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Articles

Integrating Sustainability in the Nigerian Architectural Education.

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Abstract.

This study aims to integrate sustainability into the thinking and teaching of architecture in Nigerian tertiary institutions from an abstract manner to a concrete one by modifying present educational approach and practice as well as developing a road map for its implementation. This paper reveals that sustainability in architecture is multidimensional and requires the ability to critically analyze, process and think creatively about how sustainable solutions might be designed in the Nigerian built environment. The findings of the study show that there is the need for an institutional framework to integrate sustainable concept in both architectural education and practice. This will assist to draw a plan to introduce sustainability design studios and sustainability related courses to the Nigerian architectural education. The study concludes that there is the need to upgrade the training of Nigerian architectural educators and students on how to apply design management techniques to coordinate their green building designs. This will enable future Architects propose designs and architectural solutions to challenges facing communities e.g. climate change, environmental destruction, social disintegration, poverty, natural resource exhaustion, and financial instability. The paper recommends that all stakeholders should cooperate at all levels to achieve sustainability as a unified goal. Finally, the research concludes that policy enforcement, monitoring, awareness, funding, training, research, sustainability strategies, practices, programs, leadership and administration, curriculum, community outreach and student initiative/involvement must be implemented consciously at all levels in Nigeria. It recommends the introduction of a centre for sustainable buildings in Nigeria as well as concepts and principles of sustainable development by the National Universities Commission, National Board for Technical Education, Architects Registration Council of Nigeria and the Nigerian Institute of Architects.

KEY WORDS: Architectural education, built environment, green buildings, Nigeria and sustainability,

Introduction

Nigeria (Africa's most populous nation), independent since 1960, occupies an area of 923,768 km2 with varied climates and seasons. Presently, its estimated population is over 100 million people. Prior to oil, agriculture (before 1970) was the economic mainstay. With financial resources available from oil and no development policy, unguided urbanization and industrialization took place. Uncontrolled population growth, desertification, and deforestation led to degradation and devastation of the environment.

The need to initiate a change in architectural education that supports the implementation of considerations of sustainability in architecture is mainly triggered by the following factors: natural resource depletion, climate change, ecological damage, current building practices have been slow to respond to the need of enhancing sustainable environmental design within a creative architectural discourse; accreditation and qualification criteria established by professional bodies do not yet comprehensively contribute to the efficient promotion of environmental sustainability in building design; university curricula have proved to be sparsely effective in systematically integrating sustainable environmental design in the education of students of architecture.

The role of higher education in creating a more .environmentally sustainable future is undeniable. The aim would be to train the professionals, students and community to be environmentally literate. These issues present a challenge to the educationist as well as to the students of the Built Environment, to reconcile the environmental aspects as part of the built environment.

Sustainable buildings can be defined as those buildings that have minimum adverse impacts on the built and natural environment, in terms of the buildings themselves, their immediate surroundings and the broader regional and global setting. Thus, the rational use of natural resources and appropriate management of the building stock will contribute to saving scarce resources reducing energy consumption and improving environmental quality (Dudek, 2007).

Practicing green measures and embracing the concept of Green Building is one of the ways which can enlighten the individual on how the earth can survive longer in a sustainable way. Currently buildings consume approximately 50 percent of the world's resources. To reduce this demand, the role of sustainable education needs to be examined. The economist registers that the most prestigious universities' students claim far more information and education in sustainable architecture but the only credit for certain projects that are so called by authors and critics environmental is that they incorporate a garden in their interior or a solar panel that's more symbolic than effective in their roof. Some of the so-called intelligent buildings that come up are usually environmentally dumb since they consume energy in reaction to small climate changes that could easily be fixed by opening a window (Alvarado, 2006).

A sustainable architectural education enhancement program will work to bridge the gap between the demands of the society and the ability of the existing and up-coming professionals to address these demands, towards improving the quality of education and its relevance today and in the future. Schools of architecture need to examine their existing architecture education and their future education plans. This will be done first by examining the curriculum of the Nigerian University in terms of building the undergraduates and postgraduates sustainable awareness.

1. Architectural Education in Nigeria

Architectural education in Nigeria has experienced dramatic turn-around over a period of time since it was introduced into the country in 1947 with the establishment of Yaba College now Yaba College of Technology, Lagos State. The next college of architecture, Nigerian College of Arts, Science and Technology located at Ibadan in 1952, was later relocated to Zaria, in the present Kaduna State in 1955. It was later to form the core faculty of the present day Ahmadu Bello University, (ABU), Zaria in 1962.

At the onset and within this period, only diplomas in Architecture were awarded to students. The diploma being awarded qualified the students upon graduation to be exempted from parts I and II of RIBA (Royal Institute of British Architects) Professional examinations; but only to sit for the final diet before being certified registered architect. In essence, the Nigerian architectural education was tailored after the British education and to a larger extent in line with the curriculum of our colonial masters.

The link with RIBA was maintained till 1968, when the course programme was again restructured into two-tier, with the offer of the Bachelors Science (B.Sc.) and Master of Science (M.Sc.) degrees in architecture.

The University of Nigeria, Nsukka was established in 1962, thereby making it to be the second university offering architecture in the country. In 1970, the University of Lagos, Akoka, Lagos established the department of architecture, thereby making it the third university department. Presently, the number of departments of Architecture in Nigeria has increased to twenty-four universities and twenty-two polytechnics / colleges of technology, with the recent establishment of several private institutions of higher learning thereby totaling forty six.

2. Present State of Sustainability in Nigerian Architectural Education

Presently, the majority of current architectural education neatly skips any examination of how societies maintained themselves (in a more or less sustainable state) in the past and what sort of built environment this generated. In the current world situation where a number of resources that are essential for the current western lifestyle, such as oil for energy and phosphorous to grow food, have a known life, it would seem vital that the architects of the future should be learning to define the future through understanding how societies in the past have learned to live within the limited resources available to them. (Vale and Vale, 2009).

Nigerian architectural education at present, the closest to a consideration of what the future might be like is presented in some type of course, often optional or peripheral, with the word "sustainable" in its title. Some of these courses raise the issue of resources and this often leads to the study of buildings that use solar energy for heating and cooling. Seldom do these courses explore architecture for a society living without fossil fuels and other non-renewable resources. Students are not being asked to design buildings that use only renewable resources, and rarely is the whole architect/client relationship examined in such a context. The assumption of architectural education is that the current economic model will still exist in a sustainable future and that buildings will be procured in the same way as now, it is just that they will more or less face the sun for winter heating and may have a grass roof for summer cooling.

Currently, in the Nigerian architectural education inclusions of sustainabilit aspects are fragmented relying heavily upon individual efforts of lecturers that ar familiar and inclined towards the subject matter. There is a need to review the existin

curriculum to significantly include the worthy aspects of sustainability in the course content and delivery mode.

3. Integrating Sustainability Education into the Future Architect

In the United States of America, for example, the American Institute of Architects is at present seeking to inject ecological literacy and sustainability principles into architecture education. It is also worth noting that, in the USA, sustainability has been added since 2004 to the 'Conditions for Accreditation for Professional Degree Programs in Architecture', with a particular emphasis on the "understanding of the principles of sustainability in making architecture and urban design decisions and in the creation of healthful buildings" (NAAB, 2004). The US Educators Practitioners Network is also closely working with the Society of Building Science Educators, the AIA Committee on the Environment, and the AIA Sustainability Discussion Group to generate a Carbon Neutral Design Resource for educators and professionals (Boake, 2008). This resource will provide invaluable practical guidelines that will support the process of design and planning of carbon-neutral projects, including case studies that illustrate successfully constructed buildings and an extensive bibliography of available software and tools (Wasley, 2007).

Concurrently, in the United Kingdom, to address current pedagogical and professional challenges and facilitate discussion between academics, designers and representatives from qualification bodies, in 2008 the 'Designs on the Planet' workshop series was set up as a forum by Oxford Brookes University, the University of Nottingham and Cardiff University, with the primary aim of contributing to the development of environmental responsibility as a creative factor in the practice and pedagogy of architecture (Stevenson, et al., 2009). The workshop series was sponsored by the Centre for Education in the Built Environment (CEBE) and supported by the Royal Institute of British Architects (RIBA), which is at present working with the UK Architects Registration Board (ARB) to review existing criteria for qualification so as to meet contemporary professional demands and legislative requirements (e.g. the Code for Sustainable Homes, DCLG, 2007).

According to Myers (2012) trends, outliers, best practices and obstacles to the implementation of sustainable initiatives are in five categories: leadership and administration, operating practices, curriculum, and community outreach and student initiative/involvement.

3.1 Environmental awareness campaign in government, schools, adults, community and leaders' programmes to encourage participation of all in sustainability.

In Nigeria, environmental awareness is not a prominent feature of education programmes in institutions of primary, secondary or higher learning. However, its presence helps to mainstream environmental education programmes into schools as a regular part of the curriculum, increase public environmental awareness and demonstrates a commitment to environmental protection. Environmental education can be integrated into existing disciplines or it can be taught as a subject as early as primary school as well as in adult education programmes this will foster the environmental responsibilities amongst students.

Awareness raising campaigns are found to be successful when they are targeted at specific groups because information can be tailored to the activities, needs and challenges of the group. Additionally, involving organizations and communities in environmental protection and enforcement can create a sense of stewardship towards the environment, ease hardship through the collaboration and provide a forum for new ideas and greater participation.

Awareness can be raised amongst children who are taught about the need to conserve water and instilling the next generation with an environmental consciousness at a very early age. This awareness raising is also observed to permeate into the workplace. Employees are seeing the advantages of working in improved environments which equates to working in a sustainable building. Employers recognized the effects of working conditions as it will have a trickledown effect within the workplace especially in the productivity of staff. Leaders can play an influential or even decisive role in how people act. Education of leaders can assist in facilitating the implementation of sustainable buildings. As a global concern, over the last two decades literature talked about the missing link between architectural education and professional practice (Elnachar, 2010).

The print, broadcast, and Internet media can be a powerful ally in educating the public on environmental matters. The government has work with the media to broaden the environmental interests amongst the public. The involvement and participation of celebrities in media campaigns has been found to be an effective way of increasing understanding of the importance of environmental issues and enforcement.

Support for change must come from the highest levels of the organization, to create a culture that values sustainability AASHE (2012).

3.2 Implementing sustainable principles and green buildings in courses in Architecture and Construction.

In Nigeria, the National Universities Commission, National Board for Technical Education, Architects Registration Council of Nigeria and the Nigerian Institute of Architects are yet to approve sustainability as part of the knowledge to be acquired throughout the architecture education, sustainable issues and development has not coordinated in the curriculum in a systematic way, where it has been introduced. Although there were some inputs integrating sustainable issues and development but these are piecemeal and do not give exposure to the students in broader perspectives. The education is only limited to single discipline with isolated topics based on the knowledge and interests of the lecturers. New curricula, courses and techniques are needed for whole architectural education emphasizing on how buildings are developed and designed, and how interdisciplinary teams can be used to maximize energy efficiency, reduce resource waste, and improve the environmental quality of the buildings being constructed and re-connecting them to the natural environment.

A typical four to six years architectural training in Nigeria focuses on the required range of skills and creativity in design, managerial, media, and technical expertise with core subjects or courses ranging from design, technology, history, theory, practice and environmental behavior.

The success of sustainability in design and in the built environment relies on how institutions of higher learning respond to the ideas generated as a result of widespread interest in sustainable development. If sustainability is to become an essential aspect of

society and economical development then it has to become an essential part of education (Samad & Rahman, 2007).

Studies show that a complete integration of sustainable development across the curriculum, i.e. in all modules and parts of relevant subjects and activities through all phases is needed in encouraging sustainable practices in civil engineering fields (Shafii, 2007). The fundamental idea is that when sustainability is to become essential for all activities within society and all sectors of economy, it cannot remain as an isolated field of expertise but must form mindset for everyone.

A sustainable environment's program should consist of an interdisciplinary set of courses spread throughout various university departments, such as Architecture, Anthropology, Agriculture, Biology, Botany, Building, Civil Engineering, Estate Management, Urban and Regional Planning, English, Economics, Forestry and Natural Resources, Geography, Humanities, Landscape Architecture, Philosophy, Political Science, Psychology, Quantity Surveying and Sociology. The sustainable environment's program's broad scope offers students comprehensive exposure to the close relationships between the environment and every field of human endeavor (Shafii, 2008).

Schools of Architecture should take a proactive role in promoting ecological literacy through aggressive advocacy for green building projects in their own institutional communities. Also assessing the state of ecological literacy in architecture education as part of a long-term effort to inject sustainability principles into architecture education and present a mosaic of current activities as the basis for an ongoing discussion of the future of environmentally progressive architectural education.

There is real need of reorienting architectural education towards sustainability so that architects are trained to have a clear understanding of how their role interacts with others to bring about good buildings and designs in many contexts.

