

Resources for the Implementation of Green Teacher Nigeria Project (GTN): Environmental Education (EE)

By

Ndem Y. Ndem
nyndembassey@gmail.com
Director, Academic Services Department
National Teachers' Institute, Kaduna Nigeria

&

Dr. Zainab Muhammad Shuaibu
zeelamee@gmail.com
National Trainer, Strengthening Mathematics and Science Education (SMASE)
National Teachers' Institute, Kaduna, Nigeria

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Abstract

The Green Teacher Nigeria (GTN) Project is a 12-month Advanced Diploma programme in Environmental Education run by the National Teachers' Institute, Kaduna, Nigeria in partnership with the Commonwealth of Learning (COL) Vancouver, Canada. This paper is an overview of the rationale, preparation and implementation strategies of the Environmental Education programme in Nigeria. In doing this, the availability and utilization of resources for the implementation was examined bearing in mind the demand of global best practices in innovative instructional delivery. Also, the paper X-rays the challenges encountered in the implementation, which include but not limited to, inadequate advocacy that can engender greater participation in the programme which is worsened by lack of a clear career progression for teachers and other prospective enrollees into the Green Teacher programme. The study is a descriptive survey targeting 300 students and 15 facilitators from the 5 purposively sampled study centres in Kaduna state. A validated questionnaire with a reliability coefficient of 0.078 tagged "Resources for Green Teacher Implementation" (RGTI) was used for data collection. Five research questions were raised and answered using descriptive statistics. Results obtained show that the objectives of the Green Teacher Nigeria will be achieved readily if there is more intense advocacy and its contents are infused into the Institute's already existing programmes such as the Nigeria Certificate in Education (NCE), Post Graduate Diploma in Education (PGDE) and Bachelors' Degree programmes. These certificate courses are already instant employment requirements into the teaching profession in Nigeria. It is recommended that the Advanced Diploma programme should be run as a preparatory programme for direct admission into the Bachelors' degree programme of the institute and other institutions running similar programme.

Introduction

Environmental issues and the challenges they pose to sustainable development have, in the past two decades, dominated national and international discourses. This is based on the recognition of the need for people in all nations to “manage their behavior and ecosystems in order to live sustainable”. Nigeria has a total land area of 983,213 km² occupied by about 180 million people, the interaction of these millions of people with their environment has left indelible mark on the landscape. Urbanization, deforestation, desertification, over population and all kinds of pollution issues are some of the resultant effects of man’s interaction with his environment. These changes occur as the people attempt to acquire their seemingly endless desire for food, shelter, recreation and infrastructural facilities. Though these wants and desires contribute to the development of the country, the unwise use of the land and its resources produce negative impacts on the environment.

The Federal Environmental Protection Agency (FEPA) was established to control the Nigerian environment, its resources exploitation and management. Field observation revealed that environmental degradation is growing at a rate worse than the pre-FEPA period. Solutions to these problems require going beyond the strategies and objectives of FEPA environmental protection techniques and should be indigenized. For an enduring legacy, Environmental Education (which should include environmental protection techniques) should be included in primary and post primary school curricula. It is only through the schools as a learning system that the propagation of environmental awareness and sustainable exploitation of the environment can be successfully implemented. Essentially, the need to integrate environmental education teaching into the primary and secondary schools to enhance sustainable environmental consciousness cannot be overemphasized.

It is based on the above that the design, development and implementation of the Environmental Education programme that is tagged the “Green Teacher Nigeria (GTN)”, which is a partnership between the National Teachers’ Institute (NTI) and the Commonwealth of Learning (COL) was conceived. The aim of which is to educate Nigerian teachers and staff of environmental protection agencies at federal and state levels by extension the primary and secondary students (populace) about healthy environmental management.

Objective of the Study

The objective of the study is to have a general overview of the rationale and preparation involved in the implementation of the Green Teacher Nigeria (GTN) programme so as to create a holistic environmental consciousness and awareness in teachers and their pupils/students, communities and staff of relevant agencies as a key to future participation in community action, decision-making and problem solving in issues of the environment.

