

WFEO STC CAPACITY BUILDING BIENNIAL REPORT 2022-2024

FOR THE WORLD FEDERATION OF ENGINEERING ORGANISATIONS COUNCIL MEETING IN KIGALI

Name of STC: WFEO Standing Technical Committee
on Engineering Capacity Building

Date Sub-mitted: 5 August 2024

Chair : Eng. Martin Manuhwa

I. MAIN THEMES COVERED IN THE PAST TWO YEARS:

The following are the themes for 2022-2024 which produced the tangible outcomes below.

- a. Drafting the Concept Note, ToRS and the Operationalisation Guidelines of the WFEO Capacity Building for Africa Programme (WCBFAB). See attached Concept Note.
- b. *Implementing the AU Agenda 2063 to create the Africa we Want through Partnerships (e.g. AU-FAEO, SAFE0-SADC, WFEO-UNESCO), Co-operations, Global Alliances and Networking to achieve the Sustainable Development Goals (SDGs).*
- c. *Engineering Capacity Building Activities in Developing and Developed Countries.*
 - i. *Engineering Capacity Building Projects and co-operative initiatives. (Compendium, Digital Platform for CPDs, MOOC, e-Books for CECB in conjunction with Sib0 the Engineer Project).*
 - ii. *Events (Africa Engineering Week, Congresses, and Workshops).*
 - iii. *Engineering Capacity Building Publications (webinars, newsletters, magazines).*
 - iv. *Engineering Capacity Building Awareness, Training and Development of Systems.*
 - v. **Capacity Building Training on Water and Sanitation Infrastructure Assets Maintenance to Local Authorities' Management and Engineering Practitioners**

II. INTERNATIONAL RELATIONS AND ENGINEERING CAPACITY BUILDING

A. AFRICA UNION

Eng. Martin Manuhwa (World Federation of Engineering Organisations-WFEO- Chair of Engineering Capacity Building) was invited to Addis, Ethiopia for the African Regional Forum on Sustainable Development (ARFSD 10) from 23-25 April 2024 as Moderator for Africa's SDG 16 and to be Co-Chair Scientific and Technological Societies in drafting key messages to the Summit of the Future to be held in October in New York.



Pictures of the UNECA-AU AFRSD10 Conference in Addis

The Three Key Messages for African Governments, the Africa Union, United Nations and Other Institutions to Achieve SDG 16:

i. Strengthen Justice, Good Governance, Democratisation and Accountability:

Ensure access to meaningful justice as a key component for sustaining peace and accelerating inclusive sustainable development. Prioritize a people-centred approach to justice that promotes inclusivity, innovation, and accessibility to address inequality and enhance developmental processes.

ii. Promote Peaceful and Inclusive Societies:

Implement policies, practices, and processes that address drivers of violence, abuse, exploitation, and trafficking. Foster peaceful, just, and inclusive societies by advancing peace and sustainable development as mutually reinforcing processes. There is need to accelerate all Silence the Gun initiatives as well as deal decisively with all Fragile States.

iii. Embrace Innovative Technologies:

Utilize fourth industrial revolution technologies to enhance data collection systems and analytics in a responsible manner. The data revolution, big data, and artificial intelligence have significant potential for accelerating progress on Goal 16, especially in addressing weaknesses in data coverage and disaggregation methods across local, national, and regional levels in Africa.

These key messages highlight the importance of leveraging technology, promoting peaceful societies, and strengthening justice systems to achieve SDG 16 in the African context.

B. SADC

The SADC Secretariat convened a three-day high-level retreat for Member States' Trade in Services (TiS) Focal Points (FPs) on 25-27 March 2024 in Irene, Pretoria, South Africa. The FAEO and SAFE0 CECB was represented by Eng. Martin Manuhwa. The retreat aimed to develop a shared understanding of the developments, strategies/approaches, opportunities, and challenges in negotiating and implementing regional TiS commitments, to inform the preparation of a SADC Trade in Services Strategy and Action Plan. The retreat also considered the findings and recommendations of the study on "How to Improve SADC Services Sector Competitiveness to Take Advantage of African Continental Free Trade Agreement (AfCFTA) Market Access Opportunities" and the development of the SADC TiS Strategy and Action Plan. Mutual Recognition Agreements for professionals were discussed.

A follow up meeting was held in Maputo and another meeting will be held in Johannesburg in September to advance the MRAs in SADC.

The CECB presented a paper during the SADC Summit and Council of Ministers in August in Harare on the role of infrastructure in Regional Integration. The CECB also attended the SADC Industrialisation Week held from 27 July to 2 August 2024.



