

TOWARDS IMPROVING PARTICIPATION, REGISTRATION AND PERFORMANCE OF FEMALE STUDENTS IN GEOGRAPHY IN IFO LOCAL GOVERNMENT AREA OF OGUN STATE, NIGERIA

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ABSTRACT

Registration, participation and performances of female students at the Senior Secondary Schools level of education are not very encouraging. The objective of this paper is to further highlight the causes and proffer solutions. School records were examined. Teachers, parents and the students were made to respond to some questions. Literature, WAEC and NECO syllabuses were reviewed. Teaching, research and teaching practice experiences were brought to bear. Registration is generally low compared to other subjects; and the proportion of girls to boys per class of Geography is low in more than 60% of the schools. Girls should be inducted and oriented on the subject. Books and reference materials should be written and published colourfully. Group discussions, projects and assignments should be cleverly designed in 'favour' of groups of girls without prejudice. Female Geography Teachers should be recruited to serve as "Role Models". Geography clubs should be established and girls made to play key roles. The subject should be recognized as a science. The subject must be made attractive to students and even the parents and guardians who will guide their children and wards in the choice of careers.

Keywords: Geography, registration, participations, performances, girl child.

INTRODUCTION

Egunyomi (2006) infers that education has been universally recognized as the key to sustainable development and the enhancement of human welfare. Similarly and earlier, the World Bank (2003) as quoted by Egunyomi (2003) observed that:

Education is development; it creates choices and opportunities for people, reduces the twin burden of poverty and diseases, and gives a stronger voice to the society. For nations, it creates a dynamic workforce and well informed citizens able to compete and cooperate globally, opening doors to economic and social prosperity.

Fellman *et al* (2005) outline relevance of Geography as a discipline of great repute. Locally in Nigeria, many have documented the relevance of Geography to the society: Ologe (1978), Adetuberu (1984) and Akande (1982) discuss very succinctly the roles of Geographers in the present day socio-economic dispensations in Nigeria and the world at large. Similarly, Areola (1978), Ofamata (1982) and Aderogba (1990 and 2001) identify the professions and different areas of human endeavours that Geographers can perform and excel. Abegunde (1988) worked on "Promotion of Career Opportunities through the Senior Secondary School Geography." Aderogba (1990), like Boehim (1996) particularly produced a list of disciplines and career opportunities in Geography; see Appendix A.

Meanwhile, in realization of the invaluable roles and impacts of education, the World Conference on Education for All (EFA) was convened in Jimtien, Thailand, where the World Declaration on Education for All was adopted; and in 2000, in Dakar, Senegal, the Framework for Action to Meet Basics Learning Needs was endorsed. The framework emphasized the need for both quality in and access to basic education. Targets and timeliness for achieving the strategies were set. These include eliminating gender disparities in primary and secondary education by 2005; ensuring that all children, particularly girls, have access to basic education, which must be free, compulsory and of high quality by 2005; and achieving gender equality in education with a focus on ensuring girls full and equal access to high quality basic education.

However, gender-biased educational processes including curriculum, educational materials and practices, teachers' attitudes and classroom interaction reinforce existing gender inequalities. According to Egunyomi (2006), such inequalities are mostly pronounced in the extent of girls' participation at all levels of social, economic, political and cultural activities in societies relative to boys' participation therein. She thus describes girls as "young adolescent females, biological beings whose roles in life are limited by their natural biological characteristics." Girls' awareness level concerning participation in social, economic and political life is based on the level of basic education that they are able to access beyond all socio-cultural barriers or limitations. She concluded that "it is only this access that enhances girls' awareness of economic and political issues and enables them to formulate and express their views."

Ultimately therefore, girls require a high level of both natural and psychological basic education to nurture them and help them develop. "Substantial part of these could be acquired in the classes of Geography at the Senior Secondary School (SSS) level of education," . She highlighted that it is prerequisite "for reading many courses in the University, Polytechnics and Colleges of Education." Boehim (1996) in his Careers in Geography outlines in tabular form, various aspects of Geography as a University discipline and professions and or lucrative jobs that are associated with them. (Appendix A). He identifies eight geographical fields of concentration. Each of the fields has various employment opportunities. There is none that has less than four. Cartography and Geographic Information Systems (GIS) have the largest. Because of these and to completely integrate Geography into the Nigerian Education Policy, Okunola (1990) worked out some strategies for making it more functional in the New Education Policy of the country. Even earlier, Woodridge *et al* (1951) wrote on "the spirit and purpose of Geography." It is a good guide for a beginner in the study of the subject.

In spite of these, it appears girls are not well attracted to register for Geography as school subject in their Senior Secondary Schools (SSS) and neither do they participate actively; and eventually the poor performance in their School Certificate Examination, (Akande 1982 and Aderogba 2001). Registration and Interests in Geography and Geography related course programmes are not too encouraging except when they are forced by circumstances to choose such programmes (Aderogba 2001). It also affects the examination results in schools and colleges. Comparing these situations between boys and girls in the schools and colleges, it appears worse: The number and performances of girls appear to be on the low sides.

Scholars have worked consistently on the problems associated with the teaching and learning about Geography, the most difficult aspect of Geography, why Students fail Geography, Dearth of Materials for Geography studies and so on (Adetuberu 1983, Ajaegbu 1971, Akande 1982, Eya 1983 and Aderogba 1990 and 2001). Specifically, Akande (1982) like Ajaegbu (1971) dwelt on the "Pull" and "Push" factors in the study of Geography among students generally. Similarly, Adetuberu (1983) in his study of "Odds against the Teaching of Map Work" gave a critical analysis of the challenges in the teaching and learning of Map Work (among male and female students) in Ondo State Secondary Schools. No work has ever been attempted on registration of female students, their participations and performances in Geography as a school subject and how to challenge the situations. Durojaiye *et al* (2004 and 2006) wrote on "Improving the Participation and Performance of Female Students in Mathematics," and "Motivating Students' Interests in Science, Mathematics and Technology by Linking their Concepts to Real Life" respectively. Similarly, Mischon and Blattel-Mink (2003) work on "Women in Mathematics from Deviance to Normality: An Organization Theory Approach." These are Sciences, Mathematics and Technology not Geography. No work has ever been done on the registration, participation and performances of girls at any level of Education; and no work has attempted to specially challenge the poor interest of female students at registration and class participations.

