

**Presented at the FIG Working Week 2017,
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**THE ROLES AND CONTRIBUTIONS OF NIGERIAN POLYTECHNICS IN THE
DEVELOPMENT OF SURVEYING AND GEO-INFORMATICS EDUCATION;
ISSUES, PROSPECTS AND CHALLENGES: A GLOBAL PERSPECTIVES**

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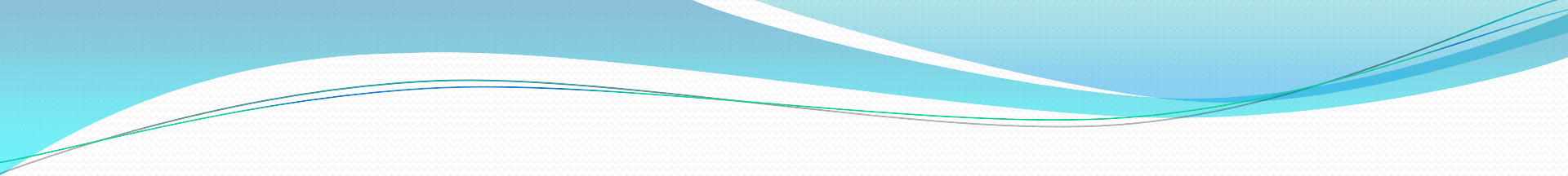
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“Developing countries and countries with transition economies risk being further marginalised in a competitive global knowledge economy because their education and training systems are not equipping learners with the skills they need⁶”

3.0 The High Points of the Paper

- Training of Technologists, Technicians and Managerial skills in courses leading to the awards of certificates, National, Higher National Diploma, Advanced Professional Diploma and, etc. relevant to the nations needs, aspirations' diverse economy and industries.
- Surveying being the bedrock of any development
- The Act establishing Polytechnic and Polytechnics offering Surveying and Geoinformatics
- Challenges and prospects in respect to administration,
- Curricula development and constraints

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- Academic Staff
- Admission requirements
- Equipment/Facilities
- Funding/Budget provision
- Placement/recognition in service
- Professional registration
- Prospects and Challenges
- Conclusion and Recommendations

4.0 Justification

- Training and retraining is the surest way to keep a profession from extinction as the older ones are retiring, the younger ones need to be coming up to replace them. Training enhances professional development
- Nigeria has a population of over 170 million with a land and water mass of 930,000sq km which is subdivided in 36 states and FCT.
- Land and border issues will continue to be dominant.
- The need for quality and quantity in survey training cannot therefore be overemphasised.

5.0 Brief History of Development of Technical Education

- Technical Education started during the colonial masters on realising the deficiency in technical and vocational manpower to process the raw material at a cheaper rate. It was therefore necessary to establish local institutions for training the local people.
- The first sets of such training institution was Kaduna technical school, Yaba Technical School and IMT Enugu. They were later upgraded to Diploma and Higher National Diploma awarding status including surveying from mere certificates and proficiency tests awards.

5.0 Mandate of Polytechnics

- In 1979 a decree for the establishment of seven Polytechnics was enacted with the following mandates;
- to provide full time and part time courses and training in technology, applied science and commerce and management
- To arrange conferences, seminars and study groups relative to the field of learning specified above.
- To perform such other functions which in the opinion of the Council would enhance the quality of the function of the Polytechnic.

6.0 Development of Surveying Education

- At pre-independence, locals were employed as either chainmen, apprentices or labourers and at the end of their services, they were given certificates of proficiencies for them to privately practice surveying as a form of their gratuities.
- At the eve independence, surveying technical training institutions were established in Okene, Kaduna, Lagos, Oyo and Enugu.
- Later, Surveying courses were offered at degree level in Lagos University, University of Nigeria Enugu and Ahmadu Bello University Zaria.
- There are now 101 Polytechnics in Nigeria with only 34 out them offering Surveying and Geoinformatics courses.
- Need for more institutions to offer the course to increase the low and inadequate number of registered surveyors in Nigeria which is just 3,360.

7.0 Applications of Surveying

- In view of the FIG definition of Surveying and Geoinformatics, the Polytechnic Sector has the capacity for its graduates to undertake the following aspects;
- Topographic mapping, cadastral surveying, hydrographic/photogrammetric surveying, satellite/geodetic surveying, remote sensing, forensic surveying, surveying related to agriculture, transport, Oil and Gas, mining population, forensic Engineering land in dispute, etc.

8.0 Quality Assurance and Control

- Polytechnic Education is controlled by National Board for Technical Education (NBTE)
- It controls the establishment of a Polytechnic and ensure standard both at institutional level and programs by accreditation
- Surveyors Council (SURCON) also determines who is and who becomes a Surveyor to practice the profession.

9.0 Requirements and Guidelines for Establishing a Polytechnic

- Philosophy and Objectives
- Site and Building
- Organisation, Administration and Control
- Governing Council, Academic Board
- Admission, Graduation, Probation, Students Welfare
- Library, Educational Program, Academic Staff and Financial stability and reputation

10.0 Contributions Polytechnics in Development of Surveying Education

- There are 34 Polytechnics and Colleges of Technology in Nigeria offering Surveying Programs leading to the awards of ND, HND, Post HND and Professional Diploma,
- Curricula Development fully inundated with practical contents,
- Produce in high number of professional examination passes; in the last 5 years, 589 Polytechnic graduates passed professional examinations and 655 passed from Universities,
- More Polytechnic graduates are being attracted by private companies.
- In academic and work environment, there are more Polytechnic graduates than there are university graduates, in Ministries and government agencies and Parastatals
- Agitation for B Tech award by Polytechnics.
- Improvement in funding

11.0 Challenges in Polytechnic Education

- Curriculum Review to respond to fast changing technology
- Staffing and Retention
- Obsolete and high cost of Equipment
- Staff Unionism(ASUP, NASU, SSANIP)
- Students Union Government
- Funding
- Governing Council
- Management and Leadership of Polytechnic
- Admission Requirements
- Discrimination (BSc and HND issues)
- Partisan Politics in institutions

12.0 Conclusion and Recommendations

- Legislation for the establishment of technical and vocational institution in each senatorial district in Nigeria.
- Legislation to ensure that all surveys work must be treated at the conceptual level by a registered surveyor rather than being involved at the execution stage of projects.
- Legislation for the establishment of Polytechnic Commission in Nigeria.
- Intensive training and retraining of academic and non academic staff.
- Enforcement of regular and frequent curricula review

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- Acquisition modern equipment.
- Set up a single committee to address issues of unions(academic and non academics)
- Incentives to staff to ensure their retention
- Entrepreneurship studies for self reliance.
- Private practice in northern states must be encouraged to attract younger ones and also engage the services of the retirees to what they know best.
- Good Leadership and Management

13.0 Conclusion

- I will like to conclude my presentations by quoting Professor Enemark who said,
“Mordern Surveyor has to be capable not only of managing within change but managing the change”

THANK YOU FOR LISTENING