

# **Faculty of Surveying = Panacea for Name Change SAGA**

**Anwuri Omakweninye OKWERE, Nigeria**

**Key Words:** Education, Surveying & Name Change

## **SUMMARY**

Over the last decade, there has been serious controversy on the proper name and status to be given to our dear old profession “SURVEYING”.

To quell this controversy and to give “SURVEYING” its desired identity, stability, specialization, diversification and development, we propose that “SURVEYING” be accorded the status of a “FACULTY” in institutions of learning worldwide with the following as departments:

Department of Land Surveying (Geodesy)

Department of Aerial Surveying (Photogrammetry/Remote Sensing)

Department of Sea Surveying (Hydrography)

Department of Estate Surveying

Department of Quantity Surveying

Department of Building Surveying (Architecture)

Department of Planning Surveying (Urban &Regional Planning)

# Faculty of Surveying = Panacea for Name Change SAGA

Anwuri Omakweninye OKWERE, Nigeria

## 1. INTRODUCTION

Surveying which is as old as Medicine and Law had always been taught under the Department of Surveying. The emphasis was to train professionals who were versed mainly in the capture of data from the environment to produce maps, plans and charts for the general use of the populace for different purposes. As technology improved, and different courses were added to the traditional responsibility of surveying, different institutions gave different names to the department such as:

Department of Land Surveying  
Department of Topographic Sciences  
Department of Surveying & Photogrammetry  
Department of Geodetic Sciences  
Department of Hydrography  
Department of Photogrammetry  
Department of Surveying Engineering  
Institute for Aero Space Surveys etc.

With the introduction of computers, satellite technology, and global positioning systems (GPS) into the teaching of surveying, the original traditional role of data capture became seriously revolutionized.

Several schools of thought emerged as to the need to change the name of the department to reflect current trends hence the current Name Change Saga. Several institutions of learning worldwide had favoured one name or the other even to the extent of losing the original name of surveying; hence we now have names like the following;

Department of Geomatics Engineering  
Department of Surveying & Geospatial Engineering  
Department of Surveying & Geoinformatics etc. see table 1

**Table 1. Some Universities offering the Geomatics Programmes**

S/N o	University	Degree offered	Faculty	Location
1.	University of Calgary	B. Sc. Geomatics Engineering	Engineering	Canada
2.	University of New Brunswick	B. Sc. Geodesy and Geomatics	Engineering	Canada
3.	Imperial College of Science,	B. Sc. Geomatics Engineering	Engineering	U.K

	Technology and Medicine			
4.	University College London	B. Sc. Geomatics Engineering	Engineering	U.K
5.	University of Melbourne	B. Sc. Geomatics Engineering	Engineering	Australia
6.	University of new south Wales (UNSW)	B. Sc. Geomatics Engineering	Engineering	Australia
7.	University of Queensland	B. Sc. Geomatics Engineering	Engineering	Australia
1	Purdue University	B. Sc. (LSE) and B.S. (LSE & BSCE)	Engineering	West-Lafayette , USA
9.	Ohio State University	B.S (Geomatics Engineering)	Engineering	Columbu s, USA
10	University of Wisconsin	B.S (Geomatics Engineering)	Engineering	Wisconsin USA
11.	University of Maine	B. Sc. (Spatial Information Engineering)	Engineering	Orono, USA
12.	University of Cape Town	B. Sc. (Geomatics)	Engineering	South Africa
13.	Kwame Nkrumah University of Science and Tech. Kumasi	B.Sc. (Geodetic Engineering)	Engineering	Ghana
14.	University of Lagos	B.Sc. Surveying & Geoinformatics	Engineering	Nigeria
15.	Ahmadu Bello University, Zaria	B.Sc. Surveying & Geoinformatics	Engineering	Nigeria
16.	University of Nigeria, Enugu	B.Sc. Surveying & Geoinformatics	Environmental Sciences	Nigeria

In order not to lose track of our traditional identity, some scholars have had to still attach surveying to the new names hence the name Department of Surveying & Geoinformatics. One wonders whether these current trends in technology affected only the surveying profession because other disciplines have not changed names of their departments despite these tremendous changes, rather it had attracted additional departments to the existing ones.