Statement of the Problem

The basic problem in this study is to examine the resources available for the implementation of an Advanced Diploma in Environmental Education at the National Teachers’ Institute, Kaduna, Nigeria. It involves the consideration of necessary resources required to host the environmental education programme in its totality, its interdisciplinary nature; its emphasis on active participation in solving “environmental problems”. Resources in education include personnel, curriculum and facilities ranging from building, furniture, study materials, equipment and consumables. These include anything which may be an object of study or capable of provoking and sustaining learning about the environment. Does the GTN programme have the available resources for its successful implementation and what continuous efforts should be made to consciously promote far reaching and enduring environmental consciousness in Nigeria?

Research Question

1. What are the resources available for the implementation of the Green Teacher Nigeria (GTN) programme?
2. How were these resources selected and used for the implementation?
3. How were the resources developed / procured and used?
4. To what extent have these resources congruent with the goals, objectives and expected outcomes of programme?
5. What are the challenges faced/being faced in the use of these resources?

Literature Review

The National Environment Policy emphasizes that caring for the environment is a bounden duty of any institute, government or non-government, and of any individual that uses or otherwise carries out an activity that has an impact on the resources of the environment. The commitment of Nigeria to the protection of the environment is embedded in the 2008 National Policy on Education (NPE) which sets "to provide people who can apply scientific knowledge to the improvement and solution of environmental problems for the use and convenience of man at all levels of our educational system" (Adara 1997).

Despite the provisions of the NPE, the formal introduction of EE into the Nigeria educational system was only sensitized by Nigerian Conservation Foundation (NCF) a Non Governmental Organization which spearheaded the development of the draft National Conservation Education Strategy in 1988. The Nigerian formal education system at all levels is structured in such a way that it offers subjects with direct or indirect link with the environment and as such, provides opportunities for subject specialists in respect of EE content. The national school curriculum is deficient in EE element at the secondary and tertiary levels as observed during the 2008 National Curriculum Review conference. However, EE is being taught using the relevant school subjects but never independently.

According to Ahmad (2008), very few tertiary institutions teach EE as an orientation programme under general studies once in the student's academic programme for a period of 3-4 years. Others have very scanty contents of EE in their orientation programme and worse still, some tertiary institutions do not offer environmental education courses throughout the duration of training.

Notwithstanding direct or indirect interaction with the environment, EE is for all citizenry to be environmentally aware and thus, it behooves on the nation to provide a general EE curriculum guideline from which all categories of scholars can select environmental concepts and principles relevant to their areas of specialization for possible multidisciplinary integration and implementation.

The crucial role teachers can play in the ongoing efforts to use education to address environmental problems and issues are widely recognized. Teachers constitute the key change agents in any educational innovation. The effectiveness of Environmental Education is largely dependent on the teachers' knowledge, skills and attitudes. In recognition of this, the Commonwealth of Learning (COL) and National Teachers' Institute (NTI), introduced the Green Teacher Nigeria programme (GTN) into its teacher training programmes. The GTN programme is to enable students have adequate and holistic understanding of the environment and its problems and how human activities are impacting on it.

Teachers' capacity needs to be built at all levels on different strategies and approaches needed to deliver the concepts of environmental education to their students in such a way the students will grasp the concepts there by leading to a positive change in attitude and good character development on environmental issues.

The Role of National Teachers' Institute in the Implementation of Environmental Education using Distance Learning System

National Teachers' Institute (NTI) plays a great role in teacher education in Nigeria through the instrumentality of Distance Education (DE) in accordance with its mandate. NTI Kaduna is a single mode distance education institute dedicated to teacher training. It was established in 1976, primarily to provide in-service education for teachers through distance learning and also because of pressing needs in the country for trained and qualified teaching staff at all level of the educational system.

Act No. 7 of 10th April, 1978 now CAP N79 LFN 2004 establishing the institute charged it among others with the responsibility of providing courses of instruction leading to the development, upgrading and certification of teachers as specified in the relevant syllabus using Distance Education Techniques.