Information and communications technology is today one of the most critical tools in architectural education. New ways to deliver instruction are now available, with the resulting ability to reach students in many ways other than the traditional classroom setting. Changes in research tools and methodologies in many disciplines and professions have resulted from the spread of information technology throughout the disciplines. New computerized studios such as design methods, computer aided design (CAD) visualization, paperless architectural studio and the virtual design studios have been introduced in many architectural schools as new ways of practicing and teaching architectural design. Recent developments to computer networks are offering further opportunities for collaborative work and knowledge transfer at the global scale.

A smaller number of private and a few public colleges have either been created or have evolved to make sustainability the core mission of their education and practice. They emphasize interdisciplinary learning, experiential learning on campus and in their local communities, and model sustainable action in their institutional operations. (Cortese, 2012).

4. Obstacles to Integrating Sustainability in Architectural Education

Many of the barriers to sustainable outcomes in the property sector in Nigeria are related to government at all levels, infrastructure, funding and learning. Direct barriers include lack of awareness, lack of skills (translating awareness into action), and the time and cost of pioneering new approaches.

Barriers to sustainability initiatives in architectural education in Nigeria include inadequate funding and planning in setting up departments of architecture, limited expertise on sustainable buildings of the inadequate number of lecturers' available, lack of inspiring prototypes to counterbalance prevalent non-sustainable lifestyles, unawareness of environment crisis, shortage of studio spaces, lack of workshops, laboratories and equipment to teach courses of high technological input, inadequate number of books and journals of sustainable buildings, lack of technical courses that support sustainable design studios inside the classroom, the question of aesthetic and high cost of sustainability outside the classroom.

Other obstacles include inadequate managerial and administrative staff, unresolved ambiguity around defining sustainability principles, efforts often lack linkage to one another, lack of sincere commitment on the part of governments (federal, state and local) to prioritize education (especially technological education) which is the bedrock of infrastructural developments and obsolete curriculum.

5. Research Methodology

The study surveyed a total of 368 students and 368 members of the Nigeria Association of Architectural Educators in Nigeria (ARCHES), a body that was established in 1978 on the state-of the-art of curricular structures in Nigerian tertiary institutions by a simple random sample. The research study was conducted in some selected states of Nigeria comprising of Abia, Akwa Ibom, Anambra, Bauchi, Delta, Edo, Ekpoma, Gongola, Imo, Kaduna, Lagos, Niger, Ogun, Ondo, Osun, Oyo, Plateau, and Rivers states. In these states are universities or polytechnics offering architecture as a course of study.

The study conducted an analysis of the state of sustainable education at tertiary level (including curricular contents and structure, course syllabuses, delivery methods, assessment criteria, etc.), and investigated how these relate to the conditions for accreditation of academic curricula and requirements for professional qualification as established by National Universities Commission, National Board for Technical Education, Architects Registration Council of Nigeria and the Nigerian Institute of Architects.

This task included a general overview of education literature and a comparison of the state-of-the art with contemporary theories/practice. In addition, the study ascertained the level of awareness, knowledge, ability-base and requirements of sustainable design within schools of architecture, so as to identify strengths and weaknesses of various pedagogical methods and define an agenda for sustainable architectural education that consistently responds to the demand of enhancing environmental design in buildings and therefore contributes towards a sustainable built environment.

6. Findings

The study surveyed a total of 201 students and 237 members of the Nigeria Association of Architectural Educators in Nigeria (ARCHES) who returned questionnaires and were found useable resulting into a response rate of 54.62 % for students and 64.4 % for academic staff.

The following tables show the summary of the questionnaire investigation into the ranking of categories of recommended changes / suggestions to integrate, promote and

emphasize sustainability aspects in the Nigerian architectural education in a sustainable age.

Table 1: Ranking of categories of recommended changes / suggestions to integrate, promote and emphasize sustainability aspects in the Nigerian architectural education in a sustainable age.

Table 1: Descriptive statistics of suggestions to integrate sustainability in the Nigerian architectural education.

Categories of suggestions to integrate sustainability	Ranking	Mean	Standard deviation	Variance
Government factors	1	3.65	2.256	4.523
Private sector support	11	1.92	1.609	3.431
Monetary factors	6	2.68	2.364	4.006
Public sector support	13	1.52	1.304	2.855
External support	14	0.76	2.341	2.081
Professional bodies support	2	3.23	2.534	4.701
Publicity requirements	10	2.08	1.977	3.411
Resource factors	5	2.69	2.071	4.234
Educator factors	4	2.76	2.301	4.614
Regulatory requirements	3	3.01	2.333	5.662
Internal & external collaboration	15	0.66	2.473	3.622
Research requirements	12	1.76	1.962	3.502
Educational programmes	7	2.51	2.301	4.617
Curriculum review	8	2.44	2.061	3.708
Student factors	9	2.23	1.817	3.907

Table 1 presents the descriptive statistics of the rankings of the suggestions to integrate sustainability in the Nigerian architectural education the results show that government factors has the highest priority attached to it, followed by professional bodies support, regulatory requirements, educator factors, resource factors, monetary factors, educational programmes, curriculum review, student factors, publicity requirements, private sector support, research requirements, public sector support, external support, and collaboration in that order.

Table 2: Level of awareness of sustainable buildings among architectural educators and students in Nigeria.

Level of awareness of sustainable buildings	Students		Academic staff	
	Frequency	Percentage	Frequency	Percentage
Unaware	14	6.96 %	4	1.69%
Aware	187	93.04%	233	98.41%
Total	201	100%	237	100%

Table 2 shows that a great number of the architectural students and academic staff are aware of sustainable buildings while a few are not aware of sustainable buildings.

Table 3: Level of preparedness of architectural students and lecturers to preparedness to learn and participate in sustainability design and buildings.

Level of preparedness to participate in sustainable buildings in course work and studio	Students		Academic staff	
	Frequency	Percentage	Frequency	Percentage
Not prepared	6	2.98%	4	1.687%
Undecided	8	3.98%	3	1.27%
Prepared	187	93.03%	230	97.04&
Total	201	100%	237	100%

Table 3 above shows the degree of preparedness of architectural students and lecturers to learn and participate in sustainability design and building, 93% of the students are prepared to study sustainable design and buildings in the regular course work and studio.

The study shows that there is the need to integrate sustainable concept and practice in design thinking in all levels ranging from ideological level (sustainability as a conceptual and an ethical reasoning for architecture) to the methodological level (principles and strategies for various range of disciplines) and finally the practicing level, by introducing sustainability related syllabuses to the architectural education, and inculcate the ability to critically analyze, process, and think creatively about how sustainable solutions might be designed in the Nigerian built environment.

Recommendations

The paper recommends that all stakeholders within the society – government, accreditation and regulatory bodies, professional bodies, educational institutions, lecturers, students and the general public should cooperate and be committed at all levels to achieve sustainability as a unified goal.

A systematic policy in Nigeria is essential, one that concentrates on all three important parts of an educational system: well-defined goals, planning in accordance with these goals and the assessment of programs to refine goals. This paper proposes two level programs consisting of architecture education system and sustainable architectural design subsystem (This consists of sustainable theoretical and design studio teaching/practical courses, and interdisciplinary courses, relating to sustainability education in architectural curriculum). This should require students to work on and analyze real life environmental problems relating to water and energy systems at different scales either on the campus itself or in the community at large. Thereby implying a review of the present curriculum of the architectural education and the need to specifically bridge the gap between the academic environment and the professional practice world which will infuse in the prospective architect what the school could not give through Student Industrial Work Experience Scheme (SIWES).

Adequate research, human, financial and time resources must be devoted to sustainable architectural education.

Architectural educators and professionals should promote sustainable architecture through direct experiential learning, using appropriate methodologies, tools and

techniques, must continually evolve and disseminate the knowledge base of sustainability through exemplary research and architectural practice. The knowledge base must be widely disseminated in a manner that is easily accessible to students, educators, practitioners and the general public via a web portal or online sustainable search engine.

Generate and perpetuate a dialogue, collaboration and partnership locally and internationally between the professionals, academics and students to facilitate and encourage exchange of ideas, joint research, study tours and faculty exchange programs in order to extend domestic and international connections.

There is the need for the architectural education system to place emphasis on fostering attitudes compatible with sustainability behavior and needs as well as human capital development through the training of lecturers in sustainable building to teach, supervise and support students. Also, there is the need to attract and sustain world renowned sustainability specialists and under their guidance, students should receive substantial training in sustainable architecture design and cultivate a global competitiveness in the international society.

Conclusion

The introduction of education on green architecture in Nigeria and the existing rating systems on an international level such as the Building Research Establishment Environmental Assessment Method (BREEAM, UK); Comprehensive Assessment System for Building Environmental Efficiency (CASBEE, Japan); Green Globes (Canada); Green Star, (Australia, New Zealand and South Africa); the Leadership in Energy and Environmental Design (LEED, US); Haute Qualité Environnementale (HQE, France) and the Indian Green Building Council (IGBC) Green Homes will create a more informed approach towards designing buildings based on the principles of sustainable architecture at a national level.

To achieve architectural education for sustainability lecturers should take a leadership role, breaking new grounds to prepare society for a sustainable age accelerating change in a world of increasingly diverse and growing populations, an expanding economy, and changing global environment and technology. Also, policy enforcement, monitoring, awareness, funding, training, research, sustainability strategies, practices, programs, leadership and administration, curriculum, community outreach and student initiative/involvement must be implemented consciously at all levels in Nigeria.

There is the need to cooperate with other groups, provide networking and cluster opportunities for architectural schools, lecturers and students, support schools in their growth from awareness through to leadership in education for sustainable development, foster empowerment in sustainability program and focusing on student involvement and learning.

There is the need to integrate sustainable concept in design thinking in ideological level, methodological level and the practicing level. This hierarchical multi-layer approach can help to formulate a value-based design philosophy for introducing sustainable design laboratory/studio and sustainability related syllabuses to the architectural education.

Developing a sustainable design curriculum should be part of the focus and a long term goal of architectural sustainable thinking in education worldwide since the architect's fundamental responsibility is to create environmentally responsive designs, creating connections between people and aspects of place. This demands perceptual and

analytical abilities pertaining to ecological wisdom and practical means essential to create a built environment that would fit a triplet system of social, economic and environmental attributes.

Literal cooperation and participation between academic and practical expertise is essential to incorporate sustainability concepts within the educational process. Sustainability has many approaches so it is necessary to introduce supporting structures and value engineering, train students on how to utilize this managerial methodology to organize their green building design thinking. Sustainability as a continuing cyclic concept requires feedback action which encourages introducing post occupancy evaluation to the architectural profession. This will enable future Architects propose designs and architectural solutions to challenges facing the world e.g. climate change, environmental destruction, social disintegration, poverty, natural resource exhaustion, and financial instability. The paper recommends that all stakeholders within the society should cooperate at all levels to achieve sustainability as a unified goal. Finally, the research concludes that policy enforcement, monitoring, awareness, funding, training, research, sustainability strategies, practices, programs, leadership and administration, curriculum, community outreach and student initiative/involvement must be implemented consciously at all levels in Nigeria.

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Familial Factors Predicting Resilience among Adolescents in South Eastern Nigeria

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Abstract

The present study focused on the influence of living with parents and family types on the exhibition of resilience among adolescents in selected secondary schools of Enugu metropolis from the Eastern part of Nigeria. From the study it has been observed that differences exist in the exhibition of resilience across different family-of-origin types. However, living with parents did not influence the show of resilience. There is need for parents no matter their level of education and socioeconomic status to foster internal locus of control by having their children participate in activities which are meaningful and related to their lives and which they have control over the outcome. Parents and caregivers should be responsive to the needs of their children and wards in whichever way they can, as these go a long way to ensure the success of the youths later in life. A social support policy should be developed by the government.

Keywords: Resilience; Family types, living with parents, Social support

Introduction

In Nigeria, there is a great emphasis on adolescent vulnerability to drugs, HIV/AIDS, teenage pregnancy, and truancy. Studies abound on youth maladaptive behaviours (Inerhumwunwa, 2009; Odebunmi, 2007). However, there is need to shift focus on the other adolescents who live a productive life and stand out regardless of the seeming challenges. (Ibeagha, Balogun, & Adejuwon, 2004). For example two adolescents of the same age and sex are exposed to the same stressful experience; one crumbles while the other remains emotionally stable. Why? Changes in every facet of life and development of the Nigerian society such as political, economic, social, psychological and technological contain many risk factors with the potential of forming key barriers to the wellbeing of adolescents. The factors include socio-economic deprivation, poor access to basic services, unemployment, crime and gangsterism, inaccessible and unsafe residential environments, poor parental involvement in educational matters, poor human resource development in schools, dysfunctional family orientations and the profound ravages of HIV/AIDS on all aspects of family life (Ibeagha, Balogun, & Adejuwon, 2004). These changes may also have brought stressful situations to which individuals most especially adolescents have to adapt. Protective social factors and individual characteristics of resilience are essential in helping individuals to cope and bounce back from such stressful experiences. Adolescents are known to experience many problems, such as teen pregnancy, alcoholism, drug use and abuse, violence, school failure, and eating disorders (Callahan, Tolman, & Saunders, 2003; Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003; Elkins, McGue, Malone, & Iacono, 2004; Millan, Ickovics, Kershaw, Lewis, Meade, & Ethier, 2004). The extent and seriousness of these problems may cause social scientists, policymakers, and parents not to focus on youth who are well-functioning; teens that excel in school; have positive family and peer relationships; and have minimal participation in risky behaviours such as drug use, premarital sex, or delinquent acts and over emphasize on youths who are dysfunctional or engage in maladaptive behaviours (Damon 2004). Psychology as a field has operated within a disease model (Seligman & Csikszentmihalyi, 2000) which highlights the prevalence of mental illnesses (such as depression, personality disorder, or anxiety attacks) and other maladaptive behaviours. However, the costs of adopting this disease model included the negative view of psychologists as 'victimologists' and 'pathologisers', the failure to address the improvement of normal lives and the identification and nurturance of high talent. Just to illustrate, if you were to say to your friends that you were going to see a psychologist, what is the most likely response that you would get? 'What's wrong with you?' How likely are you to hear something along the lines of: 'Great? Are you planning to concentrate on self-improvement?'