Therefore, the objective of this paper is to further look into the contemporary "push" factors that are in Senior Secondary School Geography and those factors that are militating against the interests of girls and their adduce panaceas that will improve female registrations, participations and results, and eliminate the gender disparities in SSS Geography Education.

The work went through records of registration of students, their participation and performances. Comparisons were made between male and female registrations. Interviews were conducted with Head Teachers of Schools (five public and five private) on enrolment, participation and performances of female students in Geography classes relative to others and to boys. Also Teachers of Geography in those schools were made to respond to questions on the participation, performances, "push" and "pull" factors for students. The over thirty years of teaching and research experiences of this scholar as a female Geography Teacher (and Supervisor on Practice Teaching) were brought to bear too. Literatures were read on the contemporary relevance of the subject; and those subjects it could combine to make a profession. Academic Offices of one Polytechnic and a University, though outside the educational zone, were asked questions on the possible courses that could be pursued with Geography at those levels of education. Students, both males and females, were interacted with on the major factors pushing female students away from Geography and how these could be eliminated and also to get girls encouraged to massively registering, actively participating and excellently performing. The work is limited to Geography at the Senior Secondary School (School Certificate) level only. Except otherwise stated, "Students" here refers to female students and "teachers" here refers to Teachers of Geography. Educational Zone of Ifo Local Government Area of Ogun State has been selected for this study. The work is in five parts.

GEOGRAPHY OF TODAY IN SSS:

Over the years, syllabuses of most school subjects including Geography have undergone some radical modifications to meet the challenges of the time (Sada 1976 and Alao 1978). Appendix B and C show the detail of the syllabuses as provided by West African Examination Council (WAEC) and National Examination Council (NECO) respectively for Senior School Certificate Examinations (SSCE). The syllabuses especially of WAEC had metamorphosed from the ubiquitous and irrelevant stuff (content) to be more focused, purposeful and relevant to the needs of the children at that level. The aims and objectives of the content at this level are as specified by National Examinations Council, (2004):

- To understand the concepts of different characters and the spatial relationship of the features on the earth surface;
- To understand the concepts of man-environment relations, that is, to examine and explain the interaction of man with his physical and cultural environments;
- To acquire the basic knowledge of the nature and functions of physical and human environments and understanding of their inter-relationships in the resulting issues;
- To organize and formulate principles according to acquired geographical concepts and apply these principles to interpret and analyse spatial problems in the immediate and wider environment; and
- To develop skills and techniques for accurate orderly and objective geographical investigations to be carried out both in the classroom and in the environment.

These are the same for WAEC (WAEC 2004). The details in pursuance of these are rescheduled to span through a maximum period of nine terms of average of thirteen weeks each, (three academic sessions). The breakdown of the content for each examination body is divided into six aspects:

- Elements of Practical Geography (Map Work);
- Physical Geography;
- Human Geography;
- Regional Geography of West Africa with particular emphasis on Nigeria;
- Geography of Africa; and
- Field Work.

All aspects of the syllabuses are the same for both WAEC and NECO except for the Regional aspect that specifies the emphasis for each of the Commonwealth member states (Gambia, Sierra Leone, Ghana and Nigeria); See Appendices B and C. A study of Geographical Regions in Nigeria under the subheadings: Physical settings; People and Population; Resources and Economic activities; Transportation; and Problems of Development makes the Nigerian aspect differ from those of other Common Wealth countries of West Africa. See Appendices B and C. For all of these to be assessed, there are two papers: The first paper (Paper I) is divided into two sections: A- General Geography; and B- Elements of Practical (Map work) and Physical Geography. The second paper (Part II) is Human and Regional Geography which is also divided into three sections: A.

Human Geography, B. Nigeria (Regional Geography) and C. West Africa and Africa. While paper I takes 2½ hours, paper II takes 2 hours only. All these carry 75%. The Field Work on any of land use, market survey, traffic flow, patterns of journey to work and rates of erosion in the locality etc should be examined by the school as part of the Continuous Assessment (CA). It accounts for part of the 25%, that is, the total mark obtainable in Continuous Assessment (WAEC 2004 and NECO 2004). Students are expected to concentrate their attention on any of the topics. These are applicable to both male and female candidates.

After the Senior Secondary School programme, a candidate progressing in academic pursuits can read either Geography as a single (Honours) in Social Sciences or Physical Sciences. Table I shows the cause programme at the tertiary institutions that Geography could serve as prerequisite and or can combine with.

Table I: Prospects of Geography for Tertiary Education Programmes

| Education Programmes | Combination with Others | Make-up number of Credit |
|---|-------------------------|--------------------------|
| Geography and Degree Programmes | 2 | ALL |
| Geography and Environmental Sciences | 6 | ALL |
| Geography and Physical Sciences | 8 | ALL |
| Geography and Medical Sciences | 5 | ALL |
| Geography and Professional courses | 14 | ALL |
| Geography and National Certificate in Education (NCE) | 10 | ALL |
| Geography and Others | 8 | ALL |

Source: Field Work

Aside these, it could be used as part of entry requirement (to make-up number of required credits) to enter any degree programme in any university, (See Table I). It could also combine with at least 8 Physical Sciences, 14 Professional courses and 10 programmes under the National Certificate in Education, (See Table I). Above all, Appendix A shows various aspects of Geography that an individual can focus and specialize and become a professional: Eight major fields of concentration and numerous employment opportunities locally and abroad (Boehim 1996).