Members of the Panel on Mutual Recognition Agreements pause for a picture after the Industrialisation Week Meeting in Harare on 27 July 2024. CECB represented SAFE0 and FAEO

III. AFRICA ENGINEERING WEEK FOR 2022 , 2023 AND 2024

A. ETHIOPIAN STATE PRESIDENT OFFICIALLY OPENS THE 2022 UNESCO AFRICA ENGINEERING WEEK:

President Sahle-Work Zewde of Ethiopia attended at the opening of the 6th African Engineering Conference under the theme “accelerating sustainable infrastructure development in Africa together” at the Ethiopian Science Museum. In her speech, she said “Africa have a number of priority areas for its development but there is one that clearly stands above the others that is infrastructure Africa has a vast infrastructure deficit; it is a big constraint in its growth”. She emphasized that “the effort in infrastructure need to be supported by the development of soft skills through engineering education and enhancement of technical skills”.



In the Pic. WFEF President Engr. Mustafa Shehu (centre), President of the Democratic Federal Republic of Ethiopia H.E Sahle-Work Zewde, FAEO Immediate Past President Ing. Carlien Bou-Chedid, Minister of Defense Ethiopia Dr. Abraham Belay and Eng. Martin Manuhwa, WFEF CECB Chair and the Africa Engineering Week Chairman at the official opening of last year's edition of AEW in Addis from 7-11 Nov 2022.

B. 9TH AFRICA ENGINEERING WEEK & 7TH CONFERENCE WAS HELD IN SOUTH AFRICA, PRETORIA FROM THE 25TH TO THE 28TH OF SEPTEMBER 2023.

The Africa Engineering Week continued to be steered by the CECB, the 2022 edition was held in South Africa (2023) with theme “Celebrating and Growing Engineering Excellence in the African Region”. The AEW Declarations were published by WFEF, FAEO and UNESCO.



THE 2023 AEW IN PICTURES

C. 10TH AFRICA ENGINEERING WEEK & 8TH CONFERENCE FROM THE 9TH TO 13TH SEPTEMBER 2024 , LUANDA, ANGOLA.

Theme - Engineering the Future: Innovative Infrastructure Solutions for a Sustainable Africa and Swift AfCFTA Implementation.

The Africa Engineering Week (AEW) is a prestigious event that has been celebrated annually since its inception in South Africa in 2014. This year marks the 10th anniversary of this significant gathering of engineering professionals from across the continent. As we reflect on a decade of innovation, collaboration, and progress in engineering, the Capacity Building Committee is proud to have produced the inaugural Concept Document that was adopted by WFEO and UNESCO to begin the event. Up to now the Chairmanship of Steering Committee of the AEW resides in Capacity Building.

To mark the 10th Anniversary the CECB will host a workshop in Angola. The session on Harmonization of Engineering Policies, Accreditation and Standards in the African Continent (Focused on Engineering Education, Professional Development, and Mobility) is scheduled on 9 September between 11h00 and 12h30 CAT (Central African Time / South African time). The second session will be on “Smart Partnerships and Technology Policies in Engineering Education and Capacity Building” taking place from 09h00-10h30 CAT on 10th of September 2024.

IV. THE WFEO CECB IS ALSO HOST TO THE SIBO THE ENGINEER PROJECT AND BOOKS LAUNCH.

The WFEO CECB is part of the Sibos the Engineer programme that aims to raise interest in the Science, Technology, Engineering, and Mathematics (STEM) fields among children by creating inclusive and diverse STEM content for young children aged 8–12 years.

This includes a series of STEM children's books, real-world activities such as site visits and virtual reality tours of engineering sites, and an animation based on Sibos the Civil Engineer book.

The project is currently being undertaken in 5 Countries Kenya, Rwanda, South Africa and Zambia, courtesy of the Royal Academy of Engineering Africa Catalyst 5 Grant.



MEMBERS OF THE ENGINEERING COUNCIL OF ZIMBABWE - THE HOST OF THE CECB RECEIVING THE RAENG IN HARARE, ZIMBABWE.

V. CAPACITY BUILDING IN ENGINEERING EDUCATION INTERNATIONAL FORUM

The FAEO-CECB jointly organised the 2022 WFEO-CECB Capacity Building in Engineering Education International Forum, Africa-Asia Pacific Accord, and Zimbabwe Institution of Engineers Biennial Conference held from the 16th to the 20th of August 2022 in Victoria Falls, Zimbabwe whose theme was "Engineering the Future through Quality Engineering Education, Partnerships, Capacity Building and Innovative Infrastructure". The WFEO CECB is hosted by the Engineering Council of Zimbabwe (ECZ). The Conference was attended by about 400 Delegates from more than 10 Countries.