Based on this mandate, the institute has run programmes in training, retraining and upgrading unqualified and under qualified school teachers. It has also mounted refresher courses for teachers at all levels. As a further step in the provision of courses of instruction leading to the development, upgrading and certification of teachers, the Institute introduces some professional courses in education to further equip university graduate without teaching qualification with modern teaching techniques. This quest resulted in the introduction of Environmental Education in collaboration with the Commonwealth of learning using Distance Learning System (DLS).

Distance Education (DE) has become an intrinsic part of many nations' educational system both developing and developed. It encompasses new communication technology for the delivery of learning contents at a distance. It's overarching concepts make it unrivaled for international usage.

Another illuminative perspective of this mode of education is its delivery organization: to deliver DE, careful planning and guidance are imperative in tutorial organization using mediated communication in time and space. Other features of DE that aided the implementation of EE programme by NTI are its openness and flexibility in

access, curriculum and structure. This allows the learner the liberty and comfort of self study through the provision of a two-way communication (interaction) for the purpose of facilitating and supporting the educational processes using technology(UNESCO,2002).

Green Teacher Programme (Environmental Education)

The Green Teacher Nigeria (GTN) Programme is a 12 months Advanced Diploma Programme in Environmental Education (EE) mounted by the National Teachers' Institute (NTI). The plan to run the programme dates back to 2007 when the Commonwealth of Learning (COL) supported staff of the institute to go to the Centre for Environmental Education, Ahmadabad, India to under study how the programme is run.

In order to ensure the smooth take off of the programme, the Commonwealth of Learning (COL) and the National Teachers' Institute (NTI) signed a Contribution Agreement for the design and development of the Green Teacher Nigeria on May 12, 2017. The MoU spelt out the responsibilities and roles of each of the co-operating partners. This, undoubtedly, laid a smooth and solid foundation for the commencement of the programme in the Institute.

Preparation for implementation of the GTN Programme:

The rationale for the introduction of the GTN programme by NTI in collaboration with COL was to:

1. enhance teachers' understanding of :-
 - the environment and generate deep interest and concerns for environmental issues and problems;
 - the interconnectedness of socio-economic, political and cultural activities as they relate to environmental issues and problems;
 - environmental education(EE)theories, approaches and methods in handling environmental issues in schools
2. Strengthen the skills of teachers in:-
 - disseminating among young learners the knowledge and skills of the environment and how to conserve and protect it;
 - engendering positive action by individuals, social groups, and communities towards protecting the environment for Sustainable Development Goals (SDGs);
 - fostering positive attitudes, values and skills among young learners for the protection and improvement of the environment by individuals, different social groups and communities.

The following activities were carried out at the National Teachers' Institute, Kaduna.

1. Constitution of GTN Core Team in the Institute to drive the programme: This consists of eight (8) seasoned and experienced education officers from the academic and professional departments of the institute. The team has a chairman and the secretary who serves as the desk officer and contact person for the programme. Also in the team is an accountant who keeps the financial records of the programme.
2. Capacity building workshop on Environmental Education: This was organized for staff of the Institute with the following objectives:
 - engender adequate awareness and understanding of the environmental issues and problems in Nigeria.
 - enable participants acquire deep understanding of the National Policy on Environment and its implementation framework
 - enhance participants' knowledge and skills on Environmental Education.
 - build participants' capacity to design the Green Teacher Nigeria programme
3. Conduct of GTN Modules Development Workshop: Experts were drawn from the centre for Environmental Education (CEE) Ahmedabad India to facilitate the workshop along with others from the Federal Ministry of Education, Federal Ministry of Environment, Institute of Water Resources, Academics from Nigerian Universities as well as NTI Core team members. The entire process was overseen by COL consultant in Nigeria.

Arising from the workshop, four distinct self-instructional learning modules were developed around the themes of:-

- i. Environmental Education (EE)/Education for Sustainable Development (ESD),
- ii. Learning to Conserve our Environment,
- iii. Me and My Environment: Sustainable Lifestyles and
- iv. Resources for Environmental Education

Guides for facilitators and students were also developed.

