



Proceedings of



3rd INTERNATIONAL CONFERENCE ON Transport Technology

Organized by:

**NIGERIAN INSTITUTE OF TRANSPORT
TECHNOLOGY (NITT), ZARIA**

T H E M E :

**SUSTAINABILITY OF TRANSPORT TECHNOLOGY
DYNAMICS IN DEVELOPING COUNTRIES**

Date: 13th-14th November, 2012

Venue: The Auditorium NITT, Zaria.



TRANSPORT TECHNOLOGY EDUCATION DEVELOPMENT IN NIGERIA: THE ROLE OF NIGERIA UNIVERSITIES

by
AJIBOYE ARAOYE OLARINKOYE
OMILT, MCIS, AMNIM, MEF
and
OWOEYE, ADELANKE SAMUEL

Introduction

The pivotal role played by transportation over the years cannot be over emphasized since it is a key factor in all facets of development of any country. Hence, there is hardly any aspect of a nation's development in which transport is not an essential ingredient. Since there is always the need to collect, assemble, transfer and distribute people, products and services from one geographical location to another in a spacio-temporal - dimension (Onakala, 1998, Ajiboye, 2007, Daramola, 2003)

With the growing demands on transport as a major mode of movement, the highway management and administration could not function efficiently due to stress and neglect of transport education and training programs for the operators/drivers and the managers most especially in the developing worlds like Nigeria. Transport education entails the conscious training of all road users, most especially drivers of motor than most other human actions. Many accidents in which motor vehicles have been involved could have been avoided by a greater safety consciousness on the part of drivers, pedestrians and other transport manager.

Transport education is a process and a series of activities aimed at enabling an individual to assimilate and develop knowledge, skills, values and understanding of the administration, management, planning, conduct or operation of any of the principal forms of transport, transit, traffic, locomotive, physical distribution, logistics or any activity related thereto as well as the research, development and study in, or of the art and science of logistics and transport in all its branches by allowing a broad range of problems to be defined, analyzed and solved (Ajiboye, 2011a). Adefolalu (1977) explained that the narrowness of the road network in the city of Lagos coupled with their limited capacity-constitutes great constraint on accessibility. He further noted that wrong parking, abandoned broken down vehicles on the road and one way driving especially by commercially drivers further narrow the roads.

Hence, transportation has been rightly seen as a catalyst to development and has become of great concern to those at the helm of government as well as planners. Though it is generally conceded that it is very difficult to measure the exact impact of transport investment on development because of the subtle but complex nature of the role that transport plays in economic development.(Onakala 1998). Transport is also significant to the society in promoting national unity and social economic integration, generating sense of togetherness, and mutual understanding in a diversified society like Nigeria. The importance of transport is further evident in the fact that the world's biggest cities are found in foci of transport routes - rail, water, road and air. Similarly, the availability of transport facilities which has been identified by Ajiboye and Fapohunda (2008) has a critical investment factor that stimulates

economic growth through increase accessibility to economies areas. As efficiency and effectiveness all affect the basic function of production, distribution, the basic function and consumption in many ways while it also influence the cost of commodity consumed and the purchasing power of the consumers.

2.0 Conceptual Framework

In order to give explicit understanding to this study and paper, certain concept needs to be explained for better understanding .Among these are: transport, education, technology and development. Transport is the movement of people, goods, services and information from one geographical location to another through a specific mean and means for a particular purpose for instance moving agricultural and industrial products from farms or factories into market for end users to purchase according to Ajiboye and Fapohunda (2008), Ajiboye and Afolayan (2009a and 2009b).

Transportation is coined from the Greek words 'trans' meaning across and 'portare' meaning to carry. Hence, it create time utility, which is getting a products to a destination on time and space utility which is the optimal utilization of space available to carry large volumes of goods at low cost. Transportation is simply the act of carrying or conveying someone or goods from one place to another (Encarta dictionary, 2009). Technology on the other hand is the study, development, and application of device, machines, and techniques for manufacturing and productive process (Encarta dictionaries, 2009). Development is an incident that causes a situation to change or progress (Encarta dictionaries, 2009).

