

CONCEPT NOTE

FAEO'S NEED TO BUILD A SUSTAINABLE ENGINEERING ECOSYSTEM IN AFRICA AND THE URGENCY TO SUPPORT THE AFRICA CONTINENTAL FREE TRADE AREA

1. INTRODUCTION

1.1. Background

Engineering ecosystem is a power of possibilities where a unit of innovation is measured by imaginations of individuals with ability to properly observe, decide and act competently with confidence. Bearing in mind that science is the seed while engineering is the tree that bears fruits of scientific discoveries essential for the sustainable world. It's a reality that without proper and equitable engineering engagements Africa from individuals to group ensuring right competences in order to transition development will be a nightmare! This implies that without engineering professionals' engagements, AU's Agenda 2063 and SDGs implementations through priority areas of industrialization, agriculture for food security, infrastructure development will never be achieved.

It's worth noting that FAEO is a single Africa's umbrella professional engineering organization composed of engineering institutions from countries where engineers, technologists and technicians working in different engineering disciplines, possessing common interests, share technical knowledge, regulate professional practice, influence public policy and maintain the traditions and reputation of the profession. FAEO understands the importance of collaboration with other international professional organizations such as the **International Federation of Consulting Engineers** (commonly known as **FIDIC**, acronym for its French name **Fédération Internationale Des Ingénieurs-Conseils**), World Federation of Engineering Organizations (WFEO), Federation of Engineering Institutions of Asia and Pacific (FEIAP) and Commonwealth Engineers Council (CEC) among others.

One of the major development thrusts by the African Union is the achievement of the Africa Continental Free Trade Area (AfCFTA) and engineering is critical to its success. FAEO must, therefore, mobilize the African engineering resources to support this transformative continental endeavour. It is with this in mind that it is proposed that more actionable initiatives at the continental level be undertaken. It is imperative that this opportunity needs to be properly leveraged to accelerate the implementation of AU's Agenda 2063 through AfCFTA strategy on the aspects of industrialization and infrastructure development which are all engineering driven for the Africa We Want.

1.2. Purpose of the Concept Note

This Concept Note is intended to enable and facilitate FAEO to accomplish its mandate by making substantial impact at both the continental and national levels. Support is greatly needed in the form of motivation, institutional and financial capacities that will enhance, among others, advocacy, upskilling and reskilling of members to become more entrepreneurial and digitally literate to deal with challenges of implementing national and continental strategies like AfCFTA, African Circular Economy Agenda and SDGs and translating them into daily actionable activities with aim to create more jobs and employment in Africa, at large.

The Note is also expected to support national members to align in advocacy, inspiring and motivating engineering professionals to engage in the implementation of the Agenda 2063 and SDGs. There is need therefore, to fundamentally rethink the principles underlying organizational, capacity building and team collaborations through FAEO and its members in order to mitigate national and continental development challenges respectively.

1.3. Scope of this Concept Note

Firstly, seeking to reiterate the importance of structured operational framework between institutions in academia, industry and Professional Regulatory bodies (PRB) of engineering profession and responsible for its demand driven development. This necessitates having an Accreditation Policy and Procedures Manuals for Engineering Education, Training and Practices that meet the international standards aligned to Washington, Sydney and Dublin accords for engineers, technologists and technicians respectively.

Secondly, seeking to digitally enhance and consolidate engineering professional database according to their engineering disciplines and categories in order to identify critical skills gaps and improvise sustainable practical ways for mitigation.

Thirdly, seeking to align and bridge existing disconnect in science, technology and engineering skills and competences to match job market demands benchmarked at international accepted standards for enhancing knowledge-based economy and accelerating the implementations of AfCFTA, and the SDGs with specific emphasis on the recent CHOGM 2022 Call to Action on Sustainable Urbanization and Climate Action.

Fourthly, seeking to build a platform for private sector actors of engineering services and products access to African markets and promotion of Digital Transformation including E-Trade and E-Commerce as a game changer.