4. Pilot Testing of the Modules: In order to ascertain the quality and standard in these course modules, questionnaire consisting of 54 items was designed and administered to 200 NCE, BDPs, PGDE students and Facilitators. The pilot testing was done to ensure the readability and understanding of the materials. The results showed that there was a high degree of inclination towards full and partial acceptance which reflects massive satisfaction with the contents of all the modules.
5. Review of the Materials: The materials were further subjected to review by experts. In their remarks, they commended the content adequacy of the modules noting that the language and mode of presentation were sequential, straight-forward and easy to comprehend. Also, the activities and feedback assessment provided in the modules were equally commended. The developed manuals were again internally reviewed and revised by the NTI GT Core team and the consultant and forwarded to experts in India for integration of media and pedagogy.
6. Conduct of an e-facilitation Workshop: e-facilitation workshop was conducted for NTI staff, which focussed on developing participants' knowledge and skills on:
 - e-learning and e-facilitation;
 - e-facilitation in a virtual environment;
 - problem based learning in the context of environmental education;
 - basic e-facilitation skills;
 - the use of the Moodle LMS for the delivery and management of NTI's Green Teacher programme;
 - how the PBL model can be used to deliver NTI's Green Teacher Programme on a Moodle Platform;
 - strategies/road map for the integrated use of e-facilitation and PBL in NTI's Green Teacher Programme;
7. Conduct of Learning Design Workshop: This was also conducted with the aim to:
 - develop standards for design and integration of microlearning resources into the GTN programme;
 - work with on-site ICT team to support the staff in uploading modules and develop relevant online learning activities for the four environmental education modules.
8. Capacity Building Workshop for NTI Field Officers: This was aimed at building the capacity of NTI zonal, state co-ordinators and education officers on online delivery and management of the GTN programme. These field officers are expected to serve as facilitators of the programme when it becomes full blown in their respective states and zones.
9. Development of a Roll-out Plan: to run the programme successfully, a roll-out plan was developed which highlighted enrolment projection, staff training and advocacy enlightenment strategies.

Methodology

The study adopted a descriptive survey design and was aimed at investigating the resources for the implementation of the Green Teacher Nigeria Programme. The population for the study comprised all NTI students within Kaduna and environs in Nigeria. Purposive sampling technique was employed to select five study centres from the ten centres visited. 20 NTI continuing students were selected from year 2, 3 and 4 each in the five study centres chosen for this study. These students were considered because they are conversant with the operation of the NTI mode of distance education. Similarly 3 facilitators from each centre that were involved in general education study courses were also selected. A total of 300 students and 15 facilitators made up the population for this study. A structured questionnaire tagged "Resources for Green Teacher Implementation" (RGTI) was used for data collection. The instrument was scored on a four point scale of Strongly Agreed, Agreed, Disagree and Strongly Disagreed with 4, 3, 2 and 1 point each respectively.

Data Analysis

The data was analyzed and presented according to the research questions using means and percentages.

Results and Discussion

Table 1: Availability of resources for the implementation of the Green Teacher Nigeria (Environmental Education).

S/N	Items	SA (%)	A (%)	D (%)	SD (%)
1	There are adequate computers/laptops in my study centre	30	25	20	25
2	The Moodle platform is effective	35	30	18	17
3	The Internet connectivity in my study centre is adequate.	40	29	23	08
4	There is adequate course facilitators for both online/ face to face)	60	35	03	02
5	There is adequate and conducive classrooms for lectures	65	30	04	01
6	The furniture in my centre are adequate	40	36	14	10
7	There is adequate course materials(print-based and online)	69	18	13	00

Table 1 above reveals responses of both facilitators and students on the availability of resources for the implementation of the Green Teacher Nigeria (Environmental Education). 55% of the respondents attested that there are adequate computers/laptops in their study centres and 65% also affirmed that the NTI moodle platform is effective. 69% responded that internet connectivity in the study centres is adequate while 95% attested that there are adequate course facilitators for both online/ face to face). 95% declared that there are conducive classrooms for lecture, 76% attested that the furniture in the centre are adequate while 87% responded that the course materials both online print-based are adequate.