Transport management is simply the technique, practice or science of controlling, planning, developing and maintaining adequate transport services that meet the individual and corporate needs. It is also the process of ensuring that people, freight services and information are delivered to the right place, at the right at a right price (Ajiboye, 2007).It is already a well-established fact that adequate transport is an essential ingredient in the growth of any economy, and the level of transport planning in the growth of any economy, and the level of transport planning and development is a determining factor in the socio- economic development, and even the defense, of any country. In other words, without transport, economic and social systems would simply grind to a halt (Faulk, 1990).Hence; the transport sector remains a vital component for the envisaged sustainable, socio- economic growth and the development of Nigeria by the sustainable year 2020. Transport is of universal interest to all races, classes or creed. People are always interested bound to travel for one purpose or the other which invariably enhances the materials development of the nation, thus shows relevant of transport as an essential keystone to civilization Adefolalu, (1977).

The efficiency of transport has become a yardstick by which the economic and social development of a country is measured. Hence, transport industries is expanding at a rapid rate and has resulted in an ever increasing demand for professionals with balanced knowledge of the various aspects of transport and logistics planning and management to meet the current challenges and future changes while the success of any nation's transport development depends on the quality and quantity of human resources available to assist in formulation and the implementation of transport policy in reference to their qualifications in various field.

Filani,(2003).A critical appraisal of the human resources available in the transport sector indicates an acute shortage of personnel, this has resulted in an unduly high dependence on foreign experts to carry out planning, design, construction and maintenance work in the transport sector

The Council of Logistics and Management in United States of America (2003) see transport management as the science and art of managing inventory in motion for the delivery to the right place, at the right time and in right condition, choosing the right equipment and in the right direction while it encompasses management of inbound and outbound transportation. Transport management according to Ajiboye (2007), is observed to enhance a functional and sustainable transport services for the nation and this has to be done by providing a consistent general approach and realistic guide for the operation of transport sector which is noted as the engine of the nation's economic growth and development. Moreover, the existing situation in the transport sector could be viewed as an integrated system comprising economic infrastructure (such as highways, railways, ports, waterways and airports), production line for both motorized and non- motorized vehicles, and vessels, marshaling yards as well as the actual delivery of transport services.

2.1 The Nature of Transport Study

Olanrewaju and Falola (1986) see transport study as an academic discipline which is interdisciplinary in nature. It brings together the geographers, the historians, the urban and regional planners, the engineers, the computer scientists and the economists. Thus, the scope of transport study is very extensive. This necessitated the need to study transport technology in Nigeria universities.

Transport geography is primarily concerned with the study of transportation development, location and operation within territorial or regional economic complexes and its relationship with the location of industrial and agricultural activities of population and settlements and natural phenomena and resources while the geographer whose basic interest lies in the spatial dimensions of transportation focuses primarily on network analysis, connectivity and accessibility. The historian's interest lies in the historical role played by transport systems in the development process while the urban planner studies the relationship between transport facilities and land use patterns as well as the influences and consequences of urban expansion on transport facilities and vice versa.

Transport economics on the other hand has grown over time as a branch of applied microeconomics; though, the systematic economic analysis of transport is relatively recent. The economist is interested in the cost-benefit analysis of transport capital projects, and in the analysis of the operational efficiency of transport undertakings. The economic analysis of transport focuses on operating costs, pricing policy, market structure, and determination of economies of scale, transport policy, travel demand, and the impact of transport cost on industrial location. The economist shares with the urban planner and the environmental scientist is concern with urban traffic congestion which imposes additional costs on society and an interest in the cost-benefit analysis of environmental improvement schemes.

Transport technology has also been an important aspect of civil engineering studies. There are specialized engineering courses in highway and traffic engineering, covering such areas as highway design, traffic planning and engineering. Lastly, computer science plays a role in transport studies, offering considerable scope for simulation of repetitive construction work and traffic movement. Computer science has also found a niche in the study of traffic management in urban areas (Olanrewaju and Falola, 1986).

2.2 Historical Development of Transport Education in Nigeria

The philosophy behind the establishment of transport technology education in Nigeria is generally to build national capacity to move the country from its status of a third world and developing nation to that of an advanced and developed nation, through technology advancement that drives development and develop high level manpower that will create jobs and wealth according to Ajiboye(2011). Transport Management Technology is structured to be a leading academic department of success and excellence for intellectual development in transport technology for dynamic growth of the economy and society.