This scope will have to explore the interconnected nature and relationships amongst professions through FAEO and its members towards the implementation of Africa's agenda 2063. The Africa Union's collaborative support to FAEO therefore, can facilitate

success in influencing critical mass of the engineering fraternity for accelerated implantations development strategies in different countries of Africa.

2. THE OPPORTUNITY: AFCTA AND ENGINEERING

The actionable initiatives at the continental level to be undertaken will include the implementation of the AfCFTA strategy as declared in the recent resolutions made during the 8th African Engineering Week and 6th African Engineering Conference that was held under the theme “**Accelerating Sustainable Infrastructure Development in Africa Together**” at the Science Museum, Addis Ababa, Ethiopia, from November 7-11, 2022.

Thus, through the support of Rwanda Government and other African Governments, FAEO is desirous of engagements to uniquely bring value to the following main activities,

- AfCFTA frameworks in response to aligning Engineering Services delivery and Skills Development to local needs in order to build a sustainable ecosystem in Africa for Africans;
- Accelerating the implementation of AU agenda 2063 through AfCFTA strategy.

And in conjunction,

- Addressing Resource Needs for Infrastructure Development in Africa;
- Developing Regulated Environment in the Practice of Engineering Capacity Building for Quality Engineering Services;
- Developing Mobility framework through harmonized standards and the need of mobilizing African Engineering regulatory bodies to work on framework for mutual recognition of engineering credentials;
- Promoting Equity, Diversity and Inclusivity (EDI) in the engineering profession which is essential for sustainable infrastructural development.

3. MAKING ENGINEERING BODY (FAEO) A MORE EFFECTIVE PARTNER

3.1. The Challenge

It is over 60 years since most African countries got independence whereby public and private institutions of higher learning graduating engineers, technologists and technicians but no data known of their number, their fields of specializations, their categories and their competence levels. What we keep hearing and reading from different reports is that there is mismatch between what schools produce and what the market takes in terms of competence and in some sectors not even having them at all.

It should be noted that for decades, many African governments have been focusing on developing and sustaining infrastructure including energy, transport, housing and urbanization, agriculture, water and sanitation infrastructure as evidenced by the portion of the national budget assigned to infrastructure development. However, indigenous professionals have continued to have limited competitive edge in terms of specialization in demand-driven engineering fields; thus, budgetary resources increasingly continue to be repatriated by foreign experts that are imported to assume high positions in the implementation of various infrastructure projects in these countries. This implies that the few indigenous employed by Engineering and consulting companies occupy low caliber positions and thereafter earn less from infrastructure projects implemented in their countries.

3.2. Overcoming the Challenge

3.2.1. Overview

Empower FAEO in leading the built environment professions to ensure the intellectual capital and technologically skilled engineering professionals who can contribute to stronger labor market for Africa and beyond. It is important for FAEO to develop its members with innovation capability, business dynamism, intellectual competences to always achieve and maintain efficiency through good governance supported by digital technology.

Create proper framework to grow Engineering Consultancy Firms and Contractors in order to boost private sector involvement in creation of homegrown Solutions and Export of Services within AfCFTA. Establish also Peer Review Mechanism at national levels to ensure Fit for Purpose and Value for Money in infrastructure projects.

By so doing engineering professionals will be capable to fundamentally rethink the principles underlying organizational and team collaborations for sustainability in implementing the Africa's agenda 2063 SDGs among others. This will promote and build a system that ensures consistent discipline and emphasizes meritocracy, pragmatism and honesty throughout professional career.

Without the systematic built environment professionals' engagements, the realization of the AfCFTA through agriculture, manufacturing, urbanization, and rural settlement, transport, energy, water, sanitation and ICT among others will not be possible on time especially those priority sectors with significant roles to play in development and which have massive infrastructure projects expected to be implemented.