Table 2: How were the resources selected?

S/No	Items	Respondent	Mean	Decision
1	Facility tour/visit to designated school	Facilitators	2.64	Agreed
2	Development of inventory check list to guide		1.45	Disagreed
3	Formal request principal to host school requesting the use of facilities		2.54	Agreed
4	Formal appointment fixed on an agreed date		2.55	Agreed

From table 2 above, items 1, 3 and 4 have higher values above 2.50 while item 2 have mean score below 2.50. It is evident that there is need to improve on the development of inventory checklist to guide the implementation of the programme.

Table 3: How were the resources developed?

S/No	Items	Respondents	Mean	Decision
1	Selected officers undertake study tour in running course design	Facilitators	2.60	Agreed
2	Course design workshop was organized for selected staff		2.97	Agreed
3	Course writing workshop was organized for selected staff		2.45	Agreed
4	Expert were engaged to review and edit the course developed before printing/uploading		2.55	Agreed

From table 3 above, the mean rating of the facilitators shows that the resources for implementation of Environmental Education were carefully developed.

Table 4: To what extent have these resources congruent with the goals, objectives and expectation of the programme.

S/NO	Items	Respondent	Mean	Decision
1	The content coverage of the Environmental Education for the award of an Advanced Diploma is adequate.	Facilitators/Students	3.24	Agreed
2	The Environmental Education course content are accessible	Facilitators/Students	2.88	Agreed
3	How would you rate the adequacy assessment of learners outcomes of the Environmental Education programme is adequate.	Facilitators	2.94	Agreed
4	Do you think 12 months duration is adequate to cover the content of the Environmental Education programme	Facilitators/Students	3.42	Agreed

The mean rating from table 4 above shows that the resources for the Environmental Education are in congruence with the goals, objectives and expectation of the programme.

Table 5: What are the challenges faced in the implementation of the Environmental Education

S/No	Items	SA (%)	A (%)	D (%)	SD (%)
1	There is adequate number of staff to facilitate the Environmental Environment	45	40	10	05
2	The staff are qualified to facilitate the programme.	54	26	18	02
3	Prompt response to learners problems during study	60	35	03	02
4	The classroom/ furniture are conducive for learning	57	23	05	05
5	The course materials are provided on time	48	32	18	02
6	Moodle platform is assessable to learners	45	35	16	04
7	Wide coverage of the programme across the nation is adequate	12	28	42	18
8	An Advanced Diploma certificate in Environmental Education will give a clear career progression as a teacher.	10	12	36	42

Table: 5 focuses on challenges faced in the implementation of the Environmental Education, 60% of the respondents attested that lack of wide coverage of the programme across the nation is a great challenge that might affect the implementation of the programme. 78% also attested lack of clear career progression with an Advanced Diploma in Environmental Education.

Results and Discussion

The study revealed that the study centres have the available resources for the implementation of the GTN (EE) programme. Considerable number of the facilitators agreed that there is need to improve on the development of inventory checklist to guide the implementation of the programme. The study also revealed that more than 95% students were of the opinion that both online and face to face (f2f) mode of study is flexible and a better option. It also further revealed that the resources for the Environmental Education are in tandem with the goals, objectives and expectation of the programme.

Conclusion

Based on the findings of the study, the researchers wish to conclude that one of the major problems of the programme is lack of adequate advocacy and lack of clear career progression. The researchers also wish to state that with adequate educational resources and conducive learning environment in place for the successful take off the programme, student enrolment into the programme might increase.

Contribution to Knowledge

The study was able to establish the fact that with an Advanced Diploma in Environmental Education (Green Teacher Nigeria programme), there will be the creation of much-needed awareness among Nigerian populace of the environment and how to preserve and protect it for healthy living.

Recommendation

Strengthen the advocacy strategy for the GTN programme and also introduce Bachelors degree in Environmental Education in the Institute degree programme. The advanced diploma programme should be run as a preparatory programme for direct admission into the Bachelors' degree programme.

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