The myriad stress factors confronting young adolescents in the various contexts in which they find themselves, all hold grave potential of becoming risk factors, especially in the family, if the normal support structures are absent or poor. There are three sub systems in a family system: parents, parent-child and siblings. The power structure in healthy families is hierarchical, with the parents sharing equal power and children having input in a democratic fashion. Yet, it is clear the parents are parents, and children are children. While status refers to the position and implies rank in a social hierarchy, "role refers to the more dynamic aspects of the position, it is more to do with what the people in various positions do or are expected to do… In the family, individuals only exist within the context of the roles and statuses they occupy."(Longress, 1990. p.322).

Unhealthy family systems have almost closed boundaries with fixed and rigid connections or no connections whatsoever. Almost everything is fixed and rigid: goals, roles and relationships and rules and norms. Unhealthy family systems don't have equal power, the higher levels subsystem (father) usually rules and the lower level subsystems (mother/children) are subservient. The father can rule his family and limit their behaviour. He can effectively block healthy adaptations by limiting the behaviours /roles of family members and by isolating the family system from the community." The family, like all systems, relate through a process called Feedback. It is the feedback loops or circuits that maintain the system functioning. In closed system families, the feedback circuits are negative and work to keep the system frozen and unchanging. This is called "dynamics homeostasis". For a family to be healthy, fathers and mothers must have a good sense of who they are, evidenced by good communication skills, healthy ego boundaries, and flexible roles. Each parent must be healthy in order to have healthy relationships. Intimacy requires that power be shared in the relationships. Since children don't have equality with their parents, the nature of the parental-child relationship is not intimate. According to Bradshaw, (1988) if the marriage is functional, the children have a chance to be fully functional. If the marriage is dysfunctional, the family members are stressed and adapt dysfunctionally.

Kizziar, (1989) characterized four types of troubled or dysfunctional family systems, which are breeding grounds for co-dependency.

- The Alcoholic or Chemically Dependent Family System.
- The Emotionally or Psychologically Disturbed Family System.
- The Physically or Sexually Abusing Family System.
- The Religious Fundamentalist or Rigidly, Dogmatic Family System.

In dysfunctional families, parents violate the boundaries of their children. Parents from these families do not respect their children's personal freedom and privacy, they discount their children's feelings, do not honour their attempts at independent thinking and impulses towards creativity, spirituality and self actualization. These deficits in the children's development are revisited by problems in their adult relationships and careers, and with raising their own families. When parents disrespect a child's boundaries, the child's sense of self –his or her autonomy, self respect, feelings of effectiveness and of making a difference are compromised. In place of a healthy sense of self, children may come to feel they are damaged goods: unworthy, inferior, inherently bad, incompetent, stupid or ugly. This negative conditioning limits what they believe they are capable of doing, being and having throughout their lives. One of the central priorities of the recovery process must be to reconstruct this damaged self-esteem. Boundaries in the family are violated and are manifested in different parenting styles as thus:

Deficient parents hurt their children more by omission than by commission. Frequently, chronic mental illness or a disabling physical illness contributes to parental inadequacy. Children tend to take on adult responsibilities from a young age in these families. Parental emotional needs tend to take precedence, and children are often asked to be their parents' caretakers. Children are robbed of their own childhood, and they learn to ignore their own needs and feelings. Due to the fact that these children are simply unable to play an adult role and take proper care of their parents they often feel inadequate and guilty. These feelings continue into adulthood (Lambert, 1997).

Unlike the deficient parents, controlling parents fail to allow their children to assume responsibilities appropriate for their age. These parents continue dominating and making decisions for their children well beyond the age at which this is necessary. Controlling parents are often driven by a fear of losing their control on their children. This fear leaves them feeling betrayed and abandoned when their children become independent (Forward, 1989). Consequently, these children frequently feel resentful, inadequate, and powerless. Transitions into adult roles are quite difficult, as such adults frequently have difficulties making decision independent from their parents. When they act independently, these adults feel very guilty as if growing up were a serious act of disloyalty (Lambert, 1997). Alcoholic families tend to be chaotic and unpredictable. Rules that apply one day don't apply the next. Promises are neither kept nor remembered. Expectations vary from one day to the next. Parents may be strict at times and indifferent at others. In addition, emotional expression is frequently forbidden and discussions about the alcohol use or related family problems are usually nonexistent. Family members are usually expected to keep problems secret, thus preventing anyone from seeking help. All of these factors leave children feeling insecure, frustrated and angry. Children often feel there must be something wrong with them, which makes their parents behave this way (Lambert, 1997). Children from this family develop mistrust for others and difficulty with emotional expressions. They also develop difficulties with intimate relationship which is carried over into adulthood (Lambert, 1997). It is important to note that children of alcoholics are at a higher risk of developing alcoholism than children of non-alcoholics (Lambert, 1997). Abuse can be verbal, physical or sexual. Verbal abuse such as frequent belittling criticism can have lasting effects, particularly when it comes from those entrusted with the child's care. Criticism can be aimed at the child's looks, intelligence, capabilities, or basic value. Some verbal abuses are very direct, while others use subtle put-downs disguised as humour. Both types are just as damaging. Definitions of physical abuse vary widely. Many parents, at one time or the other may have felt the urge to strike their child. With physically abusive parents, however, the urge is frequent and little effort is made to control this impulse. The Federal Child Rights Act of Nigeria (2007), defines physical abuse as "the infliction of physical injuries such as bruises, burns, welts, cuts, bone or skull fractures; These are caused by kicking, biting, beating, knifing, strapping, paddling etc." Striking a child has much to do with meeting the parent's emotional needs and nothing to do with concern for the child; parents often erroneously justify the abuse as "discipline" intended to "help" the child (Lambert, 1997). Physically abusive parents can create an environment of terror for the child, particularly since violence is often random and unpredictable. Abused children often feel anger. Children of abusive parents have tremendous difficulties developing feeling of trust and safety even in their adult lives.

While parents may justify or rationalize verbal or physical abuse as discipline aimed at somehow helping the child, there is no rationalization for sexual abuse. Sexual abuse is the most blatant example of an adult abusing a child purely for that adult's own gratification.

Sexual abuse as defined by Lambert, (1997) can be any physical contact between an adult and a child where that contact must be kept secret. Demonstrations of affection-such as hugging, kissing or stroking a child's hair –that can be done openly are quite acceptable and even beneficial. However, when physical contact is shrouded in secrecy then it is most likely to be inappropriate. Sexual abuse happens to both boys and girls. It is perpetrated by both men and women. It cuts across lines of race, socioeconomic level,

education level, and religious affiliation. In most cases, sexual abuse is part of an overall family pattern of dysfunction, disorganization and inappropriate role boundaries. Responsibility for sexual abuse in all cases rests entirely with the adult. No child is responsible for being abused. Most sexually abused children are too frightened of the consequences for themselves and their families to risk telling another adult what is happening. As a result, they grow into adulthood carrying feelings of self-loathing, shame and worthlessness. They tend to be self-punishing and have considerable difficulties with relationship and with sexuality.

According to Kizzier (1989) in authoritarian families whose members may be subjected to inflexible religious values or a black- and-white one-dimensional view of the universe by a dominant parent, children may be subject to the following problems: They suffer from a dozen identity states, dominated by oppressively strict moral values. Their feelings become cut off from belief and they are no longer certain of what they really feel. The members experience great difficulty in thinking and deciding for themselves, as dogma or parental authority overshadows free choice and independent thinking. They have discomfort sharing honestly about their past, as they believe they must continually pretend they are living up to the ideal held up to them by their authoritarian parents. Kizzier (1989) opined that children who grew up in families where the system is unhealthy or dysfunctional show a variety of psychological, behavioural and interpersonal issues. Psychologically, they suffer from sleep and eating disorders, fears and phobias, recurring nightmares, dissociative reactions, depression, anxiety and hysterical reactions, have low self esteem, believe they are polluted or inferior and feel intense guilt, fear, shame, and anger. The behavioural consequences include; school problems, truancy, delinquency, running away from their families, prostitution, promiscuity and higher rates of suicide attempts and complete suicides. Interpersonally, they have difficulty trusting others, and they are more likely to physically and sexually abuse their own children and are more likely to be sexually victimized (Finkelhor, Araji, Baron, Peters & Wyatt, 1986). Some adults experience difficulties with adult sexual adjustment and nearly half show decreased sexual drive after childhood sexual abuse (Herman and Hirschman, 1981). So intense are some of the reactions to growing up in these families that Cermak, (1986) believes they are similar to "Post Traumatic Stress Disorder" experienced by survivors of disasters or wars such as Vietnam veterans. War veterans and adults growing up in dysfunctional families may, without warning, re-experience feelings, thoughts and behaviour that were present during the original traumatic event. These re-immerging painful feelings are newly triggered by environmental stimuli (Briere, 1984).

Theoretical Background

Transactional model of resilience (Kumpfer, 1999)

For the purpose of this research work, the transactional model of Kumpfer will form the theoretical basis because it considered the interaction between social and psychological factors that impinge on the resilience process of an individual. The Resilience Framework of Kumpfer aims to "review resilience forces in multiple environmental risk factors and the interaction between the high –risk environment and the internal resilience factors of the individual" (Kumpfer, 1999). The background, of resilience research mostly founded on high –risk individuals, may seem to exclude individuals from a seemingly supportive care giving environment; however, it is essential

to note that "the support and opportunities that represent protective factors of individuals facing adversity apply equally to all individuals" (Bernard 2004) The Resilience Framework of Kumpfer takes a holistic view of the individual and elucidates internal resilience factors that can be considered in resilience education. The model consists of four main areas of influence and two areas of transactional processes, making up six major predictors of resilience (Kumpfer 1999).

The model begins with an initiating event, which is a stressor or a challenge that signifies the disruption in homeostasis of the individual or the environment and calls for a resilient integration to maintain the stable equilibrium of the individual or environment (Kumpfer 1999).

The initiating event marks the beginning of the resilient process, and the process ends with an out come, which may constitute either resilient reintegration or maladaptive reintegration, the later constituting non-resilience.

The six major predictors of resilience are:
- The stressors or challenges.
- The environmental context.
- The person –environment transactional process.
- The internal resilience factors or individual characteristics and outcomes of interaction.
- The resilience process or the area of transaction between the individual and the outcomes.
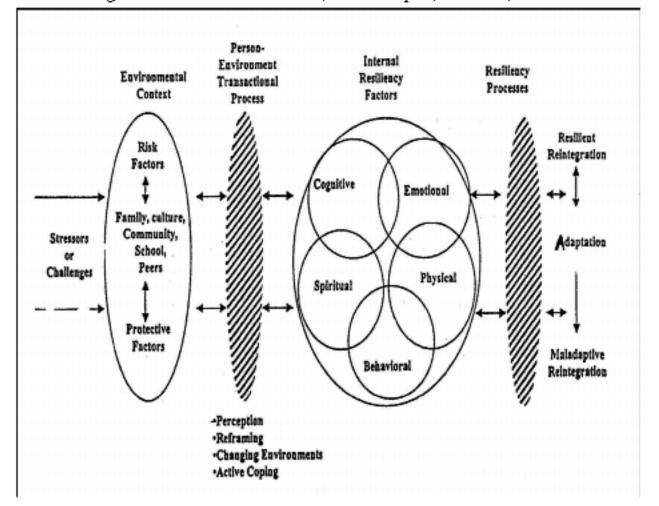- Adaptive, resilient reintegration or maladaptive.

Figure 1: Resilience Framework (Karol Kumpfer, 1999:185)

The Resilience Framework of Kumpfer consists of Six major predictors of resilience, with each predictor of resilience being discussed individually below.

Stressors or Challenges

According to Kumpfer (1999), the model indicates that the resilient process begins with an exposure to stressors, demands and challenging situations that compel an individual to develop strength and grow from such experiences and cope successfully with the negative events.