In spite of these, perception of the subject by the students is poor; and the questions arise: what are the major "push factor" for girls in the entire programme of study and assessment of the subject at this level; and what needs to be done to challenge the factors?

PERCEPTIONS ABOUT GEOGRAPHY

Further to what Akande (1982) identified as the "push factors," Lack of Adequate Information (84.00%), Attitude of the teachers to the students and the subject (75.50%), Self esteem by the students (71.00%) and Lack of Books and reference Materials (69.00%) are the major "push factors" for the students; See Table II. Less than 60% of the students interviewed picked influence of peers/classmates (58.00%) and other factors, specified, (55.50%); See Table II. In other words, there are sex-role stereotyping and female students' perception of their abilities in Geography and related courses (subjects) - 71.00%. There is commonly held perception and opinion that doing Geography and related subjects is consistent with a male self-image and inconsistent with a teenage self-image. There is this believe that girls should not reveal their intelligence lest it compromises their sexual desirability and thus their social roles as wives/mothers has combine to squelch girls interests in some fields, (Durojaiye *et al* 2006). Further to this is the popular statement that "Geography is a very difficult subjects; jack of all trades and master of none."

Often, girls are not given enough information about career opportunities requiring competence or very good knowledge of the subject. Neither were they introduced to either the roles women geographers can play in the society nor what career opportunities female geographers can properly fit in and prosper. This is coupled with the teachers' foster problems for girls-poor perception of girl's performance, classroom dynamics and teaching methods. Conner (2001) is of the opinion that many teachers including female teachers do not believe that girls have the ability to perform well in some subjects. As a result, directly and inadvertently, teachers discourage students from registering, active participation and eventually excellent performances.

On the specific aspects of the subject that may be attractive and or interest them, table III reveals: only. Two respondents (1%) found field work to be interesting and attracts them to Geography. Every other aspects –

Mathematical concepts, Human, Regional, Physical, Map work aspects – do not interest any other out of the 200 candidates (198, that is, 99.0%). They neither had interest nor attracted to need Geography and Geography related subjects. This actually reveals what affect interests at registration points, participation in the classes and of course the performances. Suffice it to say that there is relatively decreasing number of students (male and female) that register for the subject over the years (Akanke 1982 and Aderogba 2001 and 2006).

REGISTRATION, PARTICIPATION AND PERFORMANCE

Students were observed in classes of Map Work, Regional, Human and Physical Geography. Girls displayed lukewarm attitudes, ignorant of most concepts and ideas and timidity in all the classes. The teachers confirm the observations. Also for the purpose of the study, eleven public schools (See Table III) and twenty private schools (See Table IV) were chosen. Average registration for WAEC and NECO for a period of five years for each school was examined. There was a total registration of 3,240 candidates. Only 516 (15.93%) registered for Geography. Out of this total, only 99 (3.06%) of the registered for Geography. The proportion of girls was 19.19%, See Table III, that is, in public schools. There was none of the schools that presented up to 10% of her entire SSS 3 candidates in any season. The highest is 6.74%, Pakoto High School. In the same vein, there is no school that has up to 25.00% of her SSS 3 students (females) registered except Ajuwon High School (25.00%), Adenrele High School and Pakoto High School, 35.29% each. No other school had up to 40.00% girls registered. In the private schools, total number of students (males and females) that registered for WAEC and NECO was 1,431. Only 301 (21.03%) registered for Geography. Average number of female students is 93 (6.50%). This proportion of students to the entire student population in the SSS 3 classes (that registered for NECO and WAEC) is just 30.90%, See Table V. Some of the schools, Fortune Land College, The Best College and Success College presented no female students at all. Averagely, it was all masculine classes for the period. Again, not up to 50% of the selected schools have up to 40% of their student registered. Only one school, Thomas Brown comprehensive College has 62.50% of her Geography class to be female; Table V.

The results (WAEC and NECO) that were produced during the period displays some of the attributes of the classes, (Akanke 1982 and Aderogba 2006). Schools internal examinations and records of Continuous Assessments (CA) depict the same trend all over in both public and private schools and colleges; See Table VI.

The scores were rounded up to whole numbers. Regardless of the average weight of the scores, male's average scores are higher in nearly all schools except Ajuwon High School 64% against 68%, Ifo High School 68% against 80% where the average scores are higher for the girls. The average scores for both sexes were the same only in Adenrele High School, Breakthrough Academy and NUD Grammar School where both sexes had average scores of 84%, 68% and 72% respectively. Averagely for the randomly selected schools, the scores were 19.50 (78%) and 18.75 (75%) respectively. That is a difference of 0.75 which is 3%. There is a distinct variation between female and male scores but there is no significant difference between private and public schools.

IMPROVING REGISTRATIONS, PARTICIPATIONS AND PERFORMANCES

Geography is a living and relevant school subject. It is relevant to the society at large and to individuals for livelihood. Registration, participation and performance of the female students are not encouraging. These have to be challenged. The vital proportion of the population, females should not be deprived of the relevance of the subject. To improve registrations, participations and performances of female students will be the responsibilities of governments, schools, communities and the girls themselves.

The schools, particularly the subject teachers of Geography must first introduce the relevance of the subject to the students and the society at large. Subsequently, as the lessons progress, mentions should be made of the relevance of each topic and or aspects. These should go along with notable individuals (where possible female geographers) reputable for that section or part; and how the individual is fairing. Afterwards, Mischan and Blattel (2003) observed that in order to handle the thoughts and hopes for children and a family, it is needful to expose girls to many role models who are women and mothers and who managed to balance the needs of both their jobs and family lives. The relevance should be song to their hearings all the time. The schools and teachers should make absolute efforts to prepare students for a future that is commensurate with their abilities and desires in different aspects of geographic studies. These may begin and end by arousing their interests. There may be talks and or discussions about the importance of Geography and its applications to their lives as individuals and even as groups.