3.2.2. Specific Steps

There is a need to develop and implement legal framework and resources to ensure proper governance and oversight duty in order for professionals increase practical skills,

solidify theoretical skills, integrate with practices, increase engineering professional networks, and enhance employability potentials.

There is also a great need for consolidated collaborative leadership among professionals and understand that sustainable leadership is about influence by informing, educating, persuading, inducing and coercing through consistent words and actions developed from the strategy while avoiding any sort of pervasive effects. This can only be achieved with development of appropriate mechanism that allows timely, smooth and concise flow of information both vertically and horizontally and targeted at national development priorities.

The approach needs to focus and not limited to:

- Accelerating implementation of the Digital Economy for Africa (DE4A) through engineering professionals and practitioners;
- Accelerating African Circular Economy Agenda (ACEA) through engineering professionals and practitioners;
- Promoting awareness and dissemination of skills on circular economy, digital economy, digital entrepreneurship as enabling tools in implementing AfCFTA strategy and SDGs to engineering professionals and practitioners of the built environment at country and continental levels;
- Accreditation Policy and Procedures Manuals for engineering Education, Training and Practices through AAP Accord in order to meet the international standard accords of Washington, Sydney and Dublin for engineers, technologists and technicians respectively;
- Peer review mechanism for mega national and regional infrastructure projects at national levels;
- Implement Projects Anti-Corruption Standards (PACS) in all infrastructure projects life cycles at national, regional and continental levels;
- Database for engineering professionals and framework to fast-track mitigation of skills gaps and employment on jobs created within and outside the country.

3.2.3. Potential implications

Understanding that engineers do not have an abundance of resources, nor do they have the political power to bend things their way, they however have the competences to make a difference. Hence, their skills-set is what makes them relevant to their respective countries and the continent and it is their main weapon and bargaining chip for sustainable development of Africa.

This concept will therefore, promote and enhance pan African spirit of collaboration within engineering fraternity where professionals will add more long-term value and benefits to the local private companies and the government in terms of availability of a richly diverse talent pool to drive the implementation of large and complex engineering projects outlined in Africa's development agenda and SDGs.

It will contribute to MICE in African countries by bringing many engineering related conferences, exhibition, workshops and seminars bringing together African and global professional and industry experts. It will also contribute to elevation of the Engineering professionals and improve their employability for high caliber positions and job creation through entrepreneurship. It will as well attract joint ventures of our local engineering firms and contractors with strong experienced ones from other parts of the world for business, skills and knowledge transfers.

In the medium and/or long-term prospects, these interventions will contribute to increased sector contribution to individual country's GDP as a result of exported engineering services (at both regional or international markets), and also contribute to reduction of imported engineering services to implement complex engineering projects in the country which leads to revenues/incomes repatriations as well as enhanced knowledge transfer to boost local engineering expertise.

It is therefore believed and expected that FAEO during this term under Rwanda, more actionable initiatives at the continental level will happen towards implementation of the AfCFTA strategy in fulfilment of among others the recent resolutions made during the 8th African Engineering Week and 6th African Engineering Conference that was held under the theme "Accelerating Sustainable Infrastructure Development in Africa Together" at the Science Museum, Addis Ababa, Ethiopia, from November 7-11, 2022.

Hence FAEO is desirous of engagements to uniquely participate through the support of Rwanda Government in among others:

- Addressing Resource Needs for Infrastructure Development in Africa;
- Developing Regulated Environment in the Practice of Engineering Capacity Building for Quality Engineering Services;
- Developing Mobility framework through harmonized standards and the need of mobilizing African Engineering regulatory bodies to work on framework for mutual recognition of engineering credentials;
- Participating in AfCFTA frameworks in response to aligning Engineering Services delivery and Skills Development to local needs in order to build a sustainable ecosystem in Africa for Africans;
- Participation to accelerate the implementation AfCFTA strategy.

