the *i-hubs* and *Supporting Innovation in the Technical and Vocational Education Sector (SITVES)* projects respectively. The other international partner – the Commonwealth of Learning (COL) – is

also running a project with the institute dubbed, *Skills in Demand*.

For Kenya to realise meaningful development, focus should be on applied research that is collective and collaborative. An inclusive research and innovation approach that targets the larger population excluded from development – the marginalised and the less disadvantaged – should now be the focus of training institutions, research organisations and industry players. They should work in synergy to develop the innovative ideas such as those from this conference, to solve the problems of the populace.

It is important to note that the government is committed to enhancing the quality and relevance of TVET, not only for achieving the industrial needs, but also for international competitiveness. This sector is expected to be an enabler in the implementation of the Big Four Agenda. Therefore, the government is committed to the ongoing TVET reforms.

In the 2019/2020 financial budget, TVET received the highest allocation in the Ministry of Education. The ministry is on course with the establishment of a technical and vocational college in every constituency. It is also ensuring that both new and old TVET institutions are furnished with the latest state of the art equipment for them to offer relevant training that meets the changing needs of industry. This is a deliberate move by the ministry to increase access to appropriate TVET training to the greater society. The government targets to train five million young people by the year 2022.

In November 2018, the Government

launched the Competency Based Education and Training (CBET) policy framework to provide direction and guidance in the implementation of the CBET system in TVET institutions in Kenya. To oversee the seamless implementation of the policy, national and regional committees have been operationalised.

I am happy to note that early in the year, RVTTI, in collaboration with the ministry and other partners, successfully launched initial three programmes under the CBET approach. And in preparation for implementation of the CBET approach across all other programmes, the institute, in collaboration with Curriculum Development Assessment and Certification Council (CDACC), successfully trained all the trainers as assessors and verifiers in May 2019.

All TVET institutions are encouraged to mainstream the implementation of CBET in their programmes as this is one critical way to restore the glory of TVET. Other reforms that are ongoing include the recruitment of more TVET trainers, increased capitation for TVET trainees and increase in the allocation of HELB funds for TVET trainees.

Finally, may I extend a hand of gratitude to all the scholars, the researchers, the innovators and all the partners who have put in allot of effort and resources to ensure that this conference is a success. I would also like to commend RVTTI for sustainably organising the annual international TVET and interdisciplinary research and innovation conference and publishing the proceedings in a peer reviewed journal, the *AfriTVET*.



**Dr. Kennedy Koech, BDS, MDS (OMFS)
CHAIRMAN, BOARD OF GOVERNORS, RVTTI**

I am delighted to welcome you all to the 8th international conference of the Rift Valley Technical Training Institute (RVTTI). The conference is an annual event in which researchers and young innovators showcase their scholarly works and talents.

Indeed, it has been a long journey so far. It's the eight year running that RVTTI has played host to this prestigious international conference.

This year, the conference is even better and bigger. It has attracted a large number of papers and innovations to be presented. I'm particularly elated to note that they are all relevant to this year's carefully thought out theme, “Implementing the SDGs for Green Economies and Societies: The TVET Agenda”.

As UNEVOC centre and EAC centre of excellence in TVET, RVTTI has continued to champion sustainable practices and has been in the forefront in upholding the vision of transforming into a Green institution. Attention will continue to be directed to research and innovation and other pursuits for a sustainable future for us all.

I commend the Chief Principal and entire staff and students of RVTTI for sustained pursuit of excellence. As a board, we will continue to support you. I note with satisfaction that RVTTI has continued to scoop top honours in robotics, TVET fares, Africa Tech Challenge, Champions of Governance awards, Sports and off course national examinations and assessments.

On course is the Virtual Learning Centre, which when completed, will enable the digital training of learners. It will enable learners to train from any location globally. Our trainers are currently undergoing international digital training to equip them to handle the virtual centre once in place.

I urge development partners and other stakeholders to back up our efforts. A collaborative effort from other partners is paramount if we have to realise the TVET Agenda.

I would like to thank the Government of Kenya and our partners, and indeed our parents. They have relentlessly contributed to the success of this prestigious annual event and to the overall growth and sustenance at RVTTI. I wish you the best and welcome you to RVTTI, the TVET centre of excellence.