On the panacea to these challenges, ten variables were put across to 200 students and 500 members of the public including teachers. For each group, a respondent picked as many as perceived. See Table VII and VIII. 91.00% of the students want books, atlases and other materials to be published in large numbers and to be very attractive

too. 74.00% each require any form of supports, guidance and counselling from school management and the teachers and also from Geographical Associations of Students, Nigerian Geographical Association (NGA) and Nigerian Geography Teachers Association. Similarly, not less than 50.00% picked supportive government and education policy (56.50%), Influence from peer groups and classmates (55.00%), Encouragement supports and counselling from parents, homes and the communities (53.50%), Modification of Geography curriculum (59.00%) and 50.00% want tertiary institutions to campaign heavily about the significance of Geography and support the studies about the subject.

Members of the public including management of schools and teachers responded to the same series of questions: 82% want NGA, NGTA and Student Geography Associations to campaign for the subject and support the cause of studying it. 80% wants peer groups and classmates to positively influence themselves and not less than 50% would want the governments and education policies to be supportive (62.00%), School management and Teachers to counsel and be supportive (58.60%) and application of "subtle" teaching methods (68.80%). As much as 76.20% call for publication of very colourful and attractive books and materials and 66.00% want students not to dissuade themselves but rather persuade and encourage themselves. See Table VIII.

During classes and at the Question and Answer sessions, teachers should allow enough waiting time (for female students to be able to gather thoughts and summon courage) before choosing who should answer questions. Waiting for two or three seconds, though "seems uncomfortable at first, it encourages more students to participate in the question and answer session" (Iwovi 2001). In the same vein, when a student performed well, it should be applauded, rewarded or simply favourably remarked to encourage and motivate her and motivate others. Durojaiye *et al* (2006) similarly remarked for Mathematics class that poor expectation of girls' performances should not be reinforced. In their words:

.....teachers reading out the results of the term test is common in many classes (and schools).....Marie Kiarie 37%. You have already tried during the last.....John Simiyu 73%, Hay my friend. This is not enough. You must really work harder next term.....

Teachers should not show that he has low expectation of girls' abilities to perform well. Small group discussions at homes and in the school should be encouraged. Such study group could be given assignments/projects to work on. The females could be given a little more attention and or time than their male counterparts through cleverly. Under such circumstances, they will know they are not alone and help will be forthcoming when they are making mistakes as Iwovi (2001) asserts that cooperative small group work is a more effective strategy both for achievement and motivation.

Students should feel encouraged and should be encouraged by the school and the teachers to stay back (during breaks and or at free periods) with brilliant seniors or most talented in the class and or the teacher(s) for further explanations on the so call difficult concepts and topics. This could be more relevant before examinations and class tests.

Though cleverly and with moderations and cautions, students can be given special preferences to role play and participate in Laboratory Works, Field Visits, Field Works, Field Trips and other Geography extra-curricular activities without prejudice.

Female Geography Teacher(s) should be recruited (and or trained) for purposes of playing the roles of "Role Model." In addition, she should be made to facilitate Geography Practical classes, Field Works, Field Trips, and Field Visits and give impetus to timid students to be become active in the classes. In addition to these, seminars, workshops, debates and talks should be organized at frequent intervals. Female Geography Teachers and or Women with sound Geography background should be made to lead discussions, preside over the occasions or facilitate as guest lecturers. Durojaiye *et al* (2006) are of the views that "they could share with the girls what challenges they had faced, how they succeeded and benefits of (the subject) in their lives."

Women love beautiful things, "they are next to children" (World Health Organization, 2005). Hence, the authors and the publisher (of local books at least) should include charts, diagrams, pictures, graphs and maps that will colourfully fascinate and attractively make students take interest in the books and read. Aside, authors should be encouraged and supported to write and publish to the administration of female students. Particularly, maps that will be clear, bright and easy-to-read mapping that will also integrate physical and social environment and stimulate map reading exercises should be produced in large numbers. Geography Clubs like science clubs should be encouraged and supported by both homes and schools. Extra-curricular programmes such as debates, quiz competitions, etc fora, after school hours, during weekends and during holidays will provide the girls with

fun and interactions over Geography and Geography related concepts and subjects. There could be quite a number of undergraduate students, members of the National Youth Service Corps and students on Practice Teaching programmes in the school at a time or in the neighbouring schools. They should be given the opportunity to act as mentors and coaches for high school (SSS) girls during such interactive sessions. Departments of Geography in all tertiary institutions all over the country should campaign and make all efforts to encourage registration of female students. At that level, scholarships, loans and whatever financial and moral supports should be sourced for female students. It is imperative.

Following from above is the roles of Nigerian Geography Associations and the Nigerian Geography Teachers Association (South-West Zone). These associations and the student associations alike should wake-up to the responsibilities of wooing and encouraging girls to register and participate very actively in the classes and at every Geography fora. Geography must be made attractive. The teachers should see themselves as special people whom the present day belongs. Afterwards, developments in Geography and related disciplines eliminate fears and provide verifiable truth against mere tales of history and historical geography.

Geographic concepts and ideas should be depicted in charts, graphs, maps, models, toys, souvenirs etc and displayed in the laboratories, classrooms and within and around the school premises as decorations at homes and offices; songs and prose could be composed and the students should be made to use them. In these ways, the idea and the concepts will sink into the subconscious of the students.