The studies of Werner & Smith (1992); Rutter (1995); Haggerty et al (1995); Wang & Gordon (1994); and Kumpfer (1999) regarding the lives of troubled children from troubled environments include major stressful events like poverty (unemployment), parental death, psychopathology and violent environments. In this study, stressful events will include major and acute stressors such as being bullied at home, struggles with relationships, being exposed to stressful environments; which are peculiar features in a dysfunctional family, and individual demands.

The Environmental Context

According to Kumpfer (1999), the social environment of an individual is extremely important in the resilience process. It influences the development and socialization of the child. It also serves to either cushion or intensify the impact of stressful and challenging events on the child. Kumpfer (1999) mentions that resilient individuals even in high –risk social environments manage to find some support that will ensure them adequate opportunity for a positive and healthy development. The support and nurturance that individuals receive from caring families, communities, school, and peer group members enable them to acquire positive and healthy socialization skills. The individual's social environment is able to provide the following support to encourage the resilience process:-

Effective teaching, advice, a sense of connectedness, family cohesion, good parenting styles and values, positive role modeling, effective supervision and discipline.

Opportunity for meaningful involvement, empathy and emotional nurturance, pro-social peers (as opposed to anti-social) and social support, a sense of autonomy and self – worth.

Person-Environment Transactional Process

The transactional process reconciles the social environment and the individual (Kumpfer 1999). It also explains different strategies the individual implements to adapt and modify the environment in order to reduce environmental risk factors. Figure 1.1 (The Resilience Framework model of Kumpfer), illustrates strategies that can be employed by the individual to adapt and modify the environment. These include using selective perceptions, cognitively reframing, changing the environment and actively coping (Kumpfer 1999); Rutter (1995); and Joseph (1994) mentioned internal resilience factors like temperament as precursors to resilience.

The Resilience Framework of Kumpfer indicates that the interactional processes, which empower individuals to reduce the effect of stressors, challenges and demands, include seeking and identifying with prosocial elements in the environment and facilitating relationships with positive role models and mentors. It also includes.

The need to change the risky social environment by either migrating or seeking the company of prosocial peers or individuals in their environment who will serve as protective factors.

Individuals seeking a positive life development and adaptation by identifying with adults/peers who provide positive role modeling, advice, nurturance, support, structure, discipline, supervision and create opportunities for effective and meaningful involvement.

Hypothesis

Living with parents will significantly predict resilience amongst adolescents.

Family type will significantly predict resilience amongst adolescents.

Methods

Participants

A total of 423 Senior Secondary 1 and 2 students (208 females and 215 males) were randomly selected using proportionate stratified random sampling. Since the population has subgroups that differ in various aspects such as sex, family type and class

size. According to Akuezilo and Agu (2003), stratified random sampling is used when we have sub groups in our population that are likely to differ substantially in their responses or behavior. The participants were drawn from Six Government (Single Sex) Secondary Schools in Enugu metropolis. The female Schools were; Girls Grammer School Awkunanaw, Queens Secondary School and Girls Secondary School, Abakpa while, Union Secondary School Awkunanaw, National Grammer School Nike, and New Haven Boys Secondary School were the male schools used. Using proportionate stratified random sampling technique, 50 were selected from Girls Grammer School Awkunanaw, 70 from Girls Secondary School Abakpa; 100 from Queens Secondary School; 100 from Union Secondary School Awkunananaw; while, 70 and 60 participants were sampled from National Grammer School Abakpa and New Haven Boys respectively. The researcher adopted proportionate stratified random sampling to maintain proportionate representation of the participants. The participants are within the biological age range of 14 to 18 years. The S.S 3 Students were not in session at the time of the study, because they had concluded their 2010 WAEC Examinations.

Instrument

The instrument used in the study was, Mampane (2005) 18-item Resilience Scale. However, during data collection, the instruments were categorized into two sections (A & B) for easy administration and scoring. (See Appendix 1)

Section A comprised of demographic and social information like age, gender, family type, and living with parents.

Section B comprised a 25-item Resilience Scale developed by Mampane (2005). The scale is designed to measure resilience amongst young people. It has five response options ranging from strongly disagree (1) to strongly agree (5). According to the Scale, Scores above the mean 4.51 for the girls and 4.22 for the males respectively indicate high resilience. For this study, the instrument was re-validated using Nigerian sample. 250 adolescents comprising 100 females and 150 males were selected from three secondary schools in Okigwe Local government of Imo State. The 25-item scale was reduced to 18 items. This is as a result of some items that could not load up to 0.30 during the item total correlation where therefore dropped. According to Pedhazur (1997), any item that did not load up to 0.30 on item total correlation analysis does not have much relevance in tapping into the construct. However, a concurrent validity of 0.83 was obtained by correlating the instrument with Family strength Scale. In addition, a pilot study was carried out using 100 students (52 males and 48 females) selected from College of Immaculate Conception (C.I.C) Enugu. Data obtained yielded a split half reliability coefficient of 0.73 at p< .01.

Procedure

First and foremost, an approval was got from the Principals of the six secondary Schools that were used for the study. The six schools were selected out of about 18 State owned Secondary Schools in Enugu metropolis, from three Local Government Areas (Enugu North, Enugu South and Enugu East). Systematic random sampling was used to select two single-sex schools from each local government area. From Enugu North L.G.A., New Haven Boys Secondary School and Queens Secondary School were selected. Schools selected from Enugu South L.G.A included were Girls Grammer School Awkunanaw, Union Secondary School Awkunanaw, while, Girls Secondary School, Abakpa, Nike Grammer School, Nike, were selected from Enugu East L.G.A. To have a good representative sample, proportionate stratified random sampling was used to

select participants from each school for the study. In doing this, the schools were grouped into two strata of boys and girls and further grouped into SS I and SS II. The simple random sampling was used to appropriate sample size from each stratum. The sample size approximated the same relative number from each stratum of the whole population. This was done by the researcher with the assistance of the Form teachers after the creation of rapport and confidentiality. Copies of the research instruments were distributed among the Schools selected within a period of four weeks. The students were assembled during their break periods. After creating rapport and confidentiality, those selected responded to the items of the questionnaires and handed it over to the researcher within a short period of time, though there was no time limit for that. Obviously, the organization of the students was done with the assistance of Class Form teachers. 423 copies of the research instruments were correctly filled and returned and were used for data analysis.

The table A, below showed the number of questionnaires administered the percentages and number of copies properly completed/returned in each school.

Table A.

SN	Name of School	Number Administered To each School	Number Properly Competed & Returned	Percentage of Return %
.	Girls Grammer School Awkunanaw	50	46	92%
.	Union Secondary School Awkunanaw	100	98	98%
.	Girls Secondary School, Abakpa	70	62	88.6%
.	National Grammer School, Nike	70	62	88.6%
.	Queens Secondary School	100	97	97%
.	New Haven Boys Secondary School	60	58	96.7%
	TOTAL	450	423	

Design/ Statistics

Correlational design was used. The choice of this design was informed by the following assumptions as stated by Elmes, Kantowitz and Roediger (1995). These assumptions hold that correlational design is applied where experimentation (manipulation of variables) is practically impossible, when the researcher is looking for degree and direction of relationship between two or more variables, allows the researcher to determine simultaneously the degree of direction of relationship with a single statistics, and knowledge of this relation allows prediction to be made. Multiple regression as a

statistical test was applied to the six hypotheses respectively to test them. The choice of this statistical test was built on the assumptions of multiple regression analysis as posited by Cohen and Cohen (1983), Pedhazur (1997), Osborne and Waters (2002). The assumptions hold that multiple regression can only accurately estimate the relationship between independent and dependent variables if the relationships are linear in nature. Regression assumes those variables are multivariates (measuring the predictors as we find them rather than fixing them in advance). It considers the relationship between two or more variables. Multiple regression needs at least 3 variables of metric (ratio or interval) scale. Finally, a rule of thumb for the sample size is that regression analysis requires at least 20 cases per independent variable in the analysis. In the simplest case of having just two independent variables it is required that N >40.

Results

Table 2: Mean scores on resilience by different types of families.

Family Types	N	$\overline{X}$
1. Emotionally Depressed	48	79.13
2. Controlling	104	76.98
3. Alcoholic	45	78.60
4. Abusive	15	72.87
5. Functional	211	79.61
Total	423	

Table 3: A summary table of multiple regression analysis showing the joint and independent interaction on resilience by living with parents and family type,

Dependent Variable	Independent Variables	R^2	B	T	F	P
Resilience	Constant	.30		7.48	3.39	<.05
	Living with Parents		.04	.75		n.s
	Family Type		.11	2.15		<.05

Table 4: The confidence limit of Living with Parents and Family Type on Resilience.

Variables	95% confidence Interval of B	
	Lower Bound	Upper Bound
Constant	45.43	77.81
Living with Parents	-1.73	3.85
Family type	.05	1.10

The association between the dependent and the independent variables is shown to be 0.30 (multiple R). Together living with parents and family type accounted for 30% of the variations in resilience. The independent variables are positively related to the dependent variable (See Table 3).

Living with Parents

The regression coefficient for living with parents was 1.06 (95% Cl = -1.73 to 3.85). The confidence limits was also found to encompass a negative value, it is then concluded that the population regression coefficient for living with parents is negative (t = 0.75, P = 0.46 N.S). The standardized regression coefficient (Beta = 0.04) shows that living with parents is not a strong predictor of resilience (See Tables 3 & 4).

Family types

The regression coefficient for family type was 0.57 (95% Cl = 0.05 to 1.10). Since the confidence limits did not encompass a negative value it can be concluded that the population regression coefficient for family type is positive (t = 2.15, P <0.5). The standardized regression coefficient (Beta 0.11) indicated that family type is a strong predictor of resilience. It accounted for 11% of the variations in resilience (See Tables 3 & 4). From the mean table (Table 2), adolescents from functional families were found to exhibit higher resilience (x= 79.61) than other adolescents from dysfunctional families (Emotionally Depressed, x = 79.13; Controlling, x = 76.98; Alcoholic, x = 78.60; and Abusive, x = 72.87 respectively). Adolescents from abusive families tended to be lower in resilience than any other family type.

Discussion

The present study contributes to the literature by examining variables hypothesized to serve as protective factors that predict resilience among adolescents. Specifically, the present study investigated the relationships living with parents, family type and resilience of 430 college students.

The first hypothesis which stated that living with parents will significantly predict resilience among adolescents was not confirmed. Nigeria is a collectivist culture that has a profound system of the extended family pattern. This cultural pattern makes it very difficult to assess the impact of not living with biological parents on resilience. This is because, whether the adolescents are living or not living with their parents, there will be significant others who provide same if not better care and nurturance thereby balancing the supposed influence of living or not living with parents. Nonetheless, living with parents has been found as a strong factor in family connectedness which is a resiliency factor (Scott-Fisher et al., 2000).

Hypothesis 2 which states that family type will predict resilience among adolescents was confirmed. A cursory look at the mean table (Table 3) for family type shows that adolescents who come from functional families scored higher on resilience scale than those from dysfunctional families. This presents the family as a protective factor and characteristic that facilitates the development of resilience in youth. The family as a protective factor is more powerful than risk factors and serves to protect adolescents across ethnic, social class, geographic and historical boundaries (Scott-Fisher & Campbell-Forester, 2000). The family as an environmental factor authenticates the ecological domain of resilience. In their work, Jackson and Warren (2000) found that social support, positive family environment operated as protective factors in the prediction of resilience. The ecological approach in resilience as a process –oriented model argues that the family, individual attributes (e.g. locus of control), community and social levels are potential protective factors (Sandler, 2001). Middle adolescence as a developmental life cycle is characterized by changes and transitions in the biological,

cognitive, and psycho-social facets of life. These developmental changes are affected by the adolescents' social environment such as the home (Rutter, 1995). To function effectively, the developing middle-adolescents rely on the interconnections, communications and participation within and between the Microsystems with which he/she has relationships such as the home, school and community (Bronfenbrenner, 1979). Many of the salient risk and protective factors for youth problem behaviours originate in the family (Spoth, Kavanagh, & Dishion 2002).

In functional families consistent parenting practices promote attachment and emotional bonding which are implicated in the development of resilience.

