

# URBAN AND REGIONAL PLANNING IN NIGERIA: A CALL FOR A REVIEW OF THE SYLLABUS

*Balogun, Toju Francis and Nnaka, Paul Onwujiobi*

## Abstract

The need to keep pace with the current happenings in technological advancement in urban management technique was identified. To achieve this, those who are saddled with the responsibility of managing the urban environment should be at breast with (his technology. To this end, the paper reviewed the approved syllabus that was prepared by the Town Planners Registration Council (TOPREC) in conjunction with the Nigerian Institute of Town Planners (NITP). This was compared with syllabus from advanced countries. It was observed that the syllabus used in training urban and regional planning students in Nigeria is grossly inadequate in the area of Remote Sensing and Geographic Information System (GIS). Considering the fact that these are dynamic techniques used in managing a dynamic entities like urban areas, the paper therefore call for a review of urban and regional planning syllabus and suggested the inclusion of these courses. In addition, it recommended in-service training in the area of Remote Sensing and Geographical Information System for the practising urban planners and urban planning teachers.

## Introduction

Simply, the word 'planning' means formulating or drawing up or making a proposal for something to be done or carried out. Wingfield (1971), defined planning as "a continuing program of data collection and analysis; public policy formulation (in the light of available data and forecast); and administration (implementation) of (he resulting policy." The above definition, good as it may be, is yet incomplete because of the variables and perspectives involved in planning. Planning in the broad sense contemplates the evolvement of an overall program or design of the present and future physical development of the total area (environment) and service of the existing contemplated area, be it a town, urban or municipality. The program or design for the contemplated area should be related to the social and economic well being, for the fulfillment of the rightful common destiny, based on careful and comprehensive survey and studies of present conditions and prospects of future growth of the area, and embodying scientific teachings as well as creative experience.

Planning is seen as a technical process that involves design, and engineering; a social process involving the enumeration and realization of human goals and aspirations; and the promotion of environmental framework which is conducive to human life. Politically, it is seen as a process involving the formulation and execution of public policy which has to do with enumeration, establishing, weighting and reconciling of different views held within a society about how the society should be organized; its resources deployed and how far the individuals may be restrained, constrained or coerced in the interest of others (Roberts, 1974). Therefore, planning is a process of identifying and making choices among various possible uses of productive resources and then ensuring that the preferred uses arc achieved. This involves different alternatives or options that appear open for the future in which the choices are made and then securing implementation, which depends on the allocation of the necessary resources available. The possible alternatives presented must be followed with careful judgment; and knowledge of some preconceived information, possible consequences and measure of uncertainty. In doing so, the aim is to minimize uncertainty and maximize the outcome.

According to Odens (1990), (he term 'planning' covers a wide range of activities. In the planning literature, strategic planning is often distinguished from operational planning. Strategic planning has to do with long and medium term decision making. It often involves a lot of research, discussions, consultations and negotiations. The activities that support decision making can be split into two groups: the organization of the decision making process itself and the production of tangible results, in the form of plans, programmes and projects initiatives. These two aspects of strategic planning arc often referred to ns procedural and substantive planning. Procedural planning produces

the organizational and decision making infrastructure in which substantive planners can produce research reports, policy reports, information materials, and, eventually, official plans, plan revisions implementation programmes and projects outlines. Initiatives and control activities connected with the implementation of plan that are in force are called operational planning or action-oriented planning applications. This planning aspect involves the judgement of application and issuing of permits with respect to development, building and installation. But it can also include the monitoring and control of projects in progress. At higher tiers of government, the evaluation and approval of planning activities performed by lower governmental bodies, is part of operational planning.