This invariably help universities to build capacity and human capital to high level through pragmatic and training, research and development services of high standards in the field of transport technology to meet the demands of society and stands the test of time. From time in memorial transportation evolve as a result of the need to bridge the gap between demand and supply among various areas in term of resources, finished and unfinished products and technological innovations.

Transport links various geographical locations in order to create effective distribution of goods, wealth and services among the populace. Thus, the needs to study and create an effective ways of creating a functional transport system within the emerging metropolis within the nation. Hence, the various mode of transport system and the technology involve in the modern trend of transportation. It is against the foregoing background that measures have been taken over the years to undertake formally and seriously, some manpower development for exclusive benefit of the transport sector in Nigeria.

In Nigeria, there are both private and public institutions that run training and educational programs for the consumption of the transport industry ranging from the trade test to doctorate levels. According to Ajiboye (2007), several Nigerian Universities now run explicit programs in transportation studies and management. Federal University of Technology, Owerri was the pioneered university in establishing a Transport Management Department and commencement of B.Tech programme in Transport Technology Management in 1982 while they started the postgraduate programs in Transport in 1999. Hence, the University has graduated a lot of graduates at Bachelor, Master and Doctoral Levels. However, Ogun State (Now Olabisi Onabanjo) University Ago Iwoye, pioneered the post graduate programs in Transport studies in 1992 with the introduction of Post Graduate Diploma and Master of Science in Transport studies at both full time and part time. It also has an international acclaimed Center for Transport Studies and runs diploma and bachelor programs in Transport Planning and Management as well as post graduate programs in Master and Doctorate levels.

Ladoke Akintola University of Technology, Oshodi also started Transport Management programs with professional Post Graduate Diploma and Master in Transport Management which later gave birth to Bachelor of Technology (B Tech) in Transport Management. Today, the university has commenced its M Tech and doctorate programs. Federal Universities of Technology Akure and Minna has also established Transport Management Departments to offer Bachelor of Technology in Transport Technology Management while Bauchi started but could not continue due to logistic reasons. However, the following federal universities in recent years have also started post graduate programmes in Transport Management. Among them are Ahmadu Bello University Zaria, University of Lagos and University of Port Harcourt. Also some state Universities like Ebonyi State University, Lagos State University Ojo, Tai Solarin University of Education, Ijobu ode and River State University of Science and Technology Port Harcourt have also joined the train in offering Transport Technology courses.

Nevertheless, the role of the following Geography, Civil and Mechanical as well as Economics Departments in producing Transport geographers, planners, economists and engineers who spearhead the initial take off of Transport Management Technology education in Nigeria cannot be ignored. Namely University of Ibadan, University of Lagos, Ahmadu Bello University Zaria, University of Ilorin, University of Benin, University of Jos, University of Calabar, University of Maiduguri, University of Technology Yola among others.

3.1 ROLES OF NIGERIA UNIVERSITIES IN THE DEVELOPMENT OF TRANSPORT TECHNOLOGY EDUCATION IN NIGERIA

United Nations defines education as a human right and the primary agent for transformation towards technological development, increasing people's capacities to transform their vision for the society into reality. Education teaches people to be a better individuals, family members, community members and citizens. Universities on the other hand, are microcosms of culture and of the society that supports them. As such, they should be bastions of ethical behavior and provide the training ground for students to determine and practice a personal code of ethics that will guide them for the rest of their lives. Universities should provide examples of ethical consideration as well as providing students with education in ethical values including the underlying concepts, critical intellectual skills to help in decision making, a broad view of universal ethical codes and a sense of responsibility for others when making personal choices. Each classroom should become a laboratory of the process of decision making and of critically examining choices in the workplace, interpersonal relationships and personal lives while the instructors should play an important role in assisting students to view ethical choices as a vital part of their future lives, both as professionals and in their daily living.

Thus, quality education upholds and conveys the ideals of technological development and innovations. It laid emphasis on the social, economic and environmental context.

United Nations General Assembly declared 2005-2014 "UN Decade of Education for sustainable development" in essence of the importance of education for responsible

development. With the growing demands on the road as a major mode of transport, the highway management and administration could not function efficiently due to stress and neglect of traffic education and training programs for the operators/drivers and the managers, most especially in the developing world's like Nigeria. Also, it has been noted that the current non-compliance by the regulations and laws guiding and controlling the road system operations by the users is as a result of poor educational training, publicity and funding. As such, an increased investment on road usage education and traffic safety management are strongly advocated for (Oni, 2000).