WFEO-CECB promoted two critical preconference events namely, "capacity building training on water and sanitation infrastructure assets maintenance to local authorities management and engineering practitioners in SADC" and "Robotics and Artificial intelligence Worksop and Bootcamp for school children", both supported by SADC, UNESCO and the South African Department of Science and Innovation (DSI). We believe, engineering capacity building is a lever for economic, social, and sustainable development, and is recognized as a priority in the success of every country. The event featured a comprehensive technical programmes and social programmes.

The South African Department of Science and Innovation (DSI) established a partnership with the CECB together with implementing partners Federation of African Engineering Organisations (FAEO), and the Southern African Network of Water Centres of Excellence (SANWATCHE) through Stellenbosch University Water Institute (SUWI) and the Commonwealth Business School (CBS-UK). The focus of this partnership was to build capacity in the water and sanitation sector. To this end, a pilot project was identified and domiciled in South Africa. The Committee facilitated collaboration between the South African Government and FAEO who worked together to provide training to a selected local authority (Ugu District), in capacity building for water infrastructure maintenance. The project was a huge success and Stellenbosch University played a pivotal role in the said project. The Ugu District Action Learning Project is still on-going. A training for SADC Water partitioners was also done in Victoria Falls from the 16th to 20th of August 2022.



IN THE PIC.: A Group Photo at the Training Venue, Kingdom Hotel, Victoria Falls, Zimbabwe.

VI. VARIOUS WORKSHOPS AND WEBINARS WERE HOSTED BY THE CECB, THE MOST POPULAR ONES BEING:

- a. *on the 28th of February 2022, with a topic "Building Better Engineering Capacity: The Role of Disruptive Technologies To Achieve The SDGs.*
- b. *FAEO & WFEO side event at the UN-STI FORUM where our chair presented.*
- c. *UNESCO WED 2023 events in Madrid, Spain.*

KEY ACHIEVEMENTS, PUBLICATIONS, DECLARATIONS ETC.

VII. THE COMMITTEE HAS ACHIEVED THE FOLLOWING:

- *The Africa Engineering Week continued to be steered by the CECB, the last two were held in Ethiopia (2022) with theme “Infrastructure Development in Africa” and in South Africa (2023) with theme “Celebrating and Growing Engineering Excellence in the African Region”. The AEW Declarations were published by WFEO, FAEO and UNESCO.*
- *Capacity building in sustainable development goals (SDGs) for other STCs and WFEO National Members via conferences, webinars, and workshops. The CECB attended the WEEF & GEDC partnering with AEEA and supported by WCCE, FAEO, WFEO and UNESCO, held in Cape Town, South Africa from the 28th of November to the 1st of December 2022, under the theme: “Adapting to Global Disruption”,*



In the Pic: The WFEO CECB participated in the WEEF GEDC Partnerships forum in Cape Town in December 2022.

- *Development of a new edition of the capacity building manual and a Compendium in order to meet the engineering capacity to deliver the SDGs as well as facilitating trade. The CECB participated in three AU and AfCFTA events in Cape Town (SA), Bulawayo (Zimbabwe) and Johannesburg (SA)*



In the Pic: CECB Chair at the Cape Town AU - AfCFTA event.

- *Capacity building for engineering project planning, design, implementation, and management, in light of the fourth industrial revolution and sustainable development.*
- *Developing of a hub linking and an online Resources Centre for WFEO to facilitate continuous professional development.*

VIII. TO CONTRIBUTE TO THE ACHIEVEMENT OF THE FOCUS SDGS (16 & 17) CECB HAS PROJECTS FOR:



- *Preparing a unified model contracts covering all areas of transaction in the fields of engineering and constructions in a portal for ease access of training and CPD materials.*
- *Setting unified standards for classification and selection of consultancy bureaus based upon efficiency, capacity, and resources.*
- *Setting unified requirements for qualification and classification of contractors and engineering professionals.*
- *Setting the rules securing public safety in the works of building and construction.*
- *Intensify organization of training courses and seminars in all FAEO countries to exchange experiences and to keep pace with the scientific developments and needs of labour market.*

Goal 16: Peace, Justice, and Strong Institutions (detailed [in this page](#))

Goal 17: Partnerships for the Goals (detailed [in this page](#))

A SHORT QUOTE/STATEMENT ABOUT YOUR COMMITTEE/WORKING GROUP

*"We at FAEO CECB STC believe that the **impact of capacity building and development** is that the **outcomes of the committee's work** will empower national members of FAEO to strengthen their economies, governments, institutions and individuals through education, training, mentoring, orientation, and the mobilization of resources for **sustainable development**. To this end we aim at developing secure, stable, appropriate, affordable, and sustainable structures, systems, and organizations, with a particular emphasis on improving the quality of life. Engineering Capacity Building is the greatest enabler to the achievement of the **Sustainable Development Goals (SDGs) and the Africa we Want.**"*



Prepared by WFEO CECB – Chair Eng. Martin Manuhwa