According to McLoughlin (1970), planning seeks to regulate or control the activities of individuals and groups in such a way as to minimize the bad effect, which may arise, and to promote better performance of the physical environment in accordance with a set of broad goals and more specific objectives contained in a plan. In all, planning connotes a systematic development of a municipality to promote the general welfare and prosperity of its people with the greatest efficiency and economy, health and safety of the people and the environment. The above shows that, planning is dynamic. However, this element of dynamism is lacking in the curriculum used in the training of our planners in Nigeria, for example, areas like Remote Sensing (RS), Geographical Information System (GIS), Land Information System and Computer (LIS) and Computer Technology which are dynamic in approach are seriously missing in the curriculum. The need for the review in the curriculum in order to meet the current need therefore forms the thrust of this paper.

### **The Need for Proper Training of Planners**

Professionals such as planners; who are involved in the planning activities revolving around the wellbeing of man and his environment must be ready and willing to accept and utilize new technology through training. Nowadays, plan preparation, implementation, and monitoring require good training skills in the use of the computer to be able to handle the required data available in it and regional planning activities demand rigorous training and versatility on different fields on part of them would be planners. Equally, the success and progress of any profession is dependent on the training and investment in the new technology at its disposal. Hence the training of planners must include gathering, interpretation and use of current technology in data processing. The institution must provide the equipments and trained professionals to handle the training of the professional (planners). Not much of these training and equipment are available in the planning programs in the planning schools in Nigeria. Where the programs are included in the curriculum, there are no equipments provided for the training as government pays only a lip-service attention to most of the programs in the training institutions. Equally the professional bodies The Nigerian Institute of Town Planners (NITP) and Town Planning Registration Council (TOPRLC) have a few courses in their syllabus for the training. Recently some workshop programs have been organized by NITP and TOPREC in computer and GIS application to planning. This is recognition by the professional bodies of the usefulness and power of technologies. However, this recognition has not been reflected in the approved curriculum drawn by NITP/TOPRLC for the training of professional planners in Nigeria

In urban and regional planning, current maps, information on landscape, land use, and resources, etc must be utilized. The current maps and resource data for areas being planned could be provided through Remote Sensing and GIS, as is the case of the Niger Delta Area. This is also being applied in other parts of the country, such as Abuja, Ibadan, and Lagos. Hence, it is necessary to include the minimum basic courses in GIS, remote sensing, and computer knowledge and skill in the programs meant for the training of the planners. Efforts should be made to see that the equipments for the training are provided in the institutions including human resource.

### **Review of Syllabus for Professional Urban and Regional Planning Program**

The singular task of reviewing, streamlining and hence ensuring uniformity in

Urban and Regional Planning Program by TOPRLC and NITP rest on (he mandate contained in section 1 (2b A. 2c) of Decree No 3 of 19X8, (the enabling law) establishing it. The bodies are to control and regulate the practice of the profession in all its aspects and ramifications. The Town Planners Registration Council (TOPRLC) in conjunction with the Nigerian Institute of Town Planners (NITP) drew a comprehensive syllabus for the profession, which was adopted by all institutions and private students

in Nigeria since 1<sup>st</sup>October, 1995. Table I shows, the approved syllabus for the training of Urban and Regional Planners in Nigeria.

**Table 1: Preliminary Examinations Part (I)**

- URP -101 Quantitative Techniques in Planning I
- URP -102 Elements of Settlement Studies
- URP -103 Planning Studio I
- URP -104 History of Town Planning
- URP -105 Town Planning Principles and Techniques
- URP -106 Planning Model Making
- URP -107 Land use Planning

**Part (II)**

- URP -201 Land Survey
- URP -202 Social Aspects of Planning
- URP -203 Introductions to Economics
- URP -204 Transportation Planning I
- URP -205 Building Design and Construction
- URP -206 Housing I
- URP -207 Planning Studio 11

**Part (III)**

- URP -301 Public Utilities and Services
- URP -302 Computer Applications in Planning
- URP -303 Land Law
- URP -304 Urban Design Theory
- URP -305 Planning Administration
- URP -306 Planning Studio III
- URP -307 Terminal Project