Implications of the findings

The results of this study revealed that living with parents and family type accounted for 30% of the variance in the adolescents' resilience scores. Specifically family type accounted for 11% of the variance in resilience scores. The present study has found that family type (condition) as a cluster of protective factors, has predicted psychological resilience (Masten & Coatworth, 1998). This study has implications for parents, guardians and counsellors in handling youths that are exposed to risk conditions. Important factors that have been consistently mentioned by the resilient youths in this study are protective monitoring and motivational support received from adult relationship. This has implication for the quality of parent-child relationships as perceived by the youths. Resilience should be viewed as something we foster throughout children's development by strengthening protective processes for children at critical moments in their lives. When resilience is viewed as a developmental process that can be fostered, then strategies for change can be directed toward practices, policies, and attitudes among practitioners. Within every young person is a delicate balance during those critical life events between the protective processes and risk factors that originate both internally and externally. Protective processes have to be reinforced constantly so that the potential for young people to be resilient when faced with risk factors and vulnerabilities remain intact. Adequate and current information are necessary to keep youths at risk on track and to learn from the mistakes of others who may not have listened and have fallen into error. However, more research will be needed, both qualitative and quantitative to establish the exact causal pathways to resiliency development in children. However, all individuals have the capacity for resilience. Environmental and individual protective factors play a prominent role in determining the type of resilience the individual will demonstrate. Building up resilience in learners could be effectively achieved by means of the development of resilience factors through empowerment by primary and secondary educators. Resilience education is mentioned by numerous researchers as an effective intervention to promote and nurture resilience (Boyd & Eckert, 2002; Brooks & Goldstein, 2001; Brown, D'Emidio-Caston & Benard, 2001; Joseph, 1994; Krovetz, 1999; Thomsen, 2002; Winfield, 1994). Resilience education recognises the importance of providing skill programmes and encouraging the awareness and development of strengths and talents to augment personal weaknesses. To this end, the reliable identification, of those learners in need of the intervention, would certainly make a vital contribution. Researchers focusing on a variety of situations, such as wars, natural disasters, family violence, extreme poverty, and parental mental illness, have uncovered the predictive abilities of traits, conditions, and situations in enabling vulnerable children and youth to achieve healthy outcomes despite profound risks (Masten, 2001). Consistently, three clusters of protective factors have been recognized as fostering

psychological resilience: (1) characteristics of the individual, such as intelligence and an appealing disposition; (2) characteristics of the family, such as its consistent and close relationships and socioeconomic advantages; and (3) characteristics of the community, such as bonds to non-related adults who are positive role models, connections with community organizations, and good schools (Masten & Coatworth, 1998). Although the influence of the first two types of factors in this triad of protective factors has been fairly well established, relatively few studies have focused specifically on the protective qualities of support outside the family (Garmezy, 1985).

The findings of this study highlight the importance of the family system, and social support from significant others for the resilience of adolescents. These findings, therefore, point to the need to contextualize programming for children and youth with emphasise on the family system. For example, educational programs that promote healthy family systems, as well as address the social injustices they face, will help to make foster resilience (Dei, Massuca, McIsaac, & Zine, 1997). The researcher suggests that interventions and programs that simultaneously promote culturally embedded and meaningful expressions of power and control, identity, relationships, and cohesion are likely to help young people navigate to health resources effectively. Moreso, there is need for parents no matter their level of education and socioeconomic status to build up their homes in whichever way they can, as these go a long way to ensure the success of the youths later in life. There is also need for the development of social support policy by the government, which will attempt to improve the lives of children especially those in poverty. Policy and programs for youth must be sensitive to developmental processes, and the environmental structures that put adolescents at risk.

Conclusion

Stress, demands and challenges are part of life. Adolescents in a township schools are exposed to numerous and severe risk factors by virtue of their life-stage and the township environment (Mampane & Bouwer, 2006). However, all individuals have the capacity for resilience. Environmental and individual protective factors play a prominent role in determining the type of resilience the individual will demonstrate. Building up resilience in learners could be effectively achieved by means of the development of resilience factors through empowerment by primary and secondary educators. Resilience education is mentioned by numerous researchers as an effective intervention to promote and nurture resilience (Boyd & Eckert, 2002; Brooks & Goldstein, 2001; Brown, D'Emidio-Caston & Benard, 2001; Joseph, 1994; Krovetz, 1999; Thomsen, 2002; Winfield, 1994). Resilience education recognises the importance of providing skill programmes and encouraging the awareness and development of strengths and talents to augment personal weaknesses. To this end, the reliable identification, of those learners in need of the intervention, would certainly make a vital contribution.

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A Route Analysis of Tankers/Trailers Accidents on Nigerian Roads: the Situation from 2007 to June 2010.

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Abstract

The use of trailers and tankers has become a major means of transporting heavy goods as well as petroleum products from one place to another. This paper examines the problems associated with   trucks and trailers on Nigerian roads with particular attention to increasing number of accidents associated with it. The paper uses data collected by Federal Road Safety Commission (FRSC) to examine the extent and distribution of road traffic accidents involving trucks and trailers on selected highways in Nigeria. The paper recommends amongst others the need for harmonization and linkages between different data sources and users to obtain maximum value from the information and effectively control the use of trucks and trailers and by extension reduce the rate of accidents or crashes involving them.

Introduction

Truck and trailer traffic crashes occur on almost all roads in every country of the world. Each year it takes the lives of more than a million people and incapacitate many millions more(Fasakin, 1990). Pedestrians and users of non-motorized vehicles – including bicycles, rickshaws and carts – and motorcyclists in low-income and middle-income countries carry a large proportion of the global burden of road traffic death and serious injury(Meakin, 1989). The elderly, children and the disabled are particularly vulnerable. Despite the growing burden of road traffic injuries, road safety has received insufficient attention at both the state and local levels. The reasons include lack of general awareness and specific information on the scale of the problem, on the health, social and economic costs of road traffic crashes. The responsibility for dealing with the various aspects of accidents involving trucks and trailers is especially hinged on the design of road networks and the introduction and enforcement of road safety legislation, and the care and treatment of crash survivors. In this environment, it is not surprising that political will has frequently been lacking to develop and implement a holistic and effective safety policies and programmes in Nigeria.

Buses and trucks are a major mode of travel and haulage in developing economy. High volumes of passengers and goods being transported with trucks have an impact on safety, not only of the passengers themselves, but also on vulnerable road users. In Nigeria, buses and trucks are involved in almost two thirds of crashes involving vulnerable road users, and these people make up over 75% of all road traffic deaths (Jacob, 1989).

Statement of problem

Articulated vehicle accidents have been associated with serious damages to road furniture, environment and in some cases private properties. These accidents are familiar sights on our urban roads and intercity highways. It is not uncommon to see damaged guardrails, signage, kerbs(median and sides) etc caused as a result of truck and trailer accidents. Different opinions have been put forward in the area of morbidity and mortality burden in developing countries. To these opinions, there have been numerous suggestions concerning articulated vehicle crashes and different factors have been stated in the literature which include rapid motorization, bad road, poor traffic infrastructure and poor behavior of road users. In summary, most trailer traffic accidents often involve three elements-the driver, the highway and motor vehicle. These three are linked in one way or the other with the following parameters which have been listed by the Federal Road Safety Commission- dangerous driving(DGD), Speed Violation(SPV), Tye Violation(TyV), Brake Failure(BFL), Mechanically Deficient Vehicle(MDV), Overloading Violation (OVL), Loss of Control(LOC), Wrong Overtaking(WOV), Speed Violation(SVL) etc. All these characterize truck vehicle accidents in Nigeria.

Heavy duty truck accidents are actually challenging and what this means is that we require special knowledge and careful investigation to evaluate the causes of crash and find solution to this problem. The increasing use of heavy-duty vehicles to transport bulky goods that could otherwise have been transported by rail or water has given a lot of problems which will continue to exist until multimodal system is addressed in our transportation plan . This coupled with the lack of vehicle maintenance and the institutional failure in the aspect of the enforcement of traffic laws. Another worrisome area is the level of education. Most of them can hardly read the road signs and this could

lead to reckless driving.   This paper therefore, examines the problems associated with trucks and trailers on Nigeria roads.

Methodology

Method and Data Acquisition

Data from Federal Road Safety Commission (FRSC, 2010) provided the bulk of information used in this study on road traffic accidents involving trucks and trailers on major highways in Nigeria. Road traffic crashes involving trailers and trucks included the routes and cases of road traffic crashes from 2007 to June 2010. Six major routes in Nigeria were selected based on the high volume trailers/trucks traffic on the routes. The routes include : Lagos- Ibadan, Kaduna – Zaria, Jos – Maiduguri, Calabar – Akamkpa, Lokoja – Abuja and Port-Harcourt – Aba Expressways. Descriptive method is used in analyzing the data collected. This descriptive method is useful in highlighting in clear terms the extent of the road traffic crashes on major Nigerian roads.

The following variables with abbreviation were used in the study: OBS – obstruction; SPV – Speed violation; DGD dangerous driving; TYV – tyre violation; BFL brake failure; MDV mechanically deficient vehicle; OLV – overloading violation; DOV – dangerous overtaking; LOC loss of control; RTV – route violation; DAD driving under the influence of alcohol and drug; SLV speed violation; WOV – wrong overtaking (adopted from FRSC, 2010).

Data Analysis and Discussion

The speed of trucks and trailers is at the core of the road accident problem. Speed influences both crash risk and crash consequence. "Excess speed" is defined as a vehicle exceeding the relevant speed limit; inappropriate speed" refers to a vehicle travelling at a speed unsuitable for the prevailing road and traffic conditions. While speed limits only declare higher speeds to be illegal it remains for each driver and rider to decide the appropriate speed within the limit. The speed drivers choose to travel at is influenced by many factors (see Table 1). Modern trailers and trucks have high rates of acceleration and can easily reach very high speeds in short distances. The physical layout of the road and its surroundings can both encourage and discourage speed. Crash risk increases as speed increases, especially at road junctions and while overtaking – as road users underestimate the speed, and overestimate the distance of an approaching vehicle.

Between 2007 and June 2010, dangerous driving (DGD) cumulatively accounted for the highest causes of crashes involving tankers and trailers with 1,038 representing 26.41%. Other major causes included speed violation (SPV) with 907 cases (23.08%), brake failure (BFL) 359 (9.14%), tyre violation (TYV) with 337 (8.58%), obstruction (OBS) with 306 (7.79%), and dangerous overtaking (DOV) 116 (2.95%). (see Table 2 below).

Table 2: Summary of Causes of Tankers/Trailers Rtc, 2007- 2010.

Causes	Total	%
OBS	313	7.79
SPV	927	23.08
DGD	1098	26.41
TYV	337	8.58
BFL	359	9.14
MDV	51	1.3
OLV	92	2.34
DOV	116	2.95
LOC	89	2.26
RTV	34	0.87
DAD	5	0.13
SLV	11	0.28
WOV	36	0.92
DOT	27	0.69
BRD	10	0.25
MDI	19	0.48
OTHERS	493	12.54
TOTAL	4017	100

Source: FRSC, Sept.,2010

Legend:
OBS – obstruction; SPV – Speed violation; DGD dangerous driving; TYV – tyre violation; BFL brake failure; MDV mechanically deficient vehicle; OLV – overloading violation; DOV – dangerous overtaking; LOC loss of control; RTV – route violation; DAD driving under the influence of alcohol and drug; SLV speed violation; WOV – wrong overtaking.

Table 1: Accidents Involving Tankers/Trailers on Nigerian Roads by Selected Routes

YEAR	Lagos-Ibadan	Kaduna-Zaria	Jos-Maiduguri	Calabar-Akamkpa	Lokoja-Abuja	Port Harcourt Aba	Total	
2007	39	14	26	9	18	2	99	
2008	68	34	21	14	19	3	159	
2009	111	39	19	11	12	4	196	
2010 June	78	28	14	11	50	3	184	
Total							638	100

Source: FRSC, Sept 2010

Analysis of 2007 records revealed that Lagos – Ibadan Expressway had the highest of 39 crashes followed by Jos – Maiduguri Highway with 26 crashes. While Lokoja – Abuja and Kaduna – Zaria Highways had 18 and 14 crashes respectively. mechanically deficient vehicle, overloading violation, dangerous overtaking, loss of control, driving under the influence of alcohol and drugs were the prominent causes of the tankers/trailer accidents.

In 2008 and 2009, Lagos – Ibadan Highway recorded the highest of 68 and 111 truck and trailer crashes for both years followed by Kaduna – Zaria with 34 and 39 numbers of crashes for the same period. These were probably due to speed violation, brake failure, Tyre Burst, obstruction and dangerous overtaking.

Furthermore, in 2010 (Jan – June), speed violation, dangerous driving , brake failure and overloading violations were the major causes of tanker/trailer crashes on Lagos – Ibadan Expressway with a total of 78 and Lokoja – Abuja with 50 road traffic crashes involving trucks. This was followed by Kuduna –Zaria and Jos – Maiduguri routes with 28 and 14 road traffic crashes respectively.

Hand-held mobile telephones

The increase in the number of hand-held mobile telephones has rapidly and additionally increased traffic crashes in many instances. This is so because the use of hand-held mobile telephones can adversely affect driver behaviour – as regards physical as well as perceptual and decision-making tasks. The process of dialling influences a driver's ability to keep to the course on the road (Meakin, 1989). Results of studies on distraction and mental load show that driver reaction times are increased by 0.5 – 1.5 seconds when talking into a mobile telephone (Bolade,1993).

Safety defects in existing roads

Deformations contributing to crash risk can be found in road designs, especially if they have not been reexamined by experienced road safety experts. Such deformations are frequently caused by the poor design of junctions or by design that allows for large

differences in the speed and the mass of vehicles and in the direction of travel. Poor road surfaces are a particular risk factor for users of trucks and trailers.

Vehicle-related risk factors

While trucks and trailer design can have considerable influence on road crashes, its contribution is generally around 3% in Nigeria. Though periodic vehicle inspections have not been found useful in reducing truck crashes, inspections and checks for overloading and safety related maintenance for larger trucks and trailers could be very important if such vehicles are more than 12 years old.