After all, Egunyomi (2006) asserts that "no development strategy is better than one that involves women as central players. "Such strategy has immediate benefits for nutrition, health, savings and investment at the family, community and ultimately at national level. In other words and according to her, "educating girls is a social development policy that works." "It is a long term investment that yields an exceptionally high returns, (Annan, 2002)." Therefore, all hands must work together to encourage and support girl child to be educated and well grounded in the class in the first instance; and for gainful employment afterwards.

DISCUSSIONS AND CONCLUSION

The significance of Geography as a school subject cannot be over emphasized. The profession that female child can eventually adopt and prosper are as wide as the various aspects of the subject that an individual can focus on and specialize. But female students are pushed away from Geography as a school subject. Their interaction in the class is very discouraging, lukewarm and unwholesome. They are conscious of their sex, lack knowledge of the potential aspects a woman could specialize and become professional and prosper and teachers do discourage them too. Boys perform better in nearly all schools. This is significant within schools and between schools. There is no difference between public and private schools. Whereas the Nigerian Philosophy of education is based on "the integration of individuals into a sound and effective citizen and equal education opportunities for all citizens of the nation (regardless of sex) at the primary, secondary and tertiary levels both inside and outside the formal school system (Federal Republic of Nigeria, 1981)."

Geography as a school subject should be given due recognition as a science subject as it is the case in Ogun State now. The teachers should be recognized as such. There must be adequately furnished and manned laboratories per schools. Students with the assistance of the teachers can pick and equip such laboratories with local resources for their immediate environment in the first instance.

Elaborate awareness should be created on the importance and necessity of geography for every student through print and electronic media. Schools, colleges and tertiary institutions should carry out orientation programmes for her students to sensitize them on the significance and relevance of geography as a prerequisite and or requirement for other courses and as a school subject and discipline that can earn them noble professions.

There are colleges of Medicine, Institute of Education, Institute of African Studies etc. It is not too much therefore if there could be a corresponding Institute of Geography probably in association with Environmental Studies. This establishment of Institute of Geography and Environmental Studies is desirable. Girls will definitely excel there as there will be more rooms for their growth and development.

REFERENCES AND FURTHER READINGS

Abegunde, M. A. A. (1988) "The Promotion of Career Opportunities through the Senior Secondary School Geography." Paper presented at the NGTA Workshop. Bendel State University, Abraka Campus (February); PP. 5-14.

Adetuberu, J. O. (1983) "The Odds Against the Teaching of Map Work: A Critical Analysis of Geography in Ondo State Secondary Schools." Paper Presented at the 26th Annual Conference of NGA at the University of Ilorin (February 16th – 20th).

Adetuberu, J. O. (1984) "Geography Students: Problems and Prospects." Paper delivered at the Workshop on the Teaching of Geography. Oyo State College of Education, Ilesha. (March).

Aderogba, K. A. (1990) "Towards a Maximum Use of Local Environment (Resources) for Effective Teaching and Learning About Geography in Nigerian Senior Secondary Schools" in Teaching Geography for Optimal Learning Outcome in Senior Secondary Schools. Ijebu-Ode: Department of Geography, Tai Solarin College of Education and NGTA (SW Zone); PP. 149-170.

Aderogba, K. A. (2001) "Dearth of Maps for Effective Teaching and Learning About Geography in Nigeria Schools and Colleges: A Case Study of Ogun State. International Journal of Research in Education. Vol. 3 No. 2; PP. 217-224.

Ajaegbu, H. I. (1971) "The Challenges to Geographers and Geography Teachers in Nigeria Today." Majasan, J. A. (Eds.) New Dimension in Nigeria High School Geography. Ibadan: University Press, pp. 12-26.

Akande, M. A. (1982) "Withdrawal from the Geography Class: A Case Study of the 'Pull' and 'Push' Factors." Nigerian Geographical Association Journal. Vol. 26 Nos. 1 & 2; PP. 105-118.

Alao, N.O. (1978) "Spatial Dynamics and the Dynamics of Geography" in Abegunde, M. A. (Ed.). Perspectives on Senior Secondary School Geography. Lagos: The High School Geography Committee. Nigerian Geographical Association. Pp. 1-20.

Annan, K. (2002) Press Release SG/8M/829, ECOS OC/6008; http://www.un.org/News/Press/doc/2002/sgms_8294.doc.htm, accessed on April 4, 2005

Areola, O. O. (1978) "The Roles of Geographers in Nation Building." Paper Delivered to Geography Students Association to mark Geography Week. Department of Geography, University of Ibadan, Ibadan.

Ashiante, A. (2003) Nigeria: Challenges of the Girl-Child.

http://www.thisdayonline.com/archive/2003/08/19/2003_0819_fea_01.html, accessed on February 13, 2005.

Blosser, P. E. (1990) Procedure to Increase the Entry of Women in Science Related Careers. ERIC/SMEAC Science Education Digest No. 1.

Boehim, R. G. (1996) "Careers in Geography" Washington DC: National Geographic Society.

Collins (2009) Social Studies Atlas for Nigeria. London: Harper Collins Publishers Ltd.

Conner, O. J. P. (2001) "Teachers are the Problem; Not Girls." International Institute for Capacity Building Newsletter. Vol. 3 No. 1 Pp. 5-8.

Datol, I. G. and Padung, L. L. (1996) "Principles and Methods of Teaching Technical Subjects" in Oyetunde, T. (Ed.) Education Innovation Approaches and Human Development. Vol. 1 Jos LECAPS Publishers.

Durojaiye, M. O., Ajie, I. J. and Aiyegbusi, S .M. (2004) "Motivating Students' Interest in Science, Mathematics and Technology by linking their Concepts to Real Life." Gombe Technical Education Journal. Vol. 5 No. 3.

Durojaiye, M. O., Ajie, I. J. and Aiyegbusi, S. M. (2006) "Improving the Participation and Performance of Female Students in Mathematics." International Journal of Research in Education. Vol. 3 No 2 Pp. 313-318.