**(b) Intermediate**

**Examinations Part (I)**

- URP -401 Land Economics
- URP -402 Research Methods in Planning
- URP -403 History of Town Planning
- URP -404 Population and Urbanization Studies
- URP -405 Planning Studio IV
- URP -406 Landscapes Planning I
- URP -407 Rural Planning

**Part (II)**

- URP -501 Housing II
- URP -502 Tourism and Recreation Planning
- URP -503 National Development Planning
- URP -504 Transportation Planning II
- URP -505 Planning Studio V
- URP -506 Regional Planning

**Part (III)**

- URP -601 Urban and Regional Planning Law
- URP -602 Development Control

URP -603 Site Selection and Planning  
 URP -604 Planning Studio VI  
 URP -605 Professional Practice

URP -606 Dissertation Commencement (c)

**Final (examination Part I**

URP -701 History and Evolution of Planning Thought URP  
 -702 Planning Theory  
 URP -703 Planning Studio VII  
 URP -704 Advanced Planning Principles and Techniques  
 URP -705 Landscape Planning ID  
 URP -706 Transportation Planning III  
 URP -707 Population and Urbanization Studies II

*Part (II)*

URP -801 Regional Analysis  
 URP -802 Urban Economics  
 URP -803 Quantitative Techniques in Planning II (Descriptive Statistics)  
 URP -804 Mousing III  
 URP -805 Resettlement Planning  
 URP -806 Regional Planning Studio  
 URP -807 Planning Seminar  
 URP -808 Environmental Engineering

*Part (III)*

URP -901 Planning Practice II  
 URP -902 Planning Law and Administration  
 URP -903 Project Planning and Evaluation  
 URP -904 Environmental and Resources Management  
 URP -905 Dissertation

Source: NITP/TOPREC.

A look at the curricula from different institutions in Nigeria is nothing different since they are based on the curriculum prepared for them by TOPREC/NITP. The objective of URP program is to provide theoretical and practical training in the field of urban and regional planning. The program is structured into three levels namely Technician (ND) Technologist (HNI), and Postgraduate (PG).

A critical look at the syllabus shows that, from the technician level to professional level in URP, it is only in *URP 704: Advanced Planning Principles and Techniques* that planning students can have a feel of Aerial - photo Interpretation (API) and Remote Sensing (RS). The course contents of URP 704 are voluminous such that AP & RS could just be mentioned in passing or at most treated as a topic. Especially, as the course content of *URP 704: Advanced Planning Principles and Techniques* consist of several techniques and principles. A planner who is trained in Nigeria from National Diploma to a professional level takes about 60 courses. Out of these 60 courses Aerial-photo Interpretation, CIS and Remote Sensing could be utilized as techniques in data gathering, analysis and presentation in about one third of the courses listed in Table 1.

Town and Regional Planning curriculum in Europe, America, Asia and Australia is different from what operates in Nigeria, time and space will not permit us to review curriculum from all these continents but a look at Eastern Michigan University's Urban & Regional Planning Programs will suffice.

*Undergraduate* GPLN 276 -- Principles of Geographical Information System - 3 units  
 GESC 305 -- Aerial Photo interpretation - 3 units GESC 476 --  
 Introductions to Geographical Information System - 3units

There are nine (9) units in an undergraduate program

*Graduate* GEOG 579 Geographical Information System - 2 units

GEOG585 - Geographical Information System Application - 3units  
GEOG 575 - Aerial Photographic Interpretation - 3units  
GEO 582 - Remote sensing of Earth Resources - 3units  
GEOG 584 -Visual Program for Geographical Information System Customization - 2units  
GEOG 66 8 — Geographical Information System Project - 2 units  
GEOG 678 — Advanced Application of Geographical Information System- 3units.

The above shows, a big difference from what is obtainable in Nigeria. Planning without current and accurate data is an exercise in futility. Planning is complex because urban areas are dynamic entities. Planning for a dynamic entity requires dynamic methods of data gathering techniques and analysis such as Remote Sensing (RS) and Geographic Information System (GIS). Using a static method has been a total failure because before the planning is completed the situation has changed and the essence of planning is defeated. Thus, planners need to be trained in dynamic methods of data collection and processing for planning exercise.