It is within this context and background that by reforming FAEO will accelerate the **AfCFTA** implementation and generally lead to sustainable engineering ecosystem by enhancing Increased productivity and efficiency of systems; traceability, transparency and accountability; decentralized resource management; financial inclusion and access to Global Digital Economy; Homegrown solutions and Business model innovations at national and Africa levels.

3.2.4. Potential Risks

As usual people fear change, even when it's to bring excellent results.

- Mistrust among African governments, PEIs and bad governance fueled by conspiracies of developed countries through divide and rule;
- Low levels of awareness and proper understanding of the Agenda 2063 and SDGs by the engineering professionals and practitioners;
- Lack of thought leadership and financial resources to enforce sustainable professional competences suitable for mobility engineering personnel and services into AfCFTA.

4. CALL TO ACTION BY FAEO

For its sustained success, FAEO needs to develop a framework for the proposed reform in reconstructing resource mobilization. A Consolidated Diversified and Expanded base of "FAEO – Associate Members" towards an Impactful and Sustainable Governance - There is no need to over emphasize that financial resource is a very important resource which an organization needs not only for its functioning but also for its sustained success. Any organization need to have systems in place that help it to both fund its ambitions and also for support of its daily operations. Mobilizing resources therefore is a fundamental component to project or program delivery and impact. It is central to the process, and is intertwined with implementation of the organization's strategic objectives.

FAEO in recognition of this and the fact that the subscriptions source of income for FAEO from members is rather inadequate to run the organization, on 17th September 2019 the Executive Council of the federation approved its financial management and fund-raising strategy towards its continued operations and sustainability. The council also laid down a roadmap of activities to increase revenue generating activities from 2018-2023. The strategy focuses on resource mobilization strategies and preferential allocation of resources based on the organization's strategic objectives. The intent is that, through effective resource mobilization, financial budgeting and accounting, competent bookkeeping and reporting systems, FAEO will achieve its goals and strategic objectives.

A quick scan on the implementation of the detailed fundraising strategy plan and funds acquired from the strategy approval date to date, reveal that, the environment in which resources are mobilized is increasingly competitive, and coming up with the money hasn't always been a straightforward process. Further complicating the process, funding sources has tended to be in constant flux, may be due to a scarcity of resources resulting from the recent global economic crisis or an oversight in the implementation strategy. As a result, it has not only been necessary to be resilient and determined to successfully complete the projects that FAEO started, but it has also been critical to adapt to the

circumstances as was necessary. The organization management deserves commendations. However, this is not a health situation for FAEO.

Considering the valedictory message by the Immediate Past President, there is need to provide an extra edge to efforts to attract an adequate and more predictable financing. This requires FAEO to have a focused and coordinated approach throughout the organization using all available tools that place strong emphasis on its comparative advantage of strong footprint across the continent and beyond and focus to attract resources from a larger range of partners, and ensuring allocation of these resources to agreed priorities.

Therefore, FAEO needs to aim for the following outcomes: **A Consolidated Diversified and Expanded base of “FAEO – Associate Members”** mainly from the **“Private Sector”** as resource partners with a focus of increasing the share of pooled and softly earmarked funding.

My vision is for the **Expanded base of “FAEO – Associate Members”** suggested to be around the same three main pillars of FAEO fundraising strategy plan of: Identify; Maintain; and Maximize as stipulated in the fundraising strategy document but with focus on Private Sector.

1. Increase FAEO visibility and expand network for stakeholders and members' improved attraction, interaction and added value among the engineering profession value chain (Education, Training & Practice) and trade in goods and services providers;
2. Potential private sector partners to be identified, mapped and prioritized with due diligence based on analyses of their potential in size and a shared mission and ethical values.
3. Link stakeholders through evolving platforms and different initiatives to be taken to maintain them and encourage them to increase and continue their contributions such as organizing joint campaigns, introducing new markets and giving them more exposure through different channels.
4. Discuss possibilities of leveraging business driven contributions and create atmosphere of co-creation of the revenue generating activities on a win-win base.