Egunyomi, D. (2006) "Access to Basic Education for Girls: The Nigerian Experience" in Oduaran, A. and Bhola, H.S. (Eds.) Widening Access to Education as Social Justice: Essays in Honour of Michael Canolawa. The Netherland, Dordrecht: Springer Pp. 427-438.

Eya, P. E. (1983) "Resources for Learning Geography and their Effects on Students' (WASC) Performance: A Case Study of Nsukka Educational Zone of Anambra Conference of NGA, University of Ilorin, (February 16th – 20th).

Federal Republic of Nigeria (1989) National Policy on Education. Lagos: NERC Press.

Fellman, J. D., Getis, A., Getis, J. and Malinowski, J. E. (2005) Human Geography: Landscape of Human Activities. Boston: McGraw-Hill Higher Education. Pp. 4-9.

Global March Against Child Labour (1998) Girl-Child Education Initiative in Africa; <http://www.globalmatch.org/events/photos/reports%20of%20Round%20Table%20203.pdf>.

Ilugbusi, A. A. (2002) Effects of Sex and Home Background on the Academic Achievement of Junior Secondary School Students in Integrated Science in Ekiti State. Journal of Educational Issues. Vol. 2 No 1 Pp. 36-45.

Iroegbu, M. N. (2006) "Efficacy of Guidance and Counselling in Improving the Quality of Students' Academic Performance in Nigerian Secondary Schools" International Journal of Research in Education. Vol. 3 No 2 Pp. 282-286.

Ivowi, U. (2001) "Role of Teachers in Motivating Students' Interest in Science and Mathematics." International Institute for Capacity Building in Africa. Vol. 3 Pp. 13-18.

Mischan, A. and Blattel-Mink, B. (2003) "Women in Mathematics from Deviance to Normality: An Organization Theory Approach." Paper Presented at the 5th European Feminist Research conference.

National Examination Council (2004) Regulations and Syllabuses for Senior Secondary Certificate Examination (SSCE) for Candidates in Nigeria. Minna: NECO Pp. 142-146.

National Population Commission (2004) National Policy on Population for Sustainable Development. Abuja: National Population Commission.

Nigerian Educational Research Council (1992) A Philosophy for Nigerian Education. Ibadan: Heineman Educational Books (Nigeria) Ltd.

Okunola, P. O. (1990) "Strategies for Making Geography more Functional in the New Educational Policy" in Teaching Geography for Optimal Learning Outcome in the Senior Secondary Schools. Ijebu-Ode: Department of Geography, Ogun State College of Education and Nigerian Geography Teachers Association (SW Zone). Pp. 106-114.

Ologe, K. O. (1978) "Careers Outlets for Geography Graduates from Ahmadu Bello University, Zaria." Proceedings of the 21st Annual Conference of the NGA, University of Jos (April).

Otubelu, G. N. (1989) "Women are Taking Over" Daily Star. (Friday, October 13th) Pp. 5-7.

Sada, P. O. (1976) Reviewing the Geography Curriculum in Nigerian High Schools. Ibadan: Department of Geography, University of Ibadan.

The West African Examination Council (2004) Regulations and syllabuses for West African Senior School Certificate Examination (WASSCE) Lagos: WAEC. Pp. 248-255.

United Nations Educational, Social and Cultural Organization (2003) Nigerian Statistical Overview: Basic Data; <http://www.ibe.unesco.org/International/Databanks/Dossiers/Mainfram.htm>, accessed on February 13, 2005.

United Nations (1995) Programme of Action Adopted at the International Conference on Population and Development in Cairo (5th – 13th September). Population Development and Education. New York: United Nations Chapter XI.

Woodridge, S. W. and East, W. G. (1951) The Spirit and Purpose of Geography. London: Hutchinson & Co. Pub. Ltd.

World Bank (2003) Millennium Goals 2: Achieve Universal Primary Education; <http://www.developmentgoals.org/Education.htm>, accessed on February 13, 2005.

APPENDIX A

Major Geographic Fields and Employment Opportunities

| Major Fields of concentration | Employment Opportunities |
|---|--|
| Cartography and Geographic Information System | — Cartographer for Federal Government (agencies such as Defence Mapping Agency, US Geographical Survey or Environmental Protection Agency or Private Sector (e.g. Environmental System Research Institute, Integral or Bentley); Map Librarian, GIS specialist for Planners, land developers, estate agencies, local government, remote sensing analyst, Surveyor. |
| Physical Geography | — Weather forecaster; outdoor guide; coastal zone manager; hydrologist; soil conservation/agricultural extension agent. |
| Environmental Studies | — Environmental manager; forestry technician; park ranger; hazardous waste planner. |
| Cultural Geography | — Community developer; Peace corps volunteers; health care analyst. |
| Economic Geography | — Site selection analyst for business and industry; market researchers; traffic/route delivery manager; real estate agent/broker/appraisers; economic development researcher |
| Urban and Regional Geography | — Urban and Community Planner; transportation planner; housing, park and recreational planner; infrastructure and services planner. |
| Regional Geography | — Area specialist for Federal and State Government; International business representative; travel agent; travel writer. |
| Geographic Education or General Geography | — Elementary/Secondary School teacher; College Professor, Overseas teacher. |

Source: Boehm, R. G. (1996) "Careers in Geography". Washington DC: National Geographic Society.