The Nigeria universities therefore have greater roles to play in providing quality transport technology education in Nigeria. Among these are they must be citadel of learning and research in transport technology. Universities needed to research intensively with copious empirical case studies on the linkages between transport, energy inputs, production costs inflation and poverty reduction so as to be able to bring down the current high level of inflation; research into fuel consumption pattern on roads of different levels of congestion; research into vehicle operating and maintenance cost models which would highlight the functional relationship between operation and maintenance costs and the impacts of road on vehicles; empirical researches are required on value of travel time savings to serve as justification of evaluation of various forms of traffic management schemes in the heavily congested streets of urban centers in Nigeria; researches on transport safety and the annual economic costs accidents to the country should also emanate from our universities. Furthermore, research is also urgently required on the transport related air and land pollution, especially vehicle emission and petroleum/transport- induced pollution in rural and marine areas while, in the realm of air traffic, research is urgently required on the degree of compliance by airlines with I.A.T.A and ICAO rules and regulations with a view to reduce air traffic accidents and promoting international tourism in Nigeria. Hence, the various forms of enforcement of transport rules need to be researched and abuse of such rules should be dealt with accordingly

As noted in the National Transport Policy for Nigeria (2003), the Nigerian Government recognizes the importance of research and training and will address the issue through a clear identification of manpower needs in the transport sector and an outline of the adequacy of the existing training facilities in the country with the view to provide opportunities for such staff to be trained as well as the promotion and coordination of research works in transport. Manpower development can therefore be seen as a process of developing an employee so as to increase his performance standards on the job. This means providing him with the necessary knowledge, skills and attitudes he requires to perform his job. What constitutes the manpower of any organization is the human being, that is, the staff of that organization without which the attainment of the corporate objectives of such organization would not have been feasible.

The universities should therefore prepare themselves for providing adequate transport technology education that will meet the yearning of the citizens and the governments at both undergraduate and post graduates levels vis -a - vis creation of Centre's of Transport Studies in the universities with a mandate to develop transport specializations in major transport sub-

sectors and undertake an agreed programme of research and training in their areas of specialization.

Establishment of linkage programmes and strengthen the existing programmes in transport institutions such Nigerian Institute of Transport Technology, Zaria, the Maritime Academy of Nigeria, Oron and the Nigerian College of Aviation Technology, Zaria as the apex institution. The Nigerian universities must collaborate with their host communities in providing services and researches that will meet their needs. For instance Federal University of Technology Minna must be interested in Inland waterway, rail transport, non motorized transport as well as research into how Minna airport can be promoted and become active while they must supply manpower requirements in term of management and technical areas of the transport industry. They must also be prepared to strengthen the research section of the Planning Research and Statistics Department of the State Ministry of Transport to coordinate research activities in transportation.

Conclusion

The transport sector remains a vital component for sustainable, socio- economic growth, transformation and development of Nigeria as a nation. The transportation technology education development should therefore be backed-up by efficient traffic information system, effective citizens' participation, institutional radicalization, local knowledge development, prioritization and rationalizations as well as strong political will. The new education will influence the long-term attitude and behavioral changes, while the enforcement process will ensure laws being enforced fairly and justly by the agencies. Hence, this necessitated the role been played by Nigerian Universities in implementing sustainable transport technology education all over the existing citadel of learning in the contemporary Nigerian states in modifying essential transport studies in the aspect of elucidating the Nigerian societies in effective transport technology. However, it is of critical important and necessary to assess the impact of universities in providing transport technology education in Nigeria as an impetus to national growth.

References

- Adebisi, O. (1988), 'Training Needs Survey of the Nigerian Transport Sector'. A paper delivered at NITT Workshop on Training Needs in the Nigerian Transport Sector on 25th – 27th April, 1988.
- Adefolalu, A. A. (1977), Traffic Congestion in the City of Lagos in *Nigeria Geographical Journal*, 20 (2), December.
- Adefolalu, A. A. (1977), 'Significance of Transportation in Rural Development in Environmental and Spatial Factors'. Proceeding of the 20th Annual Conference of Nigeria Geographical Association, University of Ife, Ile Ife.
- Ajiboye, A. O.(2007), 'Opportunities and Challenges in the Field of Transport and Logistics Management in Nigeria' in Nnadi, K. U and Ogwude I. C. (eds); 'Transport in Nigeria Economics, Management Policy', Owerri; Reliable Publishers.