While there is in general no evidence that periodic truck and trailer inspections reduce crash rates, defective brakes on large trucks have been shown to be a risk factor. Brake failures have contributed to vehicles leaving the road and colliding with solid road-side objects such as trees, poles and road signs on major roads nationwide. These collisions are usually single-vehicle crashes and frequently involve young drivers, excess or inappropriate speed, the use of alcohol or driver fatigue as other road safety problem associated with trucks and trailers. The study also identified the negative impacts of bill boards off the road as the occurrence of crashes were caused by restricted visibility, due to the poor siting of these bill boards.

Conclusion

Analysis of available crash data and other road traffic researches show that while the main road safety problems experienced by trucks and trailers in various parts of Nigeria often differ in quality and quantity, they have many characteristics in common. The dominant or common characteristics of the risks associated with trucks and trailers on road traffic environment were as follows: unnecessary travel, the choice of less safe travel modes and routes, and unsafe mixes of traffic all lead to increased risk. The design of roads and road networks is an important factor. Exposure to risk is increased significantly by road networks failing to route heavy traffic around populated areas or to separate pedestrians from motorized traffic.

The study concluded that a reduction in all threeof these behaviours could reduce the incidence of crashes involving trucks and trailers by up to 19%. Surveys of commercial and public road transport in Nigeria and as confirmed by other studies (Adesanya, 1998; Amstrong, 1987; Badejo, 2009) have revealed that transport owners, in pursuit of increased profits, frequently force their drivers to drive at excessive speeds, to work unduly long hours and to work when exhausted. Studies by the Federal Road Safety Commission (FRSC, 2010) in Nigeria found that 52% of 107 single-vehicle crashes involving heavy trucks were fatigue-related and that in nearly 18% of the cases, the drivers admitted to having fallen asleep. Investigations by FRSC (2010) into fatigue showed that fatigue was a factor in about 30% of fatal crashes involving heavy commercial transport (Jacob, 1989; ITE, 2005).

Although studies have been less comprehensive in Nigeria, and have often involved retrospective accounts that were likely to underestimate the impact of fatigue, scholars (Bolade, 1993; Badejo,2009; Fasakin1990) suggest that drivers' fatigue is a significant factor in approximately 20% of commercial transport crashes. The results from a range of surveys show that more than a half of long-haul drivers have at some time fallen asleep at the wheel (Bolade, 1993).

This study on accidents involving trucks and trailers showed that their risk of crashes related to fatigue increased when they were driving at night; when the length of their working day had increased; and when they were working during irregular hours. Other factors included drugs abuse, alcohol, long-distances, types of food, insufficient rest, and overall health conditions of the drivers.

Recommendations

The linkages between vehicle crash protection and roadside crash protection need to be strengthened. For example, cars do not provide protection for occupants in head-on collisions at speeds above 60–70 km/h (or even lower limits with other types of impact), although many cars travel at these and higher speeds. The road environment needs to be designed so as to eliminate head-on collisions – into trees, poles and other rigid objects – at high speeds, where the truck itself cannot offer sufficient protection. Trailers, trucks and roads must be designed in a mutually-linked way within the traffic environment.

Road traffic crashes involving trucks data and evidence should be collected and stored by a range of agencies. This is in itself a positive feature, as it reflects the multi-sectoral nature of the phenomenon. However, it should take care of important issues such as access, harmonization and linkages between different data sources and users. Ideally, where there are a number of data sources available, it is important that the data should be linked, to obtain maximum value from the information. A major problem is coordination and sharing of information among different users was noted in the study. While there are usually issues of confidentiality and other legal restrictions involved, it should still be possible to find ways of summarizing the relevant information and making it available, without violating any legal prohibitions.

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Adoption of Improved Aquaculture Production Technologies among Fish Farmers in Lagos State, Nigeria.

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Abstract

This study examined the adoption of improved aquaculture technologies among fish farmers in Lagos State, Nigeria. Data were collected from a sample of One hundred and fifty fish farmers randomly selected from the five divisions of the state. Responses were elicited through well-structured questionnaire. Descriptive statistics and multiple regression were used to analyse the data. The recommended aquaculture technologies at different stages of adoption process were water pH testing and regulation, testing of dissolved oxygen, feed formulation, polyculture practices, integrated fish/poultry, recirculatory method, cage system, spawning and stocking density. The grand mean of adoption score and adoption index were 0.94 and 0.19 respectively. The low level of adoption was attributed to the complexity and cost of the technologies, low extension contacts, level of education, age, income and farm size all of which influenced the adoption of aquaculture technologies. The findings suggest that Extension officers need to be motivated and trained frequently in order to enhance their competence and low interest loans should be extended to fish farmers to enable them adopt such innovation perceived as having high capital outlay, Micro-finance institutions could be explored towards this end.

Keywords: Adoption, Aquaculture Technologies, Fish Farmers, Lagos State

Introduction

The fishery industry is a very important and indispensable aspect of the economic landscape of Nigeria. A large number of the population of Nigeria depends on the fishery sub-sector especially fish farming for their livelihood. Fish provides a rich source of protein for human consumption. The flesh of fish is also readily digestible and immediately utilizable by the human body, which makes it suitable and complementary for regions of the world with high carbohydrate diet, like Africa (FAO, 2005).

Aquaculture is the breeding and rearing of fish, shellfish, or plants in ponds, or any enclosure for direct harvest of the product. It has come to greatly augment the dwindling marine fish production worldwide, and this field is growing rapidly (Muir & Nugent, 1995; FAO, 2004).

The importance of aquaculture to the socio-economic growth of a nation cannot be overemphasized, as it increases the production of animal protein to meet the needs of a fast growing population; it produces highly priced commodities for export to earn foreign currency, and creates employment opportunities. It utilizes large areas of idle land and water bodies for food production.

Nigeria has over 14 million hectares of inland water surface, out of which about 1.75 million are available and suitable for aquaculture (FAO, 2006). In Nigeria, aquaculture is predominantly an extensive land based system, practiced at subsistence levels in fresh waters (Anyawu- Akeredolu, 2005). Commercial farming is yet to become widespread (Fagbenro, 2005). At present, most fish farmers operate small-scale farms ranging from homestead concrete ponds (25-40 metres) to small earthen ponds (0.02-0.2 hectares). The industry produced over 30,000 tons of fish in 2000 (FAO, 2005). A large concentration of these producers is located in Lagos State because of the state's location.

Lagos State is endowed with 147,877 hectares of swampland and large areas of water bodies suitable for aquaculture to feed its ever increasing human population of over 10 million people, however, only 61.28 hectares (about 0.04%) is used for aquaculture (Lagos State Fisheries Department, 1998).

However, in spite of the various research and extension services efforts embarked upon by the government which has led to the development of improved packages on aquaculture production; these are not being adequately used by farmers. These information on aquaculture techniques, when acquired and effectively utilized by the farmers, will help to increase aquaculture and translate into income, improved farmers' standard of living, improvement in rural economy and by extension, the nation's economy. The issue of low productivity of aquaculture in Nigeria is widespread and more severe in Lagos State; this is in spite of the vast maritime resources. It activities is dependent upon the use of natural resources, such as water, land, seed and feed. As population grows, there is the need to intensify efforts towards increasing output from aquaculture, this result in a rising demand for these resources, thereby resulting in increased competition for these limited resources and ultimately creating a negative impact on the environment.

There is an interaction between aquaculture and changes in the environment induced by human activities like pollution from urbanization, industrialization, intensification of agriculture and oil exploration. In order to reduce these negative effects, there is the need to increase productivity through aquaculture technology.

While capture fisheries production has stagnated throughout the African continent at about 8 kg per person, aquaculture-based consumption has continually increased from

50 gm per person in 1984 to 100 gm per person in 1992. However, this is still 1.30 percent of total fish intake (Bardach, 1997).

According to Akinbode (1982) rather than engage in direct production, the ADP was designed to stimulate and motivate small-scale farmers to the use of modern techniques of aquaculture through farm extension education. The extension service has a vital role of increasing and improving aquaculture production through their linkage between researchers and end-users. Without extension services most research endeavour will be a futile exercise (Adebolu and Ikotun, 2001).

The development of aquaculture can only be enhanced by the introduction of modern technologies. While there have been instances of successful introduction of technologies to boost production in Bangladesh (Thompson, et al., 2005) and the major problem has been the lack of appropriate technology (Gupta, Bartley, & Acosta, 2004; Toure & Noor, 2001). Aquaculture technologies have been developed and disseminated to farmers. While some scholars have stated that what is needed is to develop the technologies and make them available (Joshua & Omidiji, 2002), others insist that the transfer of technology would be more effective when there is a greater interaction among the developers, transfer agencies, and the farmers (Dlamini 2003).

In view of these, this study will seek to address the level at which adopting new improved technology will help in increasing fish production in Lagos State by providing answers to the following research questions:

What are the socio-economic characteristics of the fish farmer?

What are the improved aquaculture production technologies available to the farmers?

To what extent has the farmer adopted the available improved aquaculture production technologies?

What are the problems farmer's encounters in the process of adoption of the improved aquaculture technologies?

Objectives of the Study

The general objective of this study is to assess the adoption of improved aquaculture production technologies. Specifically, the study will be aimed at the following

(i) To describe the socio-economic features of the fish farmers in the study area.

(ii) To highlight the improved aquaculture production technologies available to the farmers in the study area.

(iii) To determine the extent of adoption of available improved aquaculture production technologies

(iv) To identify the problems farmers encounter in the process of adoption of the improved aquaculture technologies.

Statement of hypothesis

H_{01}: There is no significant relationship between the socio-economic characteristics of fish farmers and adoption of improved aquaculture production technologies in Lagos state.

Methodology

Area of study: Lagos state has an estimated population of about 9 million people and has the second highest population in the country accounting for over 6.49% of the

National Estimate (NPC, 2009). The state is made up of five (5) administrative divisions; Lagos, Badagry, Epe, Ikeja and Ikorodu which are divided into 20 Local Government Areas. The state has a border with the expansive Atlantic Ocean spanning about 180 Km

Fish farming is growing at a very high rate in the state, and thus a need to check the extent of adoption of improved technologies and also to proffer useful recommendations.

Data was obtained from the respondents through the use of well structured interview schedule and was administered on the respondents to elicit required responses from the respondents.

The multi-stage random sampling technique was used in the selection of respondents. There are five administrative Divisions in the State; one local government area was randomly selected from each administrative division to make a total of five local government areas. Thirty Fish farmers were randomly selected from the list of fish farmers in each of the local government areas used for the study. This gives a total number of One hundred ad fifty respondents.

Data Analytical procedures

Regression was employed to determine the relationship between the adoption of improved aquaculture technologies and selected socio-economic variables of the fish farmers. The explicit model is a non linear model as specified below:

$$Y = \alpha_0 + \beta_1 \log X_1 + \beta_2 \log X_2 + \beta_3 \log X_3 + \beta_4 \log X_4 + \beta_5 \log X_5 + \beta_6 \log X_6 + U$$

Where:
Y = Adoption of improved fish farming technologies (Number of technologies adopted).
X_1 = Level of education (years spent in school)
X_2 = Age of farmers (years)
X_3 = Farm size (population of fish)
X_4 = Household size (number of persons in the household)
X_5 = Farm income (Naira)
X_6 = Extension contact (Number of visits by extension agents)
U = Error term

Results and Discussion

Socio – economic characteristics of respondents

It has been noted that people do not just adopt a technology because it is available to them. Even when the technology is available and appropriate, some personal and socio-cultural factors bear on the decision to adopt or not (Berdegue & Escobar, 2001).

In this study some of the socio-economic characteristics of fish farmers were identified, studied and presented in Table 1.

The economically active age groups consist of 31 – 40 years and 41 – 50 years which constitute 35.6 percent and 27.8 percent respectively of the respondents. Studies have shown that middle age farmers are more inclined to adoption of innovation (Bolorunduro et al., 2005) and the mean age of farmers in Nigeria is usually between 45-48 years (Ezedinma & Otti, 2001; Ogunwale, 2000). Male fish farmers significantly dominate the study area with a proportion of 85.6 percent as shown in Table 1. The

dominant household size was between 3 – 5 members per household. Most of the respondents as shown in table 1 were literate with primary, secondary or tertiary educational attainment. The implication of this is that adoption of modern technologies can be accelerated, since level of education is known to be influential in the adoption decision of farmer (CIMMYT, 1993).

Majority (67%) of the respondents are married; 30 percent are still single.

