

Climate Change In Nigeria: Role Of Librarians In Public Libraries In Educating Rural Farmers

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Abstract

This paper discussed climate change and rural farmers-centered climate change awareness through information and education. Climate change has become a threat to agriculture world over. Rural farmers in Nigeria are still in the dark due to lack of awareness, lack of basic education and information. This has become a burden. Public rural librarians now have a major role to play in creating awareness, educating and informing rural farmers especially in Nigeria on climate change issues. To do this, public libraries are expected to organize focus group discussions, bring knowledge to the doorsteps of the rural farmers through the use of public address systems, television, radio broadcast and the distribution of enlightenment flyers and hand bills. However, this may not be an easy task in a country where public libraries have not been receiving adequate attention. The government should provide adequate funds to public libraries in rural areas to enable them perform their roles effectively. There is also need to provide adequate infrastructure to rural public libraries with basic training of human resources and skill transfer to the rural public librarians to enable them give out their best in discharging their services to the rural farmers. It is believed that after these challenges are overcome by public rural librarians, rural farmers will be aware and better informed on climate change issues.

Introduction

Agriculture is the world's oldest and largest industry. In Africa, about 70% of the population is engaged in agriculture for their livelihood (Maddock and Wilson, 1994). In Nigeria, agriculture is the largest sector of the economy, employing nearly 70% of the active labour force and contributing up to 30% to the GDP. Among this labour force are rural farmers, whose livelihood depends essentially on agriculture and who also account for the greater part of the population. According to Fasina (2005), the bulk of food which is eaten in the country by both man and animals is produced in the rural areas. About 80% of staple food items or crops, live stock and fisheries used in Nigeria are produced by subsistence farmers who live in the rural areas (Nwachukwu, 2008).

Agriculture is heavily dependent on climate (rainfall and temperature); therefore, its productivity and production process are highly vulnerable to changes in climate. Climate change and its negative effects on agriculture in the world today is no longer news. Countries are making concerted efforts informing and educating people on climate change, the vulnerability of agriculture and associate threat to agricultural produce. These countries are devising strategies of how to either mitigate or adapt to it. This is to enable farmers to cope with most natural disasters and fluctuating livelihood conditions irrespective of their locations.

In Nigeria, rural farmers are often marginalized in terms of education and timely access to agricultural information. Access to education and information on climate change adaptation and sustainable agricultural production is vital for marginalized rural farming communities as better information system can greatly assist decision-making at all levels. According to Hania and Quirehi (2010) and Parry et al (2007), research strategies involving sustainable agricultural production practice that integrate climate change have a number of impacts: they reduce vulnerability and improve food security, human well-being, environmental management and community resilience.

Thus this opinion paper identifies climate change in Nigeria and roles librarians in public libraries can play in educating and informing rural farmers on climate change issues.

Climate Change

There are various definitions of climate change. Houghton (2001) viewed climate change as change in statistical properties of the climate system over periods of decades or longer, regardless of cause. United Nation's Framework Convention on Climate Change (UNFCCC) (1999) defines climate change as a change of climate that is attributed directly or indirectly to human activity, that alters the composition of the global atmosphere and that is in addition to natural climate variability over comparable time periods. IPCC (2007) described it as any change in climate over time, whether due to natural variability or as a result of human activity. Perhaps a more elaborate description of climate change is provided by Aloko and others (2008); in their explanation, the term climate change is a long-term growing change in the average weather condition that a given area experiences. It is a change in the average condition of the atmosphere globally or at specific areas in the planet earth over time scales ranging from some decades to thousands of years. It is a major consequence of global warming, especially the depletion of the ozone layer by Green House Gases. Climate change and global warming are synonymous. Consequently, they are often used interchangeably. But according to Boykoff (2007), climate change refers to any change in climate over time, whether due to natural variability or as a result of human activities, whereas, global warming refers to the overall warming of the planet based on average temperature over the entire surface.

Research is on-going about causes of climate change. Dynamic processes on the planet earth, external forces including variation of sunlight intensity and most recently, and human activities have been accrued as major causes of climate change. In the explanation of Tri Quang (1996), man is the major cause of current global climate change. Man, he asserts, pollutes his environment and kills the life of other beings on earth. Climate variability is caused by both natural effects like violence, ocean currents, continental drift, earth tilt etc, and man-generated effects. Beginning from technological era, human advances in science and technology have negatively affected the planet through Green House effect/global warming, deforestation and more continuous emission

of carbon dioxide than the atmosphere can bear. Emission of greenhouse gases like oxide of nitrogen (Nox), methane (C₂H₄), chlorofluorocarbon (CFC), etc. from burning fossil fuel, coal, oil and gas, causes lesser emission of oxygen into the atmosphere (Demencol, 2001). Also, Oyebade (2009) explained that human activities that contribute to climate change include, in particular, the burning of fossil fuels, agriculture and land-use changes like deforestation. Climate change or global warming, according to Houghton (2001), has become a new reality, with deleterious effects: seasonal cycles are disrupted, as are ecosystems; agriculture, water needs and supply, and food production are all adversely affected. It also leads to sea level rise with its attendant consequences and includes fairer weather; increased frequency and intensity of storms, floods, hurricanes, droughts; increased frequency of fires; poverty, malnutrition and series of health consequences. It has a cumulative effect on natural resources and the balance of nature.

