MUTUAL RECOGNITION ARRANGEMENTS (MRA)

AND

PROFESSIONAL EDUCATION

by

Dr. WICHA JIWALAI
ASEAN FLAG PRESIDENT

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3 PILLARS OF AEC 2015

- **ACIA : ASEAN COMPREHENSIVE INVESTMENT AREA**
  (Free Flow of Capital)
- **AFTA : ASEAN FREE TRADE AGREEMENT**
  (in Goods)
- **AFAS : ASEAN FRAMEWORK AGREEMENT**
  ON TRADE IN SERVICES
  (7 professional services (MRA))

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ASEAN Population (2011)

Brunei	422,700
Cambodia	14,701,717
Indonesia	237,424,363
Laos PDR	6,586,266
Malaysia	28,859,154
Myanmar	60,584,650
Philippines	103,775,002
Singapore	5,312,400
Thailand	66,720,153
Vietnam	91,519,289
Total	615,905,694

RECOGNITION OF PROFESSIONAL QUALIFICATIONS

MUTUAL RECOGNITION ARRANGEMENTS (MRA)

IN SERVICES (7 professional services)

- **ARCHITECTURAL SERVICES**
- **ACCOUNTANCY SERVICES**
- **ENGINEERING SERVICES**
- **SURVEYING QUALIFICATIONS**
- **DENTTAL PRACTITIONERS**
- **MEDICAL PRACTITIONERS**
  (Medical Doctors and Nurses)

MRA OF SURVEYING QUALIFICATIONS

Objectives

1. **To identify the framework and establish the basis for Competent Authorities to observe while negotiating MRAs between or amongst each other to facilitate the mutual recognition and mobility of Surveying Professionals as it is recognized that ASEAN member countries may have different nomenclatures and requirements;**

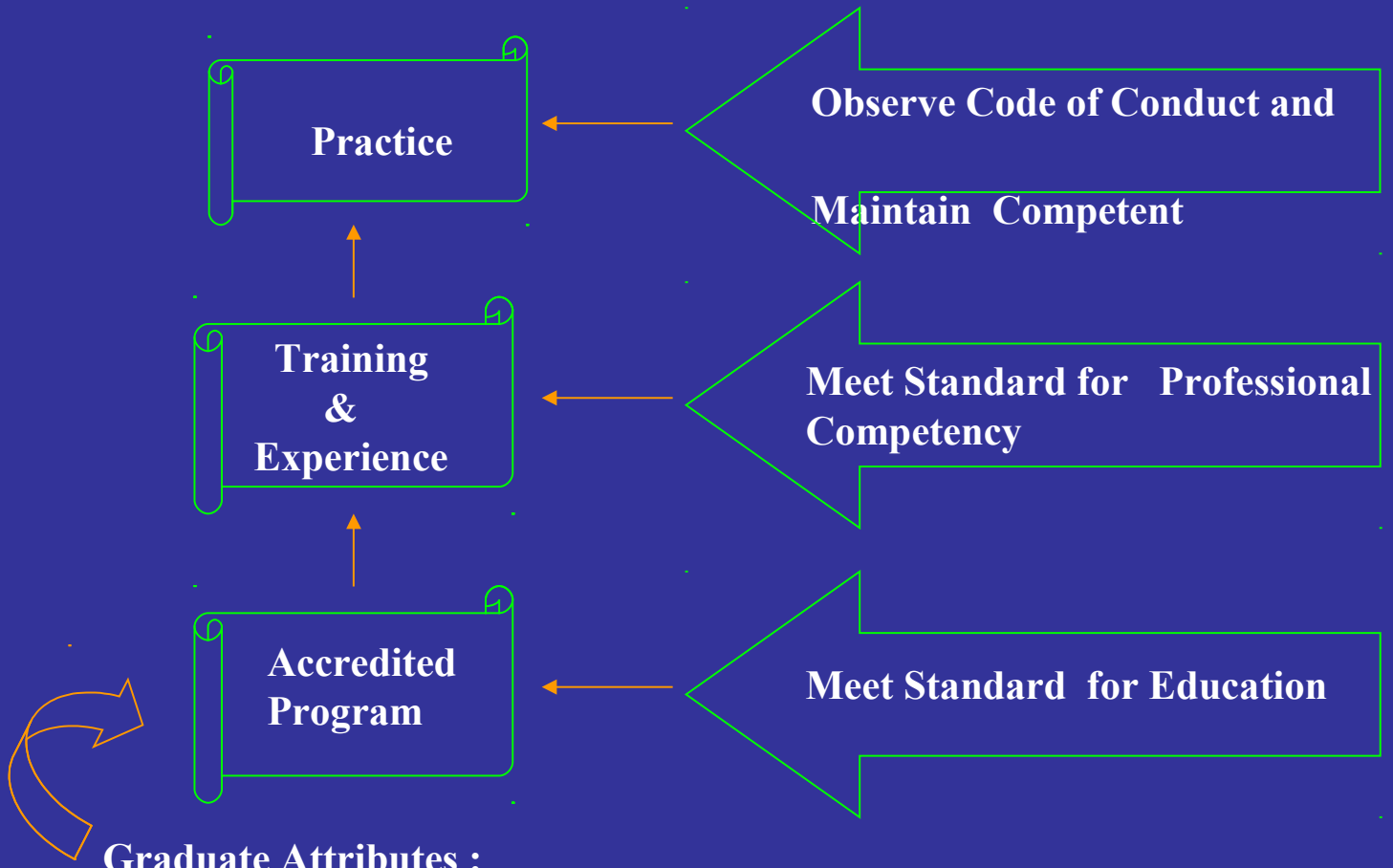
2. **To exchange information in order to promote trust and adoption of best practices on surveying standards and qualification.**