Our focus should be on applied research that is collective and collaborative”

- VTT Principal Secretary
Dr Kevit Desai

Innovation is Key to Attainment of SDGs



**Dr. Edwin Tarno, PHD, HSC, FEnv
CHIEF PRINCIPAL, RVTTI**

It is with great pleasure and humility that I take the opportunity to welcome you to our 8th RVTTI Annual International TVET and Interdisciplinary Conference, whose rallying call is, “Implementing the SDGs for Green Economies and Societies: The TVET Agenda”.

It is encouraging to note that the papers to be presented for the next two days are rich in varied ideas and reflect an endless thirst for research and innovation among the scholars. I

therefore sincerely thank the presenters for taking their precious time to prepare their scholarly works, presentations and innovations.

Our innovators now need to think of ways of actualising and commercialising their innovations. The world does not thrive on ideas only, but action on the concepts. The ideas generated are therefore expected to solve the world's challenges, satisfy people's needs and assure them of a descent future in line with the Sustainable Development Goals.

It is important to point out from the onset some of the challenges faced by researchers in TVET. Many ideas out there remain unpatented, un-commercialised and yet to be transformed into useful goods and services. If this was done, TVET would play its role as an enabler of the Big 4 Agenda areas of Manufacturing, Food Security, Universal Health Coverage and Affordable Housing.

At RVTTI, we have taken the right measures to maintain high standards in the area of research and development. Our research team always ensures that scholarly works submitted for presentation meet the required standards. We have also taken to awarding the best innovators

in order to reward excellence. This in return, boosts the quality of research, especially in TVET, which previously shied off.

This system of rewarding motivates the innovators to think outside the box. It should be embraced by other stakeholders. We believe that our success as a nation lies not on narrow minded views of the world, but on an open minded approach to addressing our challenges.

I advocate for stronger linkages with industry, an increase in research funding, and more incentives for industry uptake of innovative ideas from TVET.

It is my pleasure to note that during this conference, we shall be launching our now internationally acclaimed 4th edition of the *Afri-TVET Journal*. This journal has been instrumental in highlighting research findings and innovations on the world stage, hence pushing our ideas across Africa and beyond.

Further, in our quest for skills development and innovations, we are never alone. In this conference, the UNESCO-UNEVOC and IDRC will be launching their projects to be jointly undertaken at RVTTI. They are the *i-hubs* and *Supporting Innovation in*

the Technical and Vocational Education Sector (SITVES) projects respectively.

Our other international partner – the Commonwealth of Learning (COL) – is also running a project with us dubbed, “*Skills in Demand*”. All these are great and welcomed opportunities that should in the fullness of time cascade to benefit research and innovations in TVET institutions.

Special mention to the fact that RVTTI as an institution, is committed to Competency Based Education and Training (CBET). It is in our best interest as a nation to churn out graduates who are highly skilled and ready for the job market. Towards this end, the institution through CDACC, already trained 158 trainers as assessors and verifiers. This is a key step towards the full implementation of CBET.

It is the hope of the entire RVTTI community that the discourse arising out of this year's conference will go a long way in accelerating the process of implementing SDGs for Green Economies and Societies. Once again, I welcome you all to the 8th RVTTI International TVET and Interdisciplinary Conference, running on June 20-22, 2019.

RIFT VALLEY TECHNICAL TRAINING INSTITUTE - ELDORET EAC CENTRE OF EXCELLENCE IN TVET

8th International TVET and Interdisciplinary Conference

www.rvtti.ac.ke



Technology and Innovation

Right move by RVTTI to become a Skills for Innovation Hubs centre

Mr. Wilson Lima Júnior

PROJECT OFFICER, SKILLS FOR INNOVATION HUBS (I-HUBS), UNESCO-UNEVOC



On behalf of the Head, the entire UNESCO-UNEVOC, and especially the Skills for Innovation Hubs project, I take this golden opportunity to extend our warm and heartfelt congratulations to RVTTI on the approval to participate as a pilot centre in the Skills for Innovation hubs, a flagship project by UNESCO-UNEVOC.

This is not a mean feat and should not be taken for granted. It is a rare opportunity for the institution to prove itself on the world stage as one among only 10 selected i-hub pilot centres globally.

The selection came as a recognition of RVTTI's efforts in digital learning and previous successful collaborations with UNEVOC and other local and international partners. So, what is i-hubs? Well, i-hubs is the worldwide initiative of UNESCO-

UNEVOC, in collaboration with several partners.

Drawing on recommendations from the May 2018 Global Learning Forum, TVET institutions are encouraged to develop a systematic, institution-wide approach that maximises their potential as drivers of innovation in their local skills and innovation ecosystem.