Accurate information is a pre-requisite for proper urban management. The era of lack of current data is gone. Nigeria has joined the nations having satellite in the space that generates data that have repetitive coverage of 14 days with resolution of 32m. Thus, it is no longer the issue of lack of access to US base satellite image or foreign exchange to purchase satellite image. Even where the resolution of NigraSal-1 is low for detailed urban analysis, Ikonos or Quickbird products of 1 meter resolution could be arranged for. The absence of these courses in the curriculum of Urban and Regional Planning (URP) in Nigeria, where data are greatly needed for planning must be an oversight and something must be done to correct the error. We suggest that at least 3 courses (one for Aerial Photo Interpretation (API), one for Remote Sensing (RS) and one for Geographic Information System (GIS) be included in the curriculum as compulsory while additional three be made optional.

### **Geographic Information System/Land Information System, Remote Sensing and Computer Technology**

The Geographic Information System (GIS) is an integrated computer hardware and software, which captures, stores, analyses and displays geographical referenced information on the earth surface. The satellite procures information and data concerning the earth in the form of images by remote sensing. Remote sensing is the method of gathering spatial data of any environment without having any physical contact with the objects and features of the environment. A global coverage of the earth with spatial resolutions and repetition rates varying from one platform to another is being provided by satellite orbiters (Adeoye, 2004). The data when captured are transmitted back to the control station of the satellite on earth surface from where the information could be obtained on request (Adeoye, 2004). These data when processed are part of the decision support tools and materials required by planners in the visualization of real-world situation in order to analyze, identify options and implement planning programs. The data captured aids in solving complex human and environmental related problems for the wellbeing of man and his total environment. Planning deals with the overall well being of man and the environment. Therefore, it is necessary for planners, policy makers and administrators to acquaint themselves with these tools, their procedure and structures for their effective operation within the system they find themselves. But the interpretation and usability of the data/information by the city planner or anyone depends on the training, skills, knowledge, and technology possessed by the user including computer and management skills (Obermeyer, 2001). Hence, there is the need for training in GIS/EIS and computer technology.

### **Hardware, Software and Humanware for The Training in R.S, GIS and Computer**

The low funding of educational institutions in Nigeria and the high exchange rate make it prohibitive to dream of R.S and GIS laboratory (Abumere et al., 1997). That was the situation then. Currently, the lifting of de-certification of Nigerian government by the USA and the fall in the price of computer accessories in the market coupled with Nigeria government's interest in Information and Communication Technology (ICT), the situation is more favourable. Anything worth doing is worth doing well. Our institutions should be encouraged to invest money in acquiring hardware and software for the training of our future planners.

#### **The Humanware Aspect**

Major users of the data generated as a result of inventory and mapping are also responsible for formulation and execution of plans prepared for the management of the urban areas. The data are also used for policy and planning purposes at the national, regional, state or local levels. The states are m dare

need of officers working at different levels to develop appreciation and practical knowledge of the use of these tools in the field of urban and regional planning. This therefore calls for capacity building, which could be achieved through short term programs, seminars and workshops. NITP and TOPREC have started this.

### **Training the Trainers**

There are institutions in the country that impart training in R.S and GIS applications like University of Ibadan, University of Lagos, Obafemi Awolowo University, University of Benin, University of Technology, Minna run programs at B.Sc/B. Tech., MSc. and Ph.D. levels. Also Regional Centre for Aero Space Technology (RECTA) and School of Survey, Oyo, run ND, IINI PGD, and short programs. Graduates from these institutions are available for employment for teaching jobs in the departments of URP. Besides, teaching staff from Geography Departments with specialization in GIS and remote sensing could be associate lecturers to Urban and Regional Planning Departments. In addition, in-service training is another option available to develop URP staff Internship for URP students in any of the schools mentioned above. Shell and other private organizations will be a means of giving practical training to the students.

