



Draft Concept Note for Engineering Regional Workshop on:
Strengthening the Role of UNESCO and ECOSF to Support the Engineering Qualification and Standardization of FIEAP in Promoting South-South Cooperation for Sustainable Engineers' Future in Asia and the Pacific region

Introduction

UNESCO in partnership with Economic Cooperation Organization Science Foundation (ECOSF), the Federation of Engineering Institutions of Asia and the Pacific (FEIAP) is planning to organize a regional workshop on Strengthening the Role of UNESCO and ECOSF to Support the Engineering Qualification and Standardization of FEIAP in Promoting South-South Cooperation for Sustainable Engineers' Future in Asia and the Pacific region. The aim of this regional workshop is to develop the roadmap between UNESCO, ECOSF, FEIAP with partners to enhance engineering qualification, standardization and south-south cooperation; moreover, review engineering, technology, Industry and innovation linkage to create strong sustainable development of engineering in Asia and Pacific region from 21 to 22 December 2017 in Islamabad, Pakistan.

Elaborated Background:

Engineers perform an important function in planning and construction a sustainable society through their effort in maintenance of product, tools and equipment. Engineering can obtain advantages from experience' skills in different countries, as they could reduce duplication effort to combine resources, facilitate commerce, apply innovative and technology to produce, supply

and transfer better product for human needs, that it has positive effect on sustainable development in long term. Standardization, harmonization of engineering curricula, maintenance, monitoring and mentoring process assist to create strong regional network.

Though, distinguishes the qualification of product in countries by engineering process is better and will assist for trade and market competition. Then Stabilize existing markets in regional level will help development of markets and increasing the economic level, so; requirement for engineering standardization feel more. High percentage of students are containing women engineer in universities and institutes, therefore for human resources and create regional network for country future, society need their participation dynamically. Engineering graduates are forthcoming man-power that will implement the wheels of nation's economy, they have a vital position in transforming country into an innovative manner and adequate knowledge controlled the economy. Training of young engineer trough complete period of internship in different industries can assist to basis of, economic, innovation and environment in society; accordingly, will help to sustainable development.

The existence of many bilateral agreements between countries in different parts of the world prompted six countries in 1988 to draft the original Washington Accord, which signed in 1989. It is an international agreement among bodies responsible for accrediting engineering degree programs. It recognizes the substantial equivalency of programs accredited by those bodies and recommends that the other bodies as having met the academic requirements for entry to the practice of engineering recognize graduates of programmes accredited by any of the signatory bodies. At the meeting of the Washington Accord signatories in October 1997, it agreed to establish an independent forum to be known as the Engineers Mobility Forum, one of the objectives of which was to facilitate international mobility of professional engineers. Still much effort is required to standardize and harmonize engineering curricula in all countries, which would enable engineers from developing countries to share their knowledge and skills and be employable worldwide (<http://eco4science.org/uploads/files/eqsaps.pdf>). UNESCO has supported the creation of professional organization such as World Federation of Engineering Organization since 1960. The engineering institute of Thailand with UNESCO supporting in 1978

established the Federation of Engineering Institute of South-East Asia and the Pacific, in 2008, the name of federation changed to Federation of Engineering Institutions of Asia and Pacific (FEIAP). FEIAP and UNESCO have entered into a contractual arrangement to raise the standard of engineering qualifications in universities and institutions of tertiary education in association with the engineering bodies through South-South cooperation. The FEIAP Engineering Education Guidelines updated; the current membership of FEIAP is using this FEIAP Guidelines to help their own member economy to achieve the engineering qualification standards that is required for them to join the Washington Accords.

The objectives of FEIAP are to encourage the application of technical progress to economic and social advancement throughout the world; to advance engineering as a profession in the interest of all people; and to foster peace throughout the world. It provides its members with a platform for sharing information and good practices on issues of concern to engineers in the region. The FEIAP member economy collaborating on and aiming to use these guidelines are including in 2011 Pakistan Engineering Council became member, Myanmar Engineering Society (MES) joined in 2008, Association of National Engineers of Timor-Leste (ANETL), China Association of Science of Technology (CAST), The Engineering Institute of Thailand (EIT), Hong Kong Institution of Engineers (HKIE), The Institution of Engineers, Malaysia (IEM), The Institution of Engineers, Singapore (IES), Institution of Professional Engineers, Japan (IPEJ), Korea Professional Engineers Association (KPEA), The Institution of Engineers Indonesia (PII) and Philippines Technological Council (PTC). This guideline provide a platform for sharing information and good practices on engineering issues in region.

Much efforts is needed to harmonize the standardization of engineering curricula, controlling, monitoring and mentoring the process and maintenance the infrastructure, youth internship training in industries and women engineering role as human resources to build the regional network. UNESCO cooperate closely with ECOSF to organize this regional workshop for partner countries to review and evaluate engineering qualification and standardization, develop the roadmap of strengthening the foundations for south-south cooperation and achieve sustainable development in Asia Pacific region.

Objectives

- 1) Stock-take of the status of the accreditation systems for sustainable engineering standardization and accreditation programs in Asia and Pacific.
- 2) Develop the roadmaps on Partnership between UNESCO, ECOSF and FEIAP focus on:
 - a. Training programme for young engineers based on society requirement jobs in all Engineering sectors, through Institutional and Capacity building, internship training and Applying technopreneurship
 - b. Strengthening the role of woman engineers as human resource in certification process of engineering education to build regional network in in Asia Pacific region
- 3) Propose a south-south collaboration strategy to bridge the gaps between engineers, entrepreneurs, local government, universities, research centers and professional bodies through standardization and qualifications of engineering

Workshop Details

- **Duration:**

Two days regional workshop according to TORs

- **Action Points:**

Cooperation between UNESCO, ESCOSF and FEIAP to review the current situation of engineering education and training, through attention to FEIAP standardization for curricula, identify the needs of society and analysis the gap between engineering supply and jobs demand in society to achieve engineering sustainability, Consider to role of women

Thus, based on mentioned points, create and develop of roadmap in Asia Pacific Region.

At the end, prepare the technical report; integrate with FEIAP standardization in academic system to apply in universities and institutions, by considering stakeholders viewpoints in different sectors for South-South Cooperation for Sustainable Development

- **Format**

Presentations, lecturers, discussion and visiting engineering training centres

- **Workshop Program**

Arrival of Participant

Workshop day 1

Workshop day 2 half day+ Site visit of engineering facilities and/or engineering training centre

Departure of participant

Participants:

People have potential to participate:

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Expected Outcome

The workshop will provide a roadmap to demonstrate close cooperation between UNESCO, ECOSF based on FEIAP engineering standardization and qualification in partners' country to achieve sustainability that will be including the review-engineering curricula and identify status of the accreditation system for sustainable engineering standardization program in Asia Pacific Region and south-south cooperation.

In addition, the roadmap will demonstrate clear internship program for youth engineers, partnership among industry, technology and engineering sectors in universities, through close cooperation connection between entrepreneurs, local government, universities, research centers and professional bodies and strength the role of women engineers. Moreover, applying technology to enhance suitable qualification of engineering issues.

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