APPENDIX B**The West African Examination Council (2004) Regulations and Syllabuses.**

| CONTENTS | NOTES |
|---|---|
| ELEMENTS OF PRACTICAL AND PHYSICAL GEOGRAPHY Map Work | Map reading and interpretation based on a continuous survey map of part of West Africa: scale, measurement, distances, direction and bearing, map reduction and enlargement, identification of physical features such as spurs, valleys etc and cultural features such as city, walls, settlements, communication routes etc, measurement of gradients, drawing of cross profiles, inter-visibility, description and explanation of drainage patterns of communication settlement and land use. |
| Elementary Survey | Chain and Prismatic compass, open and closed traverse avoiding obstacles in the field. |
| Statistical Maps and Diagrams | Graphical representation of statistical data: Bar graphs, Line graphs, flow charts, pie charts, dot maps, proportional circles, density maps, isopleths maps. |
| Elements of Physical Geography | The earth as a planet in relation to the sun. Latitude, longitude and time. Structure of the earth (internal and external). |
| (i) Rocks | Types, characteristics, formation and uses. |
| (ii) Major Landforms | Mountains, plateaus, plains, karst and coastal landforms. Agencies modify landforms such as weathering, running water, underground water, wind and waves. |
| (iii) Oceans | Fieldwork covering local landforms such as coastal features, drainage features, gullies, etc. |
| (iv) Weather and climate | |
| (v) Elements of climate | Ocean basins, salinity, ocean currents (causes, types and effects on the climates of coastlands), water as an environmental resource. Simple weather study based on local observation description of the Stevenson's screen and uses of basic weather instruments e.g. rain gauge, thermometer, barometer and wind vane etc. |
| (vi) Soils | Temperature, pressure, wind and precipitation and the factors affecting them e.g. altitude, latitude, ocean currents, land-and-sea breezes, continentality, aspect. Interpretation of climatic charts and data. Classification of climate (Greek and Koppen's). Major types of climate (Hot climate – equatorial, tropical and desert, temperate climate – warm and cool). The atmosphere as an environmental resource. |
| (vii) Vegetation | Definition, local types and characteristics. Factors and processes of soil formation and soil profile. Tropical soil types. Importance to man and the effects of human activities on soil. |
| (viii) Aspects of Environmental Interaction | Major types (tropical rainforest, cool temperate, woodland, tropical grassland and temperate grassland); characteristics, distribution, factors affecting their distribution, plant communities. Vegetation as an environmental resource. |
| (ix) Environmental hazards | Land ecosystem, environmental balance and intervention within the natural environment. Soil erosion, drought, desert encroachment, deforestation and pollution, causes, effects and prevention of each. |
| HUMAN GEOGRAPHY | |
| (i) World Population | Factors and patterns of growth, distribution and movement; growth rate problems (e.g. Amazon basin, N.E. of USA, India, Japan, West coast of South Africa) |
| (ii) Settlement | Types (rural and urban); patterns and factors affecting location; growth and size; functions of rural and urban settlements (e.g. Western Europe, the Middle East and West Africa). |
| (iii) | Types (roads, railways, water, air). Transportation and economic development (movement of people and commodities, national and international trade, diffusion of ideas and technology, national integration); problems of transportation. |
| (iv) Transportation | Types (heavy and light industry); Factors of industrial location; contributions to Gross National Product (GNP) and problems. |
| (v) Manufacturing Industry | Factors, major commodities (agricultural, manufactured goods and mineral products, trade routes, with special emphasis on trade between candidate's home country and the outside world. |
| (vi) World Trade | Nigeria on broad outlines (location, position, political divisions, |

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| REGIONAL GEOGRAPHY OF NIGERIA | <p>physical setting, population distribution of mineral and power resources, ??? industry and commerce, transportation). Geographic Regions of Nigeria (Eastern Highlands, Eastern Scarplands, North-central Highlands, Sokoto Plains, Chad Basin, Niger Trough, Cross River Basin and Southern Coast. Each of these geographical regions should be under the following sub-headings:-</p> <ul style="list-style-type: none"> (i) Physical settings; (ii) Peoples and population; (iii) Resources and economic activities; |
| FIELDWORK | <ul style="list-style-type: none"> (iv) Transportation; (v) Problems of development. <p>Field work on any one of the following should be based on local geography of candidate's home ????? (This aspect of the syllabus should be examined in schools as part of the continuous assessment and should account for 25% of the total mark ????? continuous assessment):</p> <ul style="list-style-type: none"> (i) Land use (rural or urban): |
| GEOGRAPHY OF AFRICA SELECTED TOPICS | <p>Rural – crop farming (e.g. rice, cocoa etc), mining (e.g. coal, tin, petroleum etc), fishing. Urban – commercial activities, ports, factories, recreational etc.</p> <ul style="list-style-type: none"> (ii) Market survey – rural or urban (iii) Traffic flow – rural or urban (iv) Patterns of journey to work – rural or urban (v) Rate of erosion in the locality etc <p>Africa on broad outlines – location, size, position, political divisions and associated islands, physical setting (relief, drainage, climate and vegetation); distribution of major minerals.</p> <ul style="list-style-type: none"> (a) Lumbering in equatorial Africa (with particular reference to Cote d'Ivoire and Zaire). (b) Irrigation agriculture in the Nile Basin and the Niger Basin. (c) Plantation agriculture in West and East Africa. (d) Fruit farming in the Mediterranean Regions of Africa. (e) Gold mining in South Africa. (f) Copper mining in Zaire and Zambia. (g) Oil production in Nigeria, Algeria and Libya. (h) Population distribution in West Africa. (i) International Economic Co-operation in West Africa (e.g. ECOWAS). |

Source: West African Examination Council (2004) Regulations and Syllabuses for Senior School Certificate Examination (SSCE) for Candidates in Nigeria. Lagos: WAEC pp 248 – 255.