We are witnesses to the various revolutions in Medicine, Engineering etc. These changes did not change the original name may be because they already exist as faculties. It is highly unimaginable that the survey profession which is as old as ancient civilization and comparable only to professions of medicine and law still exist as departments instead of faculties in tertiary institutions worldwide. Worst still even the existing survey departments have become brides that are being wooed by professions like Engineering and /or Environmental Sciences.

As the debate rages on we wish to note that the first three countries that started this name change saga namely Australia, Canada and New Zealand had now proposed reverting back to the original name having realized that the name change did not achieve the desired goal. We wish to

state here that the only possible solution to this controversy is to give “SURVEYING” a “FACULTY STATUS’ in institutions of learning worldwide

## **2. DISCIPLINES OR ASPECTS OF SURVEYING**

The word surveying has been defined as the process of taking a general view of Land, Estate, Water, Building, Mines etc. by making observations and measurements aimed of determining the size, shape, position, location, value, quantity, condition and ending with the presentation of the field data in an acceptable form namely: maps, plans, charts, written reports, bills of quantities, etc. (Wilson 1977).

Consistent with the above definitions, we distinguish about six disciplines of surveying namely Land surveying with the following aspects; Cadastral, Engineering, Topographic and Geodesy.

Sea Surveying or Hydrography

Aerial Surveying or Photogrammetry which includes Remote Sensing

Estate Surveying or Auctioneers and Valuers

Quantity Surveying concerned with Building or Project Quantities and Costs.

Building Surveying or Practical Architects

Planning Surveying

The last four disciplines of Estate, Quantity, Building and Planning Surveying already exist as Departments in different Faculties with approved academic curricula; whereas the first three had always been lumped together into one Survey or Land Surveying Department in either the Faculty of Engineering as in the University of Lagos, Ahmadu Bello University, Zaria or in the Faculty of Environmental Science as in the University of Nigeria , Enugu Campus, the Rivers State University of Science and Technology, Port Harcourt and Kaduna Polytechnic, Kaduna, Nnamdi Azikiwe University, Awka, Federal University of Technology Minna.

The academic curricula for the Survey or Land Surveying Department is such that the students admitted into this Departments are made to study all the programmes or aspects of the different disciplines of Land Surveying, i.e. Geodesy, Photogrammetry, Remote Sensing, Hydrography, Cadastral Surveying, Engineering Surveying, Mining Surveying , Topographic Surveying etc., in five years. It is also worthy of note that each of these disciplines of Surveying (Land, Air and Sea) are as distinct from one another as Accountancy and Banking and Finance; Geology and Geophysics; Mathematics and Statistics; Chemical Engineering and Mechanical Engineering which exist as separate departments in the Nigerian Tertiary Institution today.

However, in some institution worldwide, some of these Survey disciplines have been accorded Departmental status in various Faculties. Examples include Department of Geodetic Science Ohio State University, Ohio; Department of Topographic Science, College of Environmental Science, Kaduna; Department of Hydrography, Plymouth Polytechnic, England; Department of

Photogrammetry, Laval University, Quebec; Institute for Aerospace Survey Ile-Ife; Department of Hydrography, Rivers State Polytechnic, Bori.

### **3. ESTABLISHMENT OF SURVEY FACULTIES IN NIGERIAN UNIVERSITIES**

From the foregoing, it is clear that each of the first three disciplines of Land, Sea and Air Surveying can be conveniently run as departments under a 'Faculty of Surveying'. To enhance survey training in Nigeria in the third millennium, this paper therefore advocates the establishment of Faculty of Surveying in our University with the following departments of Land Surveying, Department of Photogrammetry and Remote Sensing, Department of Hydrography, Department of Estate Surveying, Department of Quantity Surveying, Department of Building Surveying and Department of Planning Surveying.

It is highly unimaginable that the surveying profession which is as old as ancient civilization and comparable only to professions like Medicine and Law still exist as departments in our tertiary institutions. Worse still, even the Survey Departments that exist have become brides that are being wooed constantly by Engineering and/or Environmental Sciences. This present trend of establishing Survey Departments encompassing Land, Sea and Air Surveying under the Faculty of Engineering and/or Environmental Sciences instead of several departments under a Faculty of Surveying gives room to

#### **3.1 Identity Challenge**

All over the world faculties are established to bring all allied departments under one umbrella, for proper co-ordination control and funding. The naming of faculties tells without ambiguity the departments under it for instance

Faculty of Engineering has the following departments under it:

Department of Mechanical Engineering

Department of Electrical/Electronics Engineering

Department of Agricultural Engineering

Department of Chemical Engineering

Department of Petrochemical Engineering

Department of Marine Engineering

The present Faculty of Environmental Sciences does not immediately reflect the departments presently under it hence the need to change the name to "Faculty of Surveying" which rightly portrays the identity of all the departments under it namely Department of Land Surveying (Geodesy)

Department of Sea Surveying (Hydrography)

Department of Aerial Surveying (Photogrammetry/Remote Sensing)

Department of Estate Surveying

Department of Quantity Surveying

Department of Building Surveying (Architecture)

Department of Planning Surveying (Urban&Regional Planning)  
The graduates from this faculty can be conveniently addressed as” SURVEYORS

### **3.2 Great Burden on Survey Students**

Students admitted into the present Departments of Surveying are made to study all courses of the three major disciplines of Surveying viz. Land Surveying (Cadastral, Engineering, Topographic and Geodetic). Sea Surveying (Hydrography), Air Surveying (Photogrammetry and Remote Sensing) and some elements of Geodesy, Cartography and Geophysics in addition to the service courses of, Mathematics, Computer Science and the University General Courses as well as the attendant practicals. The net result is that the students are not fully and equally exposed to all the techniques and principles in all the various disciplines of Surveying before graduation within the five year period. To reduce the burden on students each institution concentrates on some aspects of Surveying to the detriment of others. For example, the Ahmadu Bello University does little of Hydrography as opposed to the University of Nigeria, Enugu and so on.

### **3.3 Underdevelopment of the Curricula in the Various Disciplines**

This is a direct consequence of the emphasis given to certain aspects of surveying. The result is the underdevelopment of the academic curricula of the various disciplines of Surveying and hence the lack of specialized professional surveyors in Nigeria. For example, there are very few Hydrographers and Photogrammetrist as compared to Land Surveyors.

### **3.4 The Inadequate Funding of the Survey Departments**

The various Survey Departments as presently constituted presents budget proposals to encompass the enormous needs of laboratory, instruments, personnel of the three major disciplines of Surveying (Land, Sea and Air) under a single Department. The case of the Department of Land Surveying in the Rivers State University Of Science and Technology making submissions to the University Of Science and Technology for the purpose of Purchase of materials for laboratories, instruments etc. to the tune of 50 million is noteworthy. It appeared ridiculous and outrageous to the management for a single department and the department ended up getting nothing. Assuming the Department got anything, It will be shared among the pressing needs of the three disciplines of Surveying in the Survey Department. The tendency is that each discipline gets a merger vote to run it, leading to inadequate equipment of each of the disciplines. However, if Surveying is submitting this bill as a Faculty, it will definitely attract more sympathy and more funds.

## **4. REVIEW OF EXISTING EDUCATIONAL STRUCTURE OR CURRICULA**

This paper reviewed the academic curricula of the three different institutions running Survey Departments under different Faculties and found a lot of similarities with a few differences in

course, name and number. The entire existing undergraduate programmes in Land Surveying seem to cover the following key areas:

General Support Courses and Advanced Mathematics

General and Advanced Physics

Computer Science and Statistics

Adjustment Computations

Geology and Geophysics

General Studies

**LAND SURVEYING**

Engineering Surveying

Cadastral Surveying

Topographic Surveying

Field Astronomy

**GEODESY**

Geodetic Astronomy

Geometric Geodesy

Physical Geodesy

Satellite Geodesy

**PHOTOGRAMMETRY AND REMOTE SENSING**

Geometric Photogrammetry

Analogue Photogrammetry

Aerial Photography and Photo Interpretation

Remote Sensing

**SURVEY LAWS AND REGULATION**

Land Law

Land Tenure Systems

Survey Laws and Regulations

**CARTOGRAPHY**

Map Projections

Cartographic Methods

**HYDROGRAPHIC SURVEYING**

Inland Water Surveying

Marine Surveying with emphasis on Discharge Measurement

Sounding and Tidal Analysis

A few differences were noted. For example the course Field Surveying seems to have same course content as Large scale Surveying. Cartography course content also seem to contain elements of Map Compilation course content of other universities. Detailed course content for computations in some curricula is same as in geometric geodesy in another curricula, whereas for Computation II (Theory of Errors) seems to be the same with Adjustment Computations.