FAEO in its Membership brochure has laid out procedures and modalities for different types of membership. It defines “Associate members” as non-voting rights members who may be for profit or not for profit organizations, comprising of corporate entities, universities, technical organizations, societies, associations, research organizations, engineering related businesses and similar organizations involved in engineering in countries where there is already a national member.

To deliver effectively for funds to come from this group I intend to do the following; -

- Mobilize private companies thorough individual engineering professionals and firms, national and regional members as many as practically possible to obtain a

“FAEO – Associate Membership” interested in the AfCFTA implementation opportunities;

- For transparency and to avoid dilution of the membership status, the membership for this type shall similarly be handled by the membership committee but for consistence, guidance is required and is to be reflected in the organization’s membership brochure and the FAEO rules of procedures, especially in the articles related on how to become a member in the brochure and article No.3.4 on the duties of the membership committee in the FAEO rules of procedures with corresponding amendments in the constitution of articles 7 & 9 related admission and expulsion because non-payment of the annual subscription fees shall automatically end membership to all types of membership;
- Redefining and alignment of duties and responsibilities for all membership types to particularly avoid duplication and ambiguities while giving clear linkages between FAEO, Regional Branches and National members;
- FAEO needs to take an active role in soliciting the membership for these categories instead of being left to them. For more effectiveness, it is suggested that the identification, due diligence sorting, solicitation and application processing of eligible and interested private sector companies in a particular country be charged to the National Members Institutions, who shall in-turn forward the recommendations to the Executive Director for final processing;
- For countries/Regions in Africa where there is ether no National Members institution or the institution has not yet joined the Federation, efforts shall be put on establishing one or encouraging to join where there is one. In case the federation identifies an associate entity or the entity expressed interest, the processing of the membership shall be treated as if it is an international company (see bullet below);
- For cases of international companies, it is suggested that solicitation and due diligence be charged to the Executive Board and initial documentation processing done by the office of the President who shall in turn forward it to the Executive Director for final processing through all channels;
- I further propose that instead of categorization of the associate membership using the size of the company based on the number of employees or turnover, let it be done based on a **“Star-rank”** system and subscription fees with a 5 Star-ranks starting with Bronze, Silver, Gold, Platinum and Diamond in ascending order. Each star-rank to have a different subscription fee tied to advantages on a win-win package arrangement. The following is a proposed fee for your consideration: **A Diamond Star subscription fee \$ 2000, Platinum \$ 1500, Gold \$ 1000, Silver \$ 700 and Bronze \$ 500;**
- In order for bullet 7 above to be realized, I further propose to immediately revive digital transformation project through a robust revenue sharing model to be negotiated and agreed. Hence aligning our website to become a platform that will

cover in its core activities among others e-commerce and advertisement in pursuit of creating value for our members;

- To allow me engage on performance basis, my assistant to be based in Kigali for proper coordination of FAEO secretariat in Abuja for a reasonable monthly retainer fee and in addition a success fee on successful project proposals made by him/her;
- Set up an interim period ending 31st March 2023:- Time being of essence, it is proposed that initiation of solicitation and identifying preliminary database of companies and organizations where collaboration could be fruitful, informally to start with a view to working out finalized working modalities within 3 months including review of the Constitution, Rules of Procedures plus all other relevant documentations in place for potentially opening up new avenues for all **“FAEO – Members”**;
- If my proposal is accepted, an urgent change on all the application forms on the website to be modified accordingly for all membership categories and to include corresponding advantages associated with each category of membership.

4. CONCLUSION

This concept note seeks to galvanize added momentum and impetus and does not provide conclusive answers to all the challenges highlighted, rather it attempts to stimulate informed discussions and experimentations of adopted strategies and actions in the Africa We Want strategic implementations. Therefore, FAEO positions itself as a leader, convener and coordinator of the proposed collaboration outlined herein.

For the FAEO’s Competent Organs Consideration and Approval before implementation.

Done on 5th February 2023

KAZAWADI Papias Dedeki

FAEO President.