### **Relevance and Acceptance**

RS and GIS techniques have been fully accepted as tools for spatial management and form structural components of information infrastructures in both the public and private sectors of society (Martien Molenaar, 2002). While conventional management tools were an integral part of training courses imparted in the early days of the program gradual emphasis has shifted to impacting training in the visual analysis of satellite imagery and then to digital image processing and GIS.

The URP curriculum used in field training of planners in Nigeria is ten years old and there is - the need for reviewing the curriculum. We are in a dynamic world. Therefore, care must be taken to ensure that the scope and curriculum of our training programs are in tune with the input developments.

The relevance of RS and GIS technologies in urban environment in Nigeria has been tested and findings have been very encouraging. Results were found to be reliable and required much less time than conventional methods. Examples of research works include Urban Growth and Trend of Growth (Balogun, 1991); estimation of Urban Population Using Aerial Photo Interpretation (Olorunfemi, 1984); Site Selection with the aid of GIS (Balogun, 1998); and Land Use and Land Cover Inventory in Lagos with "The Use of Computer and Aerial Photo Interpretation (Ademyi, 1998) and a host of others.

There are many possibilities of application of the GIS technology in urban and regional planning. This is especially the case for the substantive part of the planning activities. GIS can be employed for nearly all research that involves land based spatial analysis and modelling. Especially for area monitoring (both on a sectoral and integral basis) regional potential and feasibility analysis"- and site selection studies, the present day GIS systems offer good functionality (Ottens, 1990).

### **Recommendations**

In the light of the above, this paper recommends the following:

- An urgent review and the inclusion of Remote Sensing and Geographic Information System (GIS) into the *TOPREC* and NITP syllabus used for the training of urban and regional planning students.
- TOPREC and NITP should jointly organise workshop for the urban and regional planners and trainers.
- Knowledge of Remote Sensing and Geographical Information System (GIS) should be mandatory for qualification for registration into the Nigerian Institute of Town Planners as it is done by Nigerian Institute of Surveyors.
- Major projects, which require Environmental Impact Assessment (EIA), should demand the use of Geographical Information System (GIS).

### **Conclusion**

An information base (physical, social and economic) is required by regional and urban planners / administrators at all stages of the planning cycle. Maintenance of strong databases, which can be conveniently used, by various professionals, administrators and others is of great utility for the day to day and long term development and management of cities.

Fortunately,, the modern technologies of aerial photography, satellite remote sensing and computer assisted land information systems allow us to collect a mass of physical data rather easily,

reliably, and at a less cost than by conventional methods. These technologies, if well utilized could be used to build a database needed by urban managers. Regrettably, the technological base has not been fully exploited. This has resulted in large information gaps for physical planning and land management. Even the problem areas where this technology can come to the rescue have not been properly identified and prioritized (Morris, 1990). The continuing process of change and development has reached such dimensions that scientific analysis and professional know-how are badly needed for dealing with the manifold and complex problems of urban administration, management and planning. For this scientific and professional approach, efficient and effective methods of collecting and analyzing reliable information on physical, social and economic features are indispensable (Pracbhakar, 1987). Aerial photographs and other remotely sensed data products that have repetitive coverage are very useful for the study of urban growth, and trends of growth, study of the types of residential areas, space use mapping anti site suitability study, slum detection, monitoring and upgrading, traffic studies and catchment's area analysis. It can also be used to collect information on morphology, density, and number of dwellings and estimation of population.

When aerial photo interpretation is combined with geographical information system it becomes a very powerful tool in the analysis of planning problems. With the available data and facilities for integration and analysis, it is possible to create an urban information system where updating, and monitoring easily be carried out. One way of bridging the gap between potential and actual application of these techniques is to include it in the curriculum. At least, planners should be aware of the existence and sources of the data and be able to assemble the data at need, process and use them for planning. The future planning professionals must be shown the importance of this technology when they are students, so that once in practice they can influence the implementation of the technology.