The Department of Land Surveying (Rivers State University of Science And Technology) sometime had the course codes as TSC which connotes Topographic Science Department as

against SVY or Surveying. This paper favours the nomenclature of SVY since topographic surveying is only a sub set of the entire course of Land Surveying.

## 5. RECOMMENDED COURSE CURRICULA FOR THE SURVEYING DEPARTMENTS

This paper had two proposals in mind depending on the placement of the supervised industrial work experience scheme (SIWES) in the course structure, Proposal I placed supervised industrial work experience scheme during the long vacations of 2<sup>nd</sup> and 3<sup>rd</sup> years. Proposal II tried to de-emphasize (SIWES) and emphasizes camp based practical projects for the students and staff to achieve the proper monitoring and assessment.

In both proposals, the course code advocated is FSL for Land Surveying Department and FSH for Hydrography Department, FSE for Department of Estate Surveying, FSQ for Quantity Surveying Department, and FSB for Building Surveying Department FSP for Planning Surveying Department especially for the core courses of the related department. For the service courses of Mathematics, Physics, Statistics, Oceanography, Geology, and the university General Courses; the course codes will be as determined by the university or the particular department involved. The course structure being proposed has 18 credit units as the minimum for each semester and about 162 units for the entire programme.

### 5.1 Recommended curricula of the new departments in the proposed faculty of surveying

S/NO	Land Survey Department	Sea Survey Department	Aerial Survey Department
	Year one		
	Semester one		
1	ENG 111 Use of English 1(3)	ENG 111 Use of English 1(3)	ENG 111 Use of English 1(3)
2	MTH 105 General Mathematics(4)	MTH 105 General Mathematics(4)	MTH 105 General Mathematics(4)
3	PHY105 General Physics (4)	PHY105 General Physics (4)	PHY105 General Physics (4)
4	HIS 100 African History(3)	HIS 100 African History(3)	HIS 100 African History(3)
5	FSL 101 Basic Surveying (3)	FSL 101 Swimming and Water Safety (3)	FSL 101 Basic Aerial Survey (3)
6	CMS 111 Introduction to Information Technology (3)	CMS 111 Introduction to Information Technology (3)	CMS 111 Introduction to Information Technology (3)

S/NO	Land Survey Department	Sea Survey Department	Aerial Survey Department
	Year one		
	Semester Two		
1	ENG 112 Use of English II (3)	ENG 112 Use of English II (3)	ENG 112 Use of English II (3)



2	MTH 106 Engineering Mathematics( vectors and matrices) (4)	MTH 106 Engineering Mathematics( vectors and matrices) (4)	MTH 106 Engineering Mathematics( vectors and matrices) (4)
3	PHY106 General Physics II(3)	PHY106 General Physics II (3)	PHY106 General Physics II (3)
4	ANT 100 Anthropology ( Man and Society) (3)	ANT 100 Anthropology ( Man and Society) (3)	ANT 100 Anthropology ( Man and Society) (3)
5	PHI 100 Philosophy (3)	PHI 100 Philosophy (3)	PHI 100 Philosophy (3)
6	FSL 112 Technical Drawing (3)	FSL 112 Fluid Mechanics (3)	FSL 112 Elementary Town Planning (3)

S/NO	Land Survey Department	Sea Survey Department	Aerial Survey Department
	Year Two Semester One		
1	MTH 205 Statistics I (4)	MTH 205 Statistics I (4)	MTH 205 Statistics I (4)
2	PHY 205 Electricity & Magnetism (4)	PHY 205 Electricity & Magnetism (4)	PHY 205 Electricity & Magnetism (4)
3	HIS 200 History Of Science & Technology (3)	HIS 200 History Of Science & Technology (3)	HIS 200 History Of Science & Technology (3)
4	MTH 206 Calculus and Analytic Geometry (3)	MTH 206 Calculus and Analytic Geometry (3)	MTH 206 Calculus and Analytic Geometry (3)
5	FSL 231 Principles of GIS (3)	FSH 231 Principles of GIS/MIS (3)	FSA 217 Introduction to Space Technology (3)
6	GST 211 Peace & Conflict Resolution (3)	GST 211 Peace & Conflict Resolution (3)	GST 211 Peace & Conflict Resolution (3)