The result in Table 1 revealed that 36.7 percent of the respondent in the study area earn an annual income of #101,000 – 200,000 only. While 15 percent of the fish farmers earn below #50,000; while 21.10 percent of the total respondents earn above #200,000. This implies that the farmers will be able to afford the cost of the innovations as more than half 57.77% earn above #100,000.00

Table1: Socio-economic characteristics of the respondents(n = 150)

Characteristics	Frequency	Percentage (%)
Age (year)		
20 – 30	32	21.10
31 – 40	53	355.6
41 – 50	42	27.78
51 and above	23	15.56
Sex		
Male	128	85.56
Female	22	14.44
Size of household		
1 – 2	70	46.67
3 – 5	80	53.33
Educational level		
Primary	13	8.89
Secondary	37	24.44
Tertiary	93	62.22
No formal education	7	4.44
Marital status		
Single	45	30.00
Married	102	67.78
Divorced	3	2.22
Widow	-	-
Level of income (#)		
< 50,000	23	15.56
50,000 – 100,000	40	26.67
101,000 – 200,000	55	36.67
Above 200,000	32	21.10

Source: Field survey, 2010.

Available improved fish production technologies

The result in table 2 revealed that 58.90 percent of the farmers were already using some of the improved breeds of fish Holland clarias and heteroclarias etc. Polyculture was being practiced by 40.8 percent of respondent, while 46.70 percent adopted the cage system of fish culture.

Table 2: Percentage distribution of farmer according to adoption decision process

Adoption Stage	pH testing reaction	Use of improved breeds of Fish Holland	Testing of water level req.	Feed formulation	Poly-culture practices	Integrated fish /poultry or rice farming	Reticulatory method	Cage System	Spawning	Stocking density
Awareness	42.22	81.10	53.33	92.20	65.90	36.70	47.80	72.22	54.40	73.30
Interest	28.90	43.30	36.70	73.30	58.80	64.40	24.40	62.20	46.70	45.60
Evaluation	41.10	65.60	38.90	62.20	66.70	45.56	14.40	73.30	38.50	32.20
Trial	43.30	63.42	47.00	64.60	61.30	53.10	12.62	58.51	63.43	42.40
Use	24.54	58.50	15.10	11.20	40.80	4.20	10.40	48.70	27.50	30.40
Total	180.06	312.32	191.03	303.50	293.50	203.96	109.82	310.93	230.9	223.93
Mean	2.0	3.47	2.12	3.37	3.26	2.27	1.22	3.45	2.56	2.49

Adoption score
The grand mean adoption score is 2.6, Adoption index equal 0.52,

On awareness bases, the table revealed that over 90 percent of the respondents formulate their feeds; over 80 percent cultured improved breeds while 65 percent practices polyculture.

The mean adoption score for using improved fish breeds; polyculture and cage system of fish culture was computed as 3.47, 3.26 and 3.45 respectively. The grand mean adoption score was computed as 2.6, while the adoption index was 0.52. Table 2 and Table 3 indicated that the fish farmers are yet to fully adopt most of the recommended aquaculture production technologies.

Assessment of adoption of aquaculture innovation

The level of adoption of the highlighted ten (10) recommended aquaculture technologies among the fish farmer in the study area were derived by computing the adoption scores and adoption index. The scores were arranged in descending order for all innovations. Fish farmers were classified into low, medium and high level adopters. The category of low adopter were farmers who adopted between 1 and 3 of the ten (10) aquaculture technologies, medium adopters are those farmer who adopted between 4 and 6 while the high adopters were those who adopted above 6 of the aquaculture technologies as shown in Table 3.

Table 3: Distribution of fish farmers' aquaculture technologies adoption score

Adoption score of aquaculture technologies	Frequency	%
Low (<3)	115	76.67
Medium (4-6)	28	18.67
High (>7)	7	4.66
Total	150	100.00

Source: Field survey, 2010.

The computation revealed that 76.6 percent of the farmers adopted between 1 and 3 technologies, 18.67% adopted from 4 to 6 technologies while only 4.66% of the respondents adopted more than 6 technologies. This result showed that the adoption level was low generally since 76.67% of the respondents was in the low technology adoption category.

Multiple regression analytical tools using the ordinary least square (OLS) method was applied. The parameter of the estimated linear regression model shown in Table 4 revealed that the level of formal education (X_1) was positively related to adoption of improved aquaculture technologies. The implication is that educated farmers would readily adopt improved production technologies. This is in consonance with Ewuola & Ajibefun, (2005), Lemchi et al., (2003) noted that technological change is achieved through formal education. The age of the fish farmers (X_2) is negatively related to adoption. This implied that older farmers are more risk averse and are unwilling to accept changes, because of the risk involved with new technology (Lemchi et al., 2003). Farm size (X_3) showed a positive relation which revealed that fish farmers with large farm more readily adopt improved technologies than fish farmers with small farm size. This is where economy of scale in aquaculture production comes in to play. Farm income (X_5) was also positive. Extension contact (X_6) was also positive with the adoption of fish farming technologies. This was because the more the extension agent visits the fish farmers and educates them on the recent technologies the more they will understand and the larger the number of adopters. This observation was in agreement with Asiabaka (1996) who report that the frequency of extension contact influences, the adoption behaviour of farmers.

Table 4: Multiple Regression Analysis of Socio-economic Characteristics of the Fish Farmers and their Adoption of Improved Aquaculture Production Technologies

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Standard Error	Beta		
1 Constant)	.667	1.107		2.603	0.01
log X_1	.204	.330	.046	2.617	0.03
log X_2	.003	.010	-.022	-2.264	0.02
log X_3	.300	.014	.032	3.556	.001
log X_4	.020	.078	.020	.257	0.04
log X_5	.060	.019	.042	4.208	.000
log X_6	-.043	.150	.002	2.284	0.02

1. Dependent Variable: Y

Model Summary

Model	R	R^2	Adjusted R^2	Standard Error of the Estimate
1	.738[a]	.545	.512	1.212

(a) Predictors: (Constant), log X_1, log X_2, log X_3, log X_4, log X_5, log X_6

Constraints to adoption of improved aquaculture technologies.

The adoption of any improved aquaculture technologies is dependent on socio-economic and institutional factors and the attribute of such technology (Bolorunduro et al., 2007). The result from Table 5 revealed that 73 percent of the respondent revealed that the adoption level was attributed to the cost of the technologies, 68 percent attested to scarcity and complexity of the technologies. About $^2/_3$ of the respondent (63%) complained of non availability of extension agent to introduce, teach and demonstrate the technologies. About 75 percent of the respondents complained about lack of technical support in adoption practices while 48 percent attested to lack or insufficient awareness of the technologies. In packaging a technology, it is the responsibility of research and extension agencies to introduce features in that innovation that will be friendly to farmers, because friendliness is a question of affordability, simplicity, availability and ease of operation and maintenance.

Table 5: Perceived constraints to adoption of improved aquaculture technologies

Constraint	Frequency	%	Ranking
High Cost	110	73.3	2
Complexity	102	67.8	3
Lack of Technical Support	113	75.6	1
Non-availability of Input	102	67.8	3
Insufficient awareness	72	48.0	6
Lack of Extension Contact	95	63.3	1

Conclusion and Recommendation

Recommendations
Based on the findings from this study, the following recommendations are hereby made:

To improve fish farming in the Lagos State and in Nigeria, the practice should be introduced early to the populace especially youths as a viable venture that could generate income and become sustainable especially in the face of unemployment among the youth.

Extension officers should be highly motivated and trained frequently in order to enhance their competence.

Low interest loans should be extended to fish farmers to enable them adopt such innovation perceived as having high capital outlay. Micro-finance institutions could be explored for this.

In most cases the funding of field extension work has been problematic in Nigeria. Extension contacts with farmers are often irregular due to mobility problems as a result of inadequate funding.

Extension agents should increase the frequency of their visit to fish farmer.

Conclusion
It can be concluded from this study that the highlighted 10 recommended improved aquaculture technologies were yet to be fully adopted in the study area. It can also be inferred that the initial policy of the extension agents to introduce aquaculture as subsistence farming was wrong. According to Nwachukwu and Onuegbu, (2007), when people do not see a technology as generating income immediately, the motivation to commit resources to the venture will not be there.

The adoption level were generally low, the overall mean adoption score was computed as 0.94 while the adoption index was 0.19. Five variables were discovered to have influenced the adoption level of improved aquaculture production technology by the farmers. Some of the reasons given for non-adoption of the improved technologies were scarcity of the technology; complexity of the technologies, capital for the acquisition of the technology and lack of extension contacts. These constraints should be removed if mass adoption of aquaculture production technologies is to become realisable.

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Culture and Moral Values: an African Christian Perspective

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Abstract

This paper discusses culture and moral Values in Christianity. It attempts a broad analysis of Cultural traits and values and points out the nature of Christian moral values and the extent to which they affect the society. The paper opines that Christ is the model of moral values upon whom Christian moral principles subsume. It also discusses the principles of moral value in Christianity. The paper establishes the fact that moral value in Christianity takes root in God through the teachings of Jesus Christ. Love, obedience, honesty, respect, and honour are examined as case study for Christian moral values. It is the opinion of the paper that language, dressing habit and healing (i.e. Western orthodox medicine) among others are traits of cultural values while love, obedience, honesty, respect, and honour as Christian moral values are capable of transforming societal moral standards in Nigeria.

Introduction

Religion has qualified for so many titles in human thinking that there is almost nothing left which it cannot be to human society (R. A. Akanmidu 1990, p. 31), Religion is human being's interaction with the supernatural in order to cope with life crisis. It is man's encounter with the supreme being. Religion is one of the most powerful, deeply felt and influential force in human society. Value entails or relates to the attitude of appraising, estimating the quality (i.e. the worth, merit, importance) of a thing or behaviour in relation to persons. In essence all phenomena have worth, merits, and importance and such estimations reside in the attitudes, choice, and tastes of people. Value also relates to a set of belief principle which becomes standard for behaviour and basis for cultural appreciation of persons or social groups.

The key objective of this paper is to discuss culture and moral values in Christianity. In an attempt to achieve the objective of this study, effort will be made to define the key terms used and also discusses cultural traits or values in Christianity. It will also explain the nature content and extent of moral values in Christianity. With a strong conviction that moral value in Christianity like love, obedience, honesty, honour and respect take root in God through the teachings of Jesus Christ.

Definition of Terms:

The key terms used in this work are culture, moral or morality and values. In this section, attempt shall be made to define and discuss these terms.

Culture:

Culture connotes various or diverse definitions. Culture according to Longman Dictionary of Contemporary English is "the ideas, beliefs, and customs that are shared and accepted by people in a society". Culture generally, refers to the "configuration of learned and shared patterns of behaviour and understanding concerning the meaning and value of things, ideas, emotions and actions" (T. Adamolekun 1995; 258). This configuration of patterns and understanding arise out of language communication within a social group and helps an individual to adapt to his biological environment, his biological nature, and his group life.

Yet another part of culture often refers to the aspects of human behaviour in terms of his taste, refinement and interests in music and arts. In this context many people have the opinion that culture means civilization, development or improvement acquired through education. Hence it is common to hear 'an uncultured' or in a favourable way, 'as a person who is highly cultured. This in the view of Awolalu, indicates that "every society possesses some element of culture irrespective of the socio-economic development of the society" (Awolalu, J. O. 1979; 40).

Culture in the opinion of Akonga is considered to be a way of life of a distinctive group of people, community or society" (J. J. Akonga 2003; 25). To Akonga, this definition is not completely accurate since a way of life of a people is only a reflection of the people's culture but does not itself constitute culture. This is largely because culture is an abstraction from reality and is not itself the reality. (G. Fredrick and E. Norbeck 1976; 5) Swartz and Jordan (1980; 57) define culture simply as "shared understandings" These are understandings about norms, rules or laws that govern and control behaviour, beliefs as in religion, superstitions, witchcraft and sorcery, myths, legends, ideology, and artifacts. In the view of Akonga (2003; 25), we cannot logically claim that culture include all these things but it is reflected in them. Beliefs also constitute an important aspect of

culture because they guide human conduct. Geert Hofstede (1991; 25) is of the opinion that culture is mental and social programming which is influenced by man's environment and is reflected in such things as greeting, eating, showing or not showing feelings, keeping a certain physical distance from others, maintaining body hygiene, even the way people approach and actually carry out their sexuality.

What is important in our view having realized that culture connotes various or diverse definitions is that there cannot be culture without society and that the environment plays a vital role in the culture of a society. Each society has its own unique culture which has developed throughout its history and which is passed on from one generation to another. "New members born into the society concerned do not inherit their culture biological but it has to be learned from childhood (J. O. Awolalu 1979; 40). This means that everyone born into a particular society will have to learn the way of life of the society and will, in the process of growing up, have acquired certain patterns of behaviour in common with others in the society which will make them different from people in another country or society.

Moral

Moral is defined as things concerning principles of right and wrong while morality is the practice of moral duties, ethics, right or wrong of a thing. Orebanjo (1974; 443) has traced the derivation of the term or the word morality from the Latin word "mores" meaning "manners or morales. The Chambers' twentieth century Dictionary defines morality as the quality of being moral, and moral as character or conduct considered as good."