## References

- Abumere, S. Areola, O. and Ayeni, B. (1997). *A model GIS laboratory for higher education in a developing country: The example of the GIS lab*. University of Ibadan, Nigeria.
- Adeniyi, P. O. (1980). Landuse change analysis using sequential aerial photography and computer technique. *Photogrammetric Engineering and Remote Sensing*, Vol. 46, No.11, pp. 1447-1464.
- Adeoye, A. A. (2004). *Concepts, principles, hardware and software of geographic information system/land information systems (GIS/LIS) in NITP and TOPREC*. Mandatory Continuing Professional Development Programmes (MCPDP).
- Arinola, L. L., (2004). Data acquisition, processing and conversion for digital execution of urban and regional planning projects: 2004 mandatory continuing professional development programme (MCPDP). *The Nigeria Institute of Town Planners (NITP) and the Town Planners Registration Council (TOPREC)*.
- Balogun, T. F. (1997). Application of GIS for the selection of suitable site for the re-location of national museum. Benin City: *Unpublished M.Sc. Thesis*, Geography Department, University of Ibadan.
- Balogun, T. F. (1999). Application of sequential aerial photography in the acquisition of data on urban land use change. *Georesearch*, No. 4, December, pp 34-41.
- Banvctez, J. M. (1971). *Managing the modern city*. The international city managements Association Washington, D. C.
- Chapin, S. F. (Jnr.) (1978). *Urban land use planning* 2nd Edition, Urbana, University of Illinois Press <http://www.enrich.edu/public/gco/curriculum.html> Eastern Michigan University. Urban and Planning.
- Gallion, A. B. and Simon, E. (1975). *The urban pattern city planning and design*. New York: D. Van Norstrand Company.
- Goodman, W. I. and Freund, F. C. (Ed.) (1968). *Principles and practice of Urban planning* Washington, D.C.: The International City Managers Association.
- Lee, C. (1973). *Models in planning, an introduction to the use of quantitative models in planning* New York: Pergammon Press.

- Martien, M. (2002). Capacity building for geo-informatics in Africa: An ITC perspective. *A keynote address at the ISPRS commission VI workshop on development and technology transfer in geomatics for environmental and resource management* [http://www.itc.nl/-aarsc/symposia/ISPRS\\_DAR\\_REPORT\\_HIGHLIGHTS.doc](http://www.itc.nl/-aarsc/symposia/ISPRS_DAR_REPORT_HIGHLIGHTS.doc)
- McLoughlin, J. B. (1970). *Urban and regional planning: A system approach*. London: Faber and Faber Limited.
- Juppenlatz, M. (1990). The role of urban surveys in third world development. *ITC Journal* Vol 3 Nigerian Institute of Town Planners (NITP) and The Town Planners Registration Council (TOPREC) (1995) *Reviewed Syllabus for professional Programmes in Urban and Regional Planning*. Lagos: NITP/TOPREC.
- Obermeyer, N. (2001). *Geographic information system (GIS) for planning*. Indiana, Terre Haute.
- Olorunfemi, J. F. (1984) Land use and population: A linking model. *Photogrammetric Engineering and Remote Sensing*. Vol. 50, No. 2 February, pp. 221-227.
- Henk, O F.L. (1990). The application of geographical information systems in urban and regional planning. In *Geographical Information Systems for Urban and Regional Planning*. Edited by Henk J. Scholten and John C. Hill. Stillwell Kluwer. London: Academic Publishers, Pp 15-22.
- Parker, J. K. (1971). Tools of management. In Banovetz James, M. (Ed.), *Managing the Modern City*. The International City Management Association Washington, DC, USA.
- Roberts, Margaret (1974). *An introduction to town planning techniques*. London: Hutchinson & Co (Publishers) Ltd.
- Wingfield, C J. (1971). City planning. In James, M. Banovetz (Ed.), *Managing the Modern City*. Washington, D.C.: The International City Management, USA.