- Ajiboye, A. O. and Fapohunda, T. A. (2008), 'The effects of Transportation System on Marketing / Distribution of Kolanut in Nigeria'. *International Journal of Management Sciences*. 3 (1&2): 57- 68.
- Ajiboye, A. O. and Afolayan O (2009a), 'The Impact of Transportation on Agricultural Production in a Developing Country: A Case Study Kolanut Production in Nigeria'. *International Journal of Agricultural Economics and Rural Development*, 2(2): 49-57.
- Ajiboye, A. O. and Afolayan Olu,(2009b), 'A Study of the Transportation factors Militating against Agricultural Production in a developing Country. The case of Nigeria'. *Africa Journal of Technology Policy*. 5(1): 263- 271.
- Ajiboye, A. O. and Ayantoyinbo, B.B. (2009), 'Analysis of Transportation and Distribution Problems of Agricultural Products Marketing in Sub Saharan Region. An Application to Kolanut'. *Journal of Technology, Entrepreneurship and Rural Development* 4 (1): 188- 200.
- Ajiboye, A. O. (2011), 'The evolution and growth of Transport and Logistics Management Education in Nigeria'. A paper presented at the International Conference on Issues and Challenges in University Education in Age of Globalisation at Ibrahim Badamosi Babaginda University, Lapai, December 4-7.
- Ajiboye, A. O. (2011), 'Issues and Challenges facing Transport and Logistics Management Education in Nigeria: Students Perspective'. A paper presented at the International Conference on Issues and Challenges in University Education in Age of Globalisation at Ibrahim Badamosi Babaginda University, Lapai, December 4-7.
- Badejo, D (1996). 'Transport and Urban Development in Nigeria. An enlightenment and education approach'. 'OSU' *Journal of Education Studies*, 4(1): 142- 150.
- Brandor P (2009), 'Evaluating Sustainable Development in the Built Environment' Blackwell Wiley Press
- Daramola, A. Y. (2003): "Innovative Options for Financing Transport Infrastructure in Nigeria", in *NISEREEL, The Magazine of the Nigerian Institute of Social and Economic Research*. Nos. 4 & 5, December, 2003, Ibadan.
- Encarta Dictionary (2009). 'Definitions of Development, Technology and Transportation' Online Dictionary
- Faulks, R.W (1990), 'Principles of Transportation' 4th edition McGraw Hill Book Company, London
- Filani, M. O. (2003), 'The Relevance of CILT to Transport Development and Sustenance in Nigeria'. Key note address at the launch of the CILT, Southwest Zone on December 1, 2003 at NISER Ibadan.
- National Transport Policy for Nigeria (2003),
- Ogunjumo, A. (1993): "Training Needs for Mass Transit Operators in Nigeria" in *Urban Passenger Transportation in Nigeria*, Ikya S. (ed), Heinemann Educational Books (Nig.) Plc, Ibadan proceedings of the International Conference Codatu IX, Balkema, Mexico City, 11-14 April, 2000.
- Olanrewaju, S. A. and Falola, T. (eds) (1986), "Introduction" in *Transport Systems in Nigeria*, Maxwell School of Citizenship and Public Affairs, Syracuse University, New York

- Onakala, P.C. (1988), 'The Role of Transportation in Economic Development in Nigeria. A case study of the Development of the Rural Transportation system and Agricultural Projects in Imo State' in Salau and Izeogu (eds), *Development and the Nigerian Rural Environment* Proceedings of the 31st Annual Conference of the Nigerian Geographical Association.
- Oni, S. I. (2000), Education and Training for Road Traffic Safety in Nigeria in *Urban Transportation and Environment*, Diaz Gonzalez et al (eds),
- The Council of Logistics and Management in United States of America (2003), 'Opportunities in Logistics Management'. A publication of the Council of Logistics Management of United States of America
- United Nations (2005), 'United Nations Decade of Education for Sustainable Development' United Nations General Assembly declared 2005-2014