S/NO	Land Survey Department	Sea Survey Department	Aerial Survey Department
	Year Two Semester Two		
1	FSL 262 Cadastral (Property) Surveying (3)	FSH 222 Basic Hydrography (3)	FSA 220 Basic Photogrammetry (3)
2	FSL 222 Cartography (3)	FSL 222 Cartography (3)	FSL 222 Cartography (3)
3	PHY 232 Geometric Optics (3)	PHY 232 Geometric Optics (3)	PHY 232 Geometric Optics (3)
4	FSL 224 Field Astronomy (3)	FSH 231 River Engineering (3)	FSA224 Introduction to Aeronautics (3)
5	FSL 242 Map Projections (3)	FSH 231 Hydraulics (3)	FSA 232 Introduction to Photographic Acquisition (3)

6	FSL 261 Engineering Survey (3)	FSL 242 Map Projections (3)	FSL 242 Map Projections (3)
7	CMS 202 Computer Programming & Applications (2)	CMS 202 Computer Programming & Applications (2)	CMS 202 Computer Programming & Applications (2)

**Year Two Long Vacation – Industrial Attachment**

S/NO	Land Survey Department	Sea Survey Department	Aerial Survey Department
1	Year Three Semester One FSL 321 Topographic Surveying (3)	FSH 331 Electronic Surveying & Marine Navigation (3)	FSA 333 Photographic Optics (3)
2	CIV 351 Geology (3)	CIV 353 Introduction to Marine Geology (3)	FSA 331 Settlement Planning/Environmental Studies (3)
3	GST 311 Entrepreneurship Studies (3)	GST 311 Entrepreneurship Studies (3)	GST 311 Entrepreneurship Studies (3)
4	CMS 355 Computer Application to Geoinformatics & Surveying (3)	CMS 353 Computer Application to Hydrography (3)	CMS 357 Computer Application to Photogrammetry & Remote Sensing (3)
5	FSL 357 Potential & Spherical Harmonics (3)	FSH 331 Terrestrial (Shore Control) Survey (3)	FSA 321 Ground Controls for Aerial Photography (3)
6	FSL 353 Applied Mathematical Methods in Surveying (3)	FSH 321 Field Astronomy (4)	FSA 301 Introduction to Meteorology (3)
7	FSL 361 Numeric Methods (2)	FSL 361 Numeric Methods (2)	FSL 361 Numeric Methods (2)

	Year Three Semester Two		
--	-------------------------	--	--

1	FSL 364 Cadastral Surveying II (3)	FSH 372 Sand Search/Dredging Surveys (3)	FSA 342 Aerial Photography (4)
2	LAW 241 Land Law (3)	FSH 324 Riparian Laws (4)	FSA 352 Map Compilation (3)
3	FSL 324 Field Astronomy II (3)	FSH 332 Marine Engineering (3)	FSA 362 Analysis of Imagery (5)
4	FSL 326 Mining/Special Surveys (4)	FSH 344 Water Transportation Planning (3)	FSA 364 Geometric Photogrammetry (3)
5	FSL 312 Electronic Surveys (3)	FSH 354 Physical Oceanography/Coastal Processes (4)	FSA 330 Remote Sensing I (3)
6	FSL 371 GIS Design & Development (3)	FSL 371 GIS Design & Development (3)	FSL 371 GIS Design & Development (3)
7	FSL 350 Computer Aided Surveying (3)	FSH 356 Computer Aided Marine Surveying (3)	FSA 330 Digital Mapping (3)

### **Year Three Long Vacation – Industrial Attachment**

S/NO	Land Survey Department	Sea Survey Department	Aerial Survey Department
	Year Four Semester One		
1	FSL 451 Survey Computation II (3)	FSH 451 Underwater Photography (3)	FSA 453 Aerial Mosaics/Photographic Maps (3)
2	FSL 455 Geometric Geodesy (3)	FSH 443 Inland Water Surveying (3)	FSA 451 Photogrammetry (3)
3	FSL 453 Geodetic Surveying (3)	FSH 455 Sedimentology (3)	FSA 457 Photogrammetric Planning/Execution (3)
4	FSL 475 Surveying Applications in Oil Industry (3)	FSL 475 Surveying Applications in Oil Industry (3)	FSL 475 Surveying Applications in Oil Industry (3)
5	FSL 471 Estate Survey Project (Practical) (4)	FSH 457 Hydrographic Practical Project (4)	FSA 455 Photogrammetry/Remote Sensing Practical Project (4)
6	FSL 461 Cadastral/Land Management (3)	FSH 411 Electronic Surveying/Navigation (3)	FSA 455 Remote Sensing II (3)
7	FSP 471 Environmental Pollution & Control (3)	FSP 471 Environmental Pollution & Control (3)	FSA 459 Aerial Surveying (3)