In Christianity, morality or moral values is seen in his ethical values. Ethics (from Greek ethos) refers to the science of moral conduct that guides the behaviour of people in every society. From the Christian point of view, Biblical injunctions on morality or ethics deal with "do's and don't of human conduct in relationship first towards God, and secondly towards fellowmen. These moral concepts were revealed through divinely inspired people such as prophets, kings, and disciplines but most profoundly by Jesus Christ. Ethical behaviour in the Old Testament was exempied in Yahweh – Israel covenant relationship which was more-often-than not characterized by national demands and activity, unlike what obtains in the New Testament where emphasis is placed more on individual responsibility (see Galatians 6:5; Romans 14:4). Here full recognition is given to the reality of sin and redemption, while the life and character of Jesus is set as the standard for Christians. The basis of moral principles are shown in the Ten Commandments (see Exodus 20: 1-26); Deut. 5: 4-22); in Jesus teaching about moral behaviour in the sermon on the mount (see Matthew 5-7; 19:19; 7:12; 12:29-30: 22:37-39); and Paul's teaching on morality (see Galatians 5:19-23: 7:12).

Morality in Christianity derived its content and sanction from God. Morality in Christianity is a system of conduct that conforms to standards of right conduct or behaviour sanctioned by or resulting from Christian teachings. The connection between moral rectitude and moral teachings jointly constitute the basis upon which Christian moral values are acknowledged. Christianity, according to Haselbarth (1976; 7) preach humility, steadfastness, truth, faith, cooperation, obedience, kindness, sympathy, respect to elders, and love. It condemns unethical behaviour such as adultery, theft, murder, hypocrisy, hatred etc. (see Galatians 5:19-23)

Value:

Value is defined in Longman Dictionary of contemporary English as "quality of being useful or desirable". To A.S. Hornby, and A. Wakefield etc. (1963; 1108), value means "to think that something is important to you". Value is described as "ideas, life motivations, rules or principles of life, things that are given some primary importance in life: (I.B. Ewelu 1991; 40). Ike Benjamin Ewelu sees values as "Ideas that determines and guide people's daily efforts" (1991; 41). Values are standards. Standards in a given society determine what the members are to aim at and what is expected of them. African values, therefore, are things that serve as the yardsticks for measuring success among Africans. Among values cherished by Africans are: sacredness of human life; extended family system, honesty, fidelity to promise (especially to marriage promise), truthfulness, hardwork, good name, hospitality, brotherliness and friendship. Values determine praise or blame, respect or dishonour, achievement or failure within the society. They are also things that people price daily.

Cultural traits or Values in Christianity

In this section, attempt will be made to discuss cultural traits or values in Christianity. We shall discuss language, dressing (clothing) and healing as case study in discussing cultural traits in Christianity as it affects Nigerian nation.

The culture of Christianity is a fussion of Jewish, Hellenistic, Graeco-Roman and European cultures. S.N. Adiele in P.A. Dopamu, Odumuyiwa et.al. (NASR 2003, P. 259-270) opined that a journey through the memory lane of the culture of Christianity shows that Christianity has encountered many cultures in her nearly two hundred years of existence. These cultures include Jewish. Greco – Roman, Hellenist, and European cultures. Though these encounters were not without incidents, the strength of Christianity had been in her ability to fuse with the cultural values of the converts. (Adiele in Dopamu 2003; 260). The good effect of the fusion of the Jewish, Greco-Roman and European culture with Christianity and its influence on African society deserve our attention here.

We shall consider three cultural traits among these cultures that influence Christian society in Nigeria. They are language, Dressing habit, and healing or medical science (orthodox medicine).

Language according to Balogun (2003; 281) occupies a unique position in a people's culture. It serves as the means of inter personal communication among a group of people and binds the people together more than any other aspect of their culture. Language is the most resilient aspect of any human culture as it is not basically prone to changes as the case with other aspects of culture. Moreover, it assumes a central position in the enculturation process of any given society. Consequently according to Balogun, after Tylor's definition of culture in 1871, importance was increasingly given to man's ability of cultural traditions in which knowledge and experience were transmitted and accumulated through the use of language.

This importance of language vis-à-vis culture creates a problem for Nigeria in an attempt to evolve cultural identity for the country. There are not less than 250 languages in Nigeria with the result that each language represents a sub-culture. Each language with its sub-culture, yearns for development. The existence of so many languages and sub-cultures in the country makes Nigeria a pluralistic society. Consequently, any attempt to make any of the languages a lingua franca in the country will definitely compound her problem of cultural relativism. Some anthropologists uphold the view that cultural

relativism emphasizes an inherent dignity in every culture and that such dignity is absolute in relation to other cultures. If therefore, any Nigerian language were made the lingua franca for the country, it automatically coveys the status of the best culture on that language's sub-culture, as well as on its ethnic group. Nigerians are definitely not ready for that if we go by the political wrangling that obtain among them. Christianity influence Nigerian culture in the sense that European language that is, English was introduced. The Bible was written and taught in English, before it was translated to Nigerian major languages. The official language of Nigeria is English; Nigeria has not been able to have a lingua franca.

Another area of cultural influence is clothing, clothing is very important to the Africans especially the Yoruba community. According to Fadipe 1970; 153 among the economic activities of the Yoruba people, weaving was very important. The people planted cotton thus, there was no much problem in getting the raw materials needed for their local weaving industry. The type of cloth which the Yoruba people wore was the locally made cloth called "Kijipa" or "Kitiponpon" (Adamolekun T. 1987; 95). This was a cloth specially woven for resisting cold during cold weather Fadipe called it "traditional loom cloth (1970; 153). It was an obligation for every woman to know how to weave cloth. Parents therefore, made it a point of duty to teach this vocation to their daughters. The people of Isanlu, Isin in Igbomina area for example had cloth that match different seasons and occasions. Oyedepo (1986); Daramoila & Jeje, A. (1975; 93) 'Kijipa or Kitiponpon', the locally made cloth was very durable and could last for three years. The cloth was sown into different styles as the occasion demanded for it. The one for work, the one for play and the one for occasional outing were sewed (Daramola & Jeje 1975; 93). All the clothes worn before the coming of the Christian missionaries were locally made 'Kijipa'. When the missionaries came, they brought their own European culture of wearing cloth. Their type of flexible cloth was introduced. As time went on, pupils in the mission schools no longer used the (local type of) locally made cloth for their school uniform again. Eventually, all schools changed to European type of cloth. This type of European mode of dress became acceptable to Nigerian society. Today, only few people wear Nigerian locally made cloth. Perhaps you can only see it with old men or young people at either marriage or funeral celebration. The European type of sewing cloth was introduced by the missionaries and colonial masters. Traders travelled far and wide to buy these 'Kijipa' or kitiponpon' cloth for sale. Eventually the local kijipa or kitiponpon is displaced or replaced with the European type of dress.

Medical science or European Healing method was another area where Christianity influenced African culture. The missionaries built hospital along with education. Orthodox medicine was introduced. Before the establishment of Christian mission, traditional medicine was widely used. It was difficult for the mission to convince the converts against the use of the traditional medicine, Awolalu (1979; 72-73) has described what traditional medicine means to the people when he said:

> By medicine, we mean any substance or substances that are used in treating or preventing disease or illness; in other words, medicine as conceived by the Yoruba involves medicament as well as prophylactic.

Thus, the professional skill of a medicine man includes curing, alleviating and preventing diseases as well as restoring and preventing health. In many cases, he is a diviner, a priest as well as a manufacturer of charms. He has the means of ascertaining the causes of ailment, misfortunes and death. He employs different means including

herbs, plants, leaves, roots, barks, animals, birds, skins, bones, rings, brooms, pieces of thread, needles and minerals to do his "business" in almost all cases, he has some magical words to go with his preparation. And so, unavoidably, magic finds a place in the practice of medicine. The people believe that medicine have extra mysterious power which can cure or prevent ailments.

Apart from schools, the missions came to exert some impacts on the Nigerian community through hospitals. By 1914, there had been founded the C.M.S. Iyi Emi Hospital near Onitsha; the Baptist Hospital in Ogbomoso; the Wesleyan Guild Hospital in Ilesha and the Sacred Heart Hospital of the society of African Missions in Abeokuta (Ayandele 1960: 343). But these medical centers did not being to flourish until after 1914, when European medical science came to be progressively appreciated by the rapidly swelling number of Christian adherents. For a long time, (Ayandele 1966: 343) opined that "European medical science did not commend itself to large sections of the Nigerian population because the people, as in many other things, were suspicious of European medical skill and continued to have a much greater faith in indigenous medical facilities".

It is to be noted that though orthodox medical science have come to stay in Nigerian society, inspite of the medical facilities, the people still use traditional medicine in addition to western orthodox medicine. Both orthodox and traditional method of healing are taught in some Nigerian Universities Medical Schools today. It is important to note that the three cultural traits of language, dressing habit, and western orthodox medicine have become part of Nigerian culture today.

What are Christian Moral Values?

Christian Moral Value according to (Akanmidu 1993:165) "refers to the attitude of appraising behaviour considering the worth, merit, and importance of such in the light of Christian ideals". It also refers to beliefs that remain basic to Christianity which turn to become values. As far as Christian moral values are concerned, the worth, merit and importance of any moral judgement of the Christian often finds justification in the underlying beliefs of Christianity. The Christian moral values exist only because Christianity exists and not that Christianity exists for them. The moral values of Christianity to humanity are determined by the ways the character of people are influenced by it. Christian moral values, by definition according to (Akanmidu 1993:165) "are values which take source from the doctrines of Christianity and have standards in the moral authority of God". The religion that has no moral value to people is one that puts its adherents in contempt and has no articulated pattern upon which its adherents can attach meaning to their lives and other people's lives. Morality in Christianity derive its content and sanction from God. Morality in Christianity is a system of conduct that conforms to standards of right conduct or behaviour sanctioned by or resulting from Christian teachings (Osun 1992, 11). The connection between moral rectitude and Christian (moral) teaching jointly constitute the basis upon which Christian moral values are acknowledged. Love, obedience, and honesty are taken as case study for model of Christian moral values in this paper.

Christ as Model of Christian Morality

It is accepted that Christ's life, his interactions with others, and his teachings all sum up to constitute a biography of perfection. As it has been widely represented without any known opposition, Christ, lived "the only perfectly unselfish life ever seen on earth"

(Akanmidu 1990, 3). Christ's moral perfection has become a moral pattern for others (especially the adherents) to emulate. It is this sense that Christ has become a model of Christian morality. Christ remains a permanent model of Christian morality because of the high moral standard Christ has set, and Christ's moral teachings which were reproduced in practice. Christians believe that Christ was fully man like any human in all things except sin. This important exception makes the morality of Christ to remain a permanent pace – setting phenomenon. Another thing that makes him (Christ) a permanent pace-setter is his moral teaching. Take for example the teaching of Jesus Christ on Love. Christ's own estimation of love is in the first instance related to love of self and then radiates to the love of others. This reflects clearly in the celebrated "Golden rule" which stipulates that 'Love others as yourself' (see Matt. 9.19:19) and His teaching that "Whatever you wish that men would do to you, do so to them (Matthew 7:12).

Underlying the Golden rule doctrine is an affirmation of love for self from which one can love others. Paul Tillich interprets the golden rule to mean that Christ "pre-supposes, without saying it directly that there is a natural self-affirmation in a person which should not prevent the affirmation of others" (P. Tillich 1965, 206). This is the sense we have taken love to begin with self before it radiates to others through us.

The second point on Christ's teaching on love is loving not only one's neighbour but one's enemies (Matt. 5:44). The obligation to love will serve positive roles only among person of like manners. On this account love will become a fraternal issue. This point in itself demonstrates high morality. Although this is true, the extension added to this with the teaching that enemies should be loved looks morally superegatory even to the Christian. The morality in this form of love does not predicate on the anticipation for gain but on the struggle to be of high moral rectitude. The intrinsic worth of loving one's enemies has much to do with helping the enemies themselves to understand the attraction or beauty inherent in loving. The one who is loved when he/she knows to be an enemy is best placed in a position to contrast between what it means to be loved from what it means to be hated. This point makes Christ moral standards retain its high class of morality. The ideal of conduct sets by Christ for Christian is best explained when teaching in line with practice. There is no gainsaying that the inadequacies that bedevil people's character today have much to do with their teaching good morality but living differently from these teachings. Persons who cannot live what they teach do not mean to say that their teachings have no moral merit rather, they mean to say that morality contains some 'selfless' services that lack material rewards. It requires some degree of sacrifices before the teaching of morality can mutually co-exist with mode of living. The important point inherent in the mutual co-existence of moral teachings and practical living is the factor of sacrifice. The by-product of moral modality is teaching virtues and living the virtues practically. It is the combination of the uniqueness of Christ's teachings which outshines all forms of moral standards and the existing coherence between what Christ taught and lived that make him a moral model to Christians. The Christina delights in the fact that Christ is the moral standard of Christianity because the standard gives the Christian inner sense of duty. Coupled with this is the conviction that the sacrifices that are attendant pursuing the mark of the standard have the promise of future reward. The leadership of Christ does not work itself out into some forms of vague religious feelings, rather it expresses itself both in thought and practice. Christ is the basis of Christianity without whom Christianity does not exist. He gives it (Christianity) identity and guarantees its perpetuity.