TVET institutions engaged as skills hubs consolidates its contribution to skills for innovation. In a nutshell, the i-hub:

- Embeds, actions and communicates institution-wide culture and capacity for innovation;
- Actively and openly orchestrates with stakeholders and assets from its eco-system;
- Develops and delivers innovative learning products and processes.

- Delivers up to date service that stimulates and nurtures innovative ideas and initiatives in the school and the eco-system;
- Actively learns and strengthens its capacity for innovation.

A key success factor for the i-hubs approach will be to provide opportunities for peer learning among TVET institutions through a global learning platform. RVTTI will therefore have the opportunity to take the lead and augment its already established position as a global leader in research and innovation.

Some of the expected short-term outcomes from the initiative are:

- An internationally recognised conceptual framework for TVET institutions as agents of innovation is

co-developed and tested;

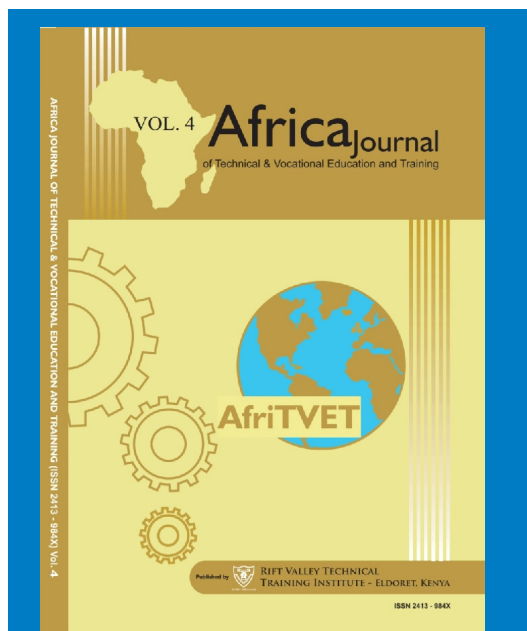
- TVET institutions' capability for innovation is enhanced through capacity development and peer learning in partnership with local skills and innovation eco-system;
- Documented innovation practices are generated, illustrating the potential of TVET institutions as agents of innovation;
- A learning, development and support cascade is launched whereby the first generation of the i-hubs help scale up the approach among TVET institutions.

It is our hope that i-hubs will take the advantage of their positions to respond to the global disruptions in the economy and society, caused by climate change, digitisation and demand for entrepreneurial skills.



Pilot Institutions spread around the world

COUNTRY/ REGION	UNEVOC CENTRE – PILOT INSTITUTION	TYPE OF CENTRE
 KENYA - AFRICA	Rift Valley Technical Training Institute (RVTTI)	Training Centre
 SEYCHELLES - AFRICA	Seychelles Institute of Technology (SIT)	Ministry
 NIGERIA - AFRICA	Yaba College of Technology (YCT) UNEVOC Centre	Training Centre
 CHINA - ASIA	Shenzhen Polytechnic (SZPT) 深圳职业技术学院	Training Centre
 PHILIPPINES - ASIA	Technical Education and Skills Development Authority (TESDA)	National Body
 SRI LANKA - INDIAN OCEAN/ASIA	University of Vocational Technology (UNIVOTEC) Tertiary and Vocational Education Commission (TVEC)	University/ Research
 FINLAND - EUROPE	Omnia - The Joint Authority of Education in the Espoo Region	Training Centre
 MALTA - Mediterranean Sea/EUROPE	Malta College of Arts, Science and Technology (MCAST)	Training Centre
 SPAIN - EUROPE	TKNIKA	University/ Research
 GERMANY - EUROPE	Berufskolleg an der Lindenstrasse - BKAL (Germany)	Training Centre



The Africa Journal of Technical and Vocational Education and Training
ISSN NUMBER FOR PRINT VERSION 2413-984X
ISSN FOR ONLINE VERSION 2518-2722

- Published annually by Rift Valley Technical Training Institute (RVTTI)
- Has both print and online version
- A peer reviewed journal
- Indexed by Google scholar Microsoft Academic Search and other academic directories.

The Chief Principal Dr. Edwin Tarno (2nd right) and the Dean of Students Mr. Faraj (left) in the company of current foreign youth interns at RVTTI.



PS Dr Kevit Desai being taken through the Innovations on display in a past RVTTI international conference.



PS Dr Kevit Desai and dignitaries following proceedings in a past RVTTI international conference.



The PS Dr. Kevit Desai (centre) in the company of RVTTI innovation award winners 2018.