**Year Four Semester Two- SIWES (15)Units**  
**(CAMP BASED PRACTICAL PROJECTS)**

	Year Five Semester One		
1	FSL 561 Professional Practice in Surveying (3)	FSL 563 Professional Practice in Marine Surveying(3)	FSL 565 Professional Practice in Photogrammetry & Remote Sensing (3)
2	FSL 555 Geophysics/Gravity Surveys (3)	FSH 553 Hydrology (3)	FSA 541 Photo Triangulation (3)
3	FSL 552 Satellite Geodesy (3)	FSH 545 Marine Geodesy (3)	FSA 557 Space Geodesy (3)
4	FSL 571 Technical Report Writing/Seminar (3)	FSL 571 Technical Report Writing/Seminar (3)	FSL 571 Technical Report Writing/Seminar (3)
5	FSL 551 Adjustment Computations (3)	FSH 551 Marine Surveying (3)	FSA 541 Computational Photogrammetry (3)
6	FSL 573 Geospatial Database Analysis & Presentation (3)	FSH 545 Elements of GPS (3)	FSA 531 Analytical Photogrammetry (3)

	Year Five Semester Two		
1	FSL 572 Project Dissertation (6)	FSH 572 Project Dissertation (6)	FSA 572 Project Dissertation (6)
2	FSL 554 Physical Geodesy (3)	FSH 542 Tides & Tidal Analysis (3)	FSA 543 Special Applications in Aerial Surveying (3)
3	FSL 532 Deformation Measurements & Analysis (3)	FSH 514 Offshore Positioning Systems (3)	FSA 536 Remote Sensing II (3)
4	FSL 551 Adjustment Computation II (3)	FSH 526 Soundings (3)	FSA 584 Analogue Photogrammetry (3)
5	FSL 528 Database Creation & Management (3)	FSH 544 Current/Discharge Measurements (3)	FSL 532 Environmental Resource Management (3)

## 6. CONCLUSION

There is no doubt that the surveying profession has not taken its proper place in the University system. To be able to meet the academic and professional needs of the Surveying profession; Surveying should be accorded a Faculty status in the Universities. As a follow up, the paper has examined and reviewed the existing survey curricula and recommended a proposed course structure for various departments of the Surveying Faculty. The paper has favored the proposal that encourages camp-based projects directly supervised by lecturers of the departments. This is because the result of (SIWES) Supervised Industrial Work Experience Scheme over the years has not been satisfactory.

The International Federation of Surveyors(FIG), Nigerian Institution of Surveyors, Commonwealth Association of Surveyors and Land Economy(CASLE),Royal Institute of Chartered Surveyors(RICS) and other well-meaning associations and individuals are encouraged to foster this fight for the establishment of Survey Faculties in Universities worldwide in this millennium, since this would not only attract better funding for the survey departments, but will also bring all Survey professions under one umbrella and give full meaning to the realization of the establishment of organizations like FIG,CASLE,RICS and improve on the gross lack of manpower and equipment in the various fields of surveying and enhance the training of surveying in the third millennium.

## APPENDIX

### CURRICULA OF EXISTING DEPARTMENTS THAT SHOULD BELONG TO THE FACULTY OF SURVEYING

- (A) QUANTITY SURVEYING
- (B) ESTATE MANAGEMENT (ESTATE SURVEYING)
- (C) ARCHITECTURE (BUILDING SURVEYING)
- (D) ENVIRONMENTAL (PLANNING) SURVEYING DEPARTMENT