APPENDIX C

National Examination Council Regulations and Syllabuses for Senior School Certificate Examination (SSCE) for Candidates in Nigeria.

| CONTENTS | NOTES |
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| ELEMENTS OF PRACTICAL AND PHYSICAL GEOGRAPHY | |
| MAP WORK | Map reading and interpretation based on a contoured map of West Africa: especially Nigeria: Scale, measurement of distances, map reduction and enlargement, directions and bearings, conventional symbols, relief representation, contour representation of landforms, Interpretation of Topographical maps: Relationship with physical feature, relationship within cultural features, relationship between physical and cultural features, drawing of relief profiles, slope measurement and calculation, graphical representation of geographical data e.g. line graphs, bar chart, pie chart, flow chart, proportional circles, dot maps etc. Chain surveying: equipment and materials, measurement of bearings and distances. |
| Elements of Physical Geography | |
| i. The Solar System | The earth as a planet in relation to the sun and i.e. other planets, the shape and the size of the earth; Earth's rotation and revolution. Latitude, Longitude and Time. |
| ii. The structure of the Earth | Internal and External Structures. |
| iii. Rocks | Types, characteristics, formation and uses. |
| iv. Major landform features | Mountains, Plateaux, Plains; their types and uses. |
| v. Oceans | Ocean basins, salinity, ocean currents (causes; types and effects) on the climates of coastal land. |
| vi. Weather and Climate | Definition of weather and climate, elements of weather and climate, description and uses of basic weather instruments, keeping weather records, factors of weather and climate, importance of weather and climate, effects of Climatic elements, climatic classification based on Greek and Koppens method, major climatic types. |
| vii. Soils | Definition, local types and characteristics. Factors and processes of soil formation and profile. Tropical soil types and examples of cases in Nigeria, Importance to man, Effects of human activities on soil etc. |
| viii. Vegetation | Major types (Tropical rain forest, cool temperate woodland, Tropical and Temperate grassland), characteristics, distribution, factors affecting their distribution, plant communities. |
| ix. Environmental Resources | Human: Size, quality, structure and composition of population. Atmospheric: types e.g. solar, wind and biomass, oxygen and other gasses. Water, vegetable and mineral resources. |
| x. External Processes | Weathering and mass movement; Definition, types and features. |
| xi. Internal Processes of Landform Development | Earthquake, vulcanicity, other tectonic processes e.g. compressional tentional and vaulting. Action underground water. |
| xii. External Processes of Landform Development | Action of running water, wind and waves. Erosional processes, transportation processes and deposition features, produced. |
| xiii. Aspects of Environmental Interaction | Land ecosystem, Environmental balance and interference with the natural environment. |

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| xiv. Environmental hazards | Soil erosion, Flooding, Drought, Desert encroachment. Deforestation and Pollution; Causes, Effects and Preventive methods. |
| HUMAN GEOGRAPHY | |
| (i) World Population | Factors of population growth, Patterns of population distribution and movement, factors of population distribution and movement, problems of population growth e.g. in Amazon Basin, N.E. of USA, India, Japan, West Coast of South Africa and West Africa. |
| (ii) Settlement | Factors of settlement location, Rural and Urban settlements. Patterns: Linear, Scattered or Dispersed and Nuclear, Conurbation, factors of development of each pattern. Types of functions of Rural and Urban settlements, Rural-Urban, Urban-Urban, Urban-Rural/Rural-Rural interactions e.g. trading, cultural and administrative. |
| (iii) Transportation | Types, such as road, rail, water and air. Transportation and economic development; Movement of people and commodities, national and international trades, diffusion of ideas and technology; national integration. Problems of Transportation. Merits and Demerits of each mode in relation to cost, speed, accessibility etc |
| (iv) Industry | Types, Heavy and Light Industries, factors of Industrial location, Contribution to Gross National Product (GNP), Problems. |
| (v) World Trade | Factors, major commodities (Agricultural, Manufactured Goods and Mineral Products); World Trade Routes, with special emphasis on Trade between Nigeria and the outside world. |
| REGIONAL GEOGRAPHY OF NIGERIA | Location, Position and size of Nigeria, Political Divisions, Physical settings, Population, Distribution of Minerals and Power Resources, Agriculture, Industry and Commerce, Transportation. Geographical Regions of Nigeria. Eastern Highlands, Sokoto Plains, Chad Basins, Niger-Benue Trough, Cross River basin and Southern Coastlands, each of these geographical regions should be treated under the following subheading: <ul style="list-style-type: none"> i. Physical setting. ii. Peoples and population. iii. Settlement. iv. Resources and economic activities. v. Transportation. vi. Problems of Development. |
| REGIONAL GEOGRAPHY OF AFRICA WITH PARTICULAR EMPHASIS ON WEST AFRICA | Location, size, position, political divisions and associated islands, major relief regions and coastline, the rift valley system, drainage systems, climatic types and their characteristics, types of vegetation; distribution of major minerals. Population distribution (emphasis of West Africa). |
| SELECTED TOPICS | <ul style="list-style-type: none"> i. Lumbering in the Congo Basin. ii. Irrigation Agriculture in the Nile and Niger Basins. iii. Bush fallowing in West Africa. iv. Plantation Agriculture in East Africa. v. Fruit farming in the Mediterranean region. vi. Mineral exploitation Africa (Copper, Petroleum, Gold etc). vii. Major hydro-electricity power projects in Africa. viii. International Economic Cooperation in West Africa (ECOWAS). |

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| FIELD PROJECT | <p>Candidates should concentrate their attention on any of these projects based on their local Geographical area (if possible a wide scope should be undertaken as permitted by financial capability of each school). The schools are to take full charge of this aspect of the syllabus as part of the continuous assessment. It should account for 25% of the total mark allocated to CA. The projects are:</p> <ol style="list-style-type: none">a. Landuseb. Industrial activitiesc. Traffic flowd. Market surveye. Patterns of journey to workf. Rate of erosion in the locality etc. |
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National Examination Council (2004). Regulations and Syllabuses for Senior School Certificate Examination (SSCE) for Candidates in Nigeria. Minna: NECO, pp 142 - 146