THE THINKING

Meaning

- LAND SURVEYOR
- PROFESSIONAL SURVEYOR
- SURVEY ENGINEER
- GEODETIC ENGINEER

PROFESSIONAL LIFECYCLE (courtesy of International Engineering Alliance : IEA)



What is Profession Competence?

- Professionals are able to perform functions because of their : Knowledge , Skills , and Attitudes
- Competence is developed by Education , Training , and Experience

Accreditation of academic program is a key foundation for the practice of Surveying and Mapping at the professional level in each of the countries in the ASEAN.

EDUCATION

Outcome – based Education (OBE)

vs

Input – based or Traditional Education Methods (IBE)

The Washington Accord covers undergraduate engineering degrees under outcome – based education approach.

FIG Definition of the Functions of the Surveyor (As adopted on 23 May 2004)

Summary

A surveyor is a professional person with the academic qualifications and technical expertise to conduct one , or more , of the following activities;

- **to determine , measure and represent land , three-dimensional objects , point-fields and trajectories;**
- **to assemble and interpret land and geographically related information,**
- **to use that information for the planning and efficient administration of the land, the sea and any structures thereon ; and,**
- **to conduct research into the above practices and to develop them.**

Detailed Functions

The surveyor‘s professional tasks may involve one or more of the following activities , which may occur , either on , above or below the surface of the land or the sea and may be carried out in association with other professionals.

(a) The determination of the size and shape of the earth and the measurement of all data needed to define the size , position , shape and contour of any part of the earth and monitoring any change therein.

(b) The positioning of objects in space and time as well as the positioning and monitoring of physical features , structures and engineering works on , above or below the surface of the earth.

(c) The development , testing and calibration of sensors , instruments and systems for the above- mentioned purposes and for other surveying purposes.

(d) The acquisition and use of spatial information from close range , aerial and satellite imagery and the automation of these processes.

Detailed Functions (continued)

(e) The determination of the position of the boundaries of public or private land including national and international boundaries, and the registration of those lands with the appropriate authorities.

(f) The design, establishment and administration of geographic information systems (GIS) and the collection, storage, analysis, management, display and dissemination of data.

(g) The analysis, interpretation and integration of spatial objects and phenomena in GIS, including the visualisation and communication of such data in maps, models and mobile digital devices.

(h) The study of the natural and social environment, the measurement of land and marine resources and the use of such data in the planning of development in urban, rural and regional areas.

Detailed Functions (continued)

(i) The planning, development and redevelopment of property , whether urban or rural and whether land or buildings.

(j) The assessment of value and the management of property , whether urban or rural and whether land or buildings.

(k) The planning , measurement and management of construction works , including the estimation costs.

In the application of the foregoing activities surveyors take into account the relevant legal , economic , environmental and social aspects affecting each project.

Note : The MRA excluded the item (i) , (j) and (k) and part of item (h) namely the study of social environment in the planning of development in urban , and regional areas.

A Bachelor Degree in Survey Engineering

- **Minimum number of credit for graduation is 144 credits based on the semester system of which half must be in surveying and mapping.**
- **On the job training during one summer**
- **70 credits should cover**
  - **Mathematics and Statistics for Geomatics**
  - **Surveying (plane, topographic, construction, and engineering**
  - **Photogrammetry and Remote Sensing**
  - **Mapping and Mathematical Cartography**
  - **Geographic Information System**
  - **Cadastre**
  - **Hydrology and Hydrographic Survey**
  - **Geodesy**
  - **Satellite Surveying**

“ The Whole is Greater than the Sum of its Part ”

AEC

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One Identity
One Community

Thank you