## REFERENCES

1. Anon (1979) "Graduate Surveyor, (Vol. 111)" Enugu; Surveying Students Association, University of Nigeria.
2. Anon (1988) "Graduate Surveyor (9<sup>th</sup> Edition)" Enugu; Surveying Students Association, University of Nigeria.
3. Anon (1989) "National University Commission, Surveying (Cap 8) Curriculum- (1988/89) Session", Abuja: NUC Publication.
4. Anon (1984) "RSUST Department of Land Surveying B. Tech. Curriculum", Rivers State University of Science and Technology, Port Harcourt. Mimeo.
5. Anon (1984) "RSUST- IFERT, MPhil Curriculum", Rivers State University of Science and Technology, Port Harcourt. Mimeo.
6. Anon (1983) "UCL- Diploma/M.Sc. Curriculum 1982/1983 Session" London: London University Press.
7. Chris Rizos (2012) "New Name for Geospatial and Surveying Programme"
8. Fubara Dagogo (2012) "Name Problems from Australia about Department of Land Surveying Naming"
9. Fubara, D. M. J. (1979) "Extent and Utilities of Mathematics in Surveying" A lecture delivered in Port Harcourt, February 23.
10. Hallert, B. (1960): *Photogrammetry*, New York: McGraw Hill Book Company.
11. Morris, M. Thompson (ed), 1966: *Manual of Photogrammetry* (Vol. 1, Third Edition), Fall Church: American Society of Photogrammetry.
12. Orupabo S and Okwere A. (2005), Geomatics in Environmental Management. The Niger Delta Case Journal of Niger Delta Research, IFS vol.3 No 2 ISSN 1116-7130.
13. Wilson, J. P. Ramsay (1977): *Land Surveying*, Suffolk: The Chaucer Press.

## BIOGRAPHICAL NOTES

Sir(Surv.) Anwuri Omakweninye Okwere was born on the 24<sup>th</sup> day of May, 1953 into the Christian family of Rt.Rev. C.E Okwere and Mrs. Priscilla Mamai Okwere all of blessed memory in Omoviri-Rumuekpe in Emohua Local Government of Rivers State of Nigeria.

He attended the following schools and obtained the attendant qualifications.

Bishop Crowther Memorial School, Abonnema 1960-1965 FSLC, DISTINCTION.

County Grammar School, Ikwerre-Etche 1966-1971 WASC DIVISION TWO.

University of Nigeria Enugu Campus 1974-1979, BSc (HONS), SECOND CLASS UPPER.

University of Lagos, 1985-1986 (MSc Surveying).

He later gained employment into the Rivers State University of Science & Technology where he rose from Assistant Lecturer in 1980 to his present position of Senior Lecturer/Ag Head of Department of Land Surveying.

Surv. A.O.Okwere later got registered with the Surveyors Council of Nigeria in 1991 with registration no 591. He was also knighted by the Diocese of Ikwerre Anglican communion in 2009 as a result of his numerous contributions to the church.

He has to his credit five (5) conference papers, three (3) journal papers and contributed two (2) chapters in the book "Introduction to Environmental Sciences edited by Prof. Yomi Oruwari as listed below.

Planning at the Local Level-The role of the Land Surveyor, Port-Harcourt, 1982.

Academic Curricula for Surveying Faculty in the 1990s, Kaduna,1989.

Surveying and Wealth creation at the Local Government Levels, PortHarcourt,2009

Mapping for Sustainable Infrastructural Development in Nigeria , Enugu 2000.

**Gravity Inversion for identification of crustal anomalies and dynamics Enugu NAG 2011.**

Enhancing Survey Training in the 3<sup>rd</sup> Millelium in the Nigerian Journal of Environmental Sciences vol 1, December 2001.

Need for Curriculum Restructuring for Faculty of Surveying in the African Journal of Agricultural Teacher Education volx no1/2 2001

Geomatics in Environmental Management. The Niger Delta Case Journal of Niger Delta Research, IFS vol.3 No 2 ISSN 1116-7130. (2005)

His research interest is "Design Principles and problems in the Building of Surveying Instruments from local products."

Surv. A.O.Okwere is married with three (3) children. He is a member of the following associations

Ekpne Star Club of Rumuekpe

Ikwerre Development Association

Ogbakor Ikwerre REO Branch

Men's Christian Association (MCA) of the Anglican communion.

Council of Knights of Diocese of Ikwerre Anglican communion

Academic Staff Union of Universities (ASUU RUST BRANCH)

Nigerian Institution of Surveyors (NIS) Rivers State Branch representing the state as Council Rep. in NIS Council.

## CONTACT

Name: Anwuri Omakweninye Okwere

Institution: Rivers State University of Science & Technology, Nkpolu Oroworukwo.  
Portharcourt.

Address: #14 wobasi street rumuodomaya

City: Port-Harcourt City

Country: Nigeria

Tel: +2348037058974

E-mail: okwereo@yahoo.com