Climate change has placed a challenge on the environment on a global scale and agriculture on its own also places burden on the environment in the process of providing humanity with food and fiber. Pathetically, Nigerian rural farmers, due to lack of basic education and lack of access to climate change information, do not even know that he is even the cause of his own problem. As already discussed, man contributes to climate change while climate is the primary determinants of agricultural productivity. Climate change phenomenon affects agriculture in a number of ways; for example, uncertainties in the onset of the farming season due to changes in rainfall characteristics can lead to usual sequence of crop planting and replanting, which may result in food shortage due to harvest failure. Extreme weather events, such as thunderstorms, heavy winds, and floods, devastate farm lands and can lead to crop failure. Pests and crop diseases migrate in response to climate changes and variations. The most devastating adverse impact of climate change in Nigeria and other subtropical countries include frequent drought, increased environmental damage, increased infestation of crop by pest and disease, depletion of household assets, increased rural and urban migration, biodiversity loss, depletion of wildlife and other natural resources base, changes in the vegetation type, decline in forest resources, decline in soil conditions, increased in health risks and the spread of infectious diseases, changing livelihood systems, among others, (Reilly, 1999: Abaje and Giwa, 2007). Other effects of climate change according to Idowu and Ayola() disruption of temperature distribution, precipitation, evaporation clouds, air-currents and consequential shifts in the vegetation belts Climate change and its overall impact on agriculture cannot be over emphasized. Rather, this calls for concern for a typical Nigerian rural farmer, who is still unaware of this global issue, coupled with his lack of basic education and information that will put him through the vagaries of climate change.

Towards Rural Farmers'-Centered Climate Change Awareness through Education and Information

Climate change has become a global environmental issue. Various scholars have written much on this topical issue, yet most rural farmers in Nigeria still remained unaware, uninformed and uneducated about it. The Oxford Advance Learners Dictionary (6th edition) defines awareness as "knowing that something exists and is important". Sometimes, individuals may be aware of the existence of some kind of things but may have different conceptual explanations, interpretations and perceptions about it due to their lack of education and information. Most Nigerian rural farmers knowingly or unknowingly have experienced and are still experiencing climate change in their various localities but attach no importance to it. This may be because they lack basic education

and information that will form a base for this understanding. Education has been defined as the transmission of knowledge, skills and values which an individual needs to master his physical and social environment and adapt himself to the demands of the society of which he is a member (Igbo, 2003). Also, Gopalan (2011) explains that education is a process of learning in order to develop physical, social, emotional, intellectual and economic aspects of a person. He further explains that an educated person is not only literate but has also developed his or her mental and reasoning powers and is knowledgeable. Thus, the ground purpose of education, he reasons, is to draw out all desirable changes in behaviour through the growth and development of the learner's physical, mental and spiritual capabilities to enable him have a useful, enjoyable and productive life in the society, workplace and home. Education envisages social awareness, aiming at better understanding of the contemporary globalised society. It is a prerequisite to effective social adjustment and awareness of alternatives. It is also a weapon for liberation from ignorance. Bhatti (2009) argues that an uneducated person is an illiterate full of ignorance and lack of information. Information is defined as a recorded experience that is used in decision- making (Bhatti, 2009).

Education, over time has been used as instrument to preserve and upgrade accumulated knowledge, skills and attitudes in its cultural setting and heritage in order to foster continuously the wellbeing of mankind. It also guarantees mankind survival against the unpredictable at time hostile and destructive elements and forces of man and nature. It is then a panacea to both natural and human problem. It can then be used as a means of awakening rural farmers to the vagaries of climate change in Nigeria and in this awakening process, comes the information that will make them compare their own circumstance against possible alternatives, build up the ability to articulate concerns, desire to make suggestions, and voice complaints that will leads to empowerment. When rural farmers in Nigeria becomes aware, well informed and well educated about climate change variability, risk and threat accompanied with it, they can then stand a chance of self-defence amidst its challenges. Rural dwellers as noted by Nwafor (1986) are most illiterates and they constitute about 70% of the Nigerian population. They are also the backbone of the Nigerian agricultural economy. According to Aboyade (1990) most of the adult population that did not receive any form of education live in villages and engage in peasant farming, petty trading and other economic activities. Rural farmers in Nigeria need to have the ability to locate, evaluate, and use information on climate effectively to enable them competently and confidently make their way through today's information landscape of agriculture.

Although, education and information has always plaid an indistinguishable role in enlightening people, but their mission cannot be accomplished in isolation of library. A library without education and information has no meaning. This tripartite relationship is explainable. Educating the Nigerian rural farmers on climate change issues will stand as an eye-opener for them to be aware its variability, risk and threat, information gives them perfect and adequate knowledge that will save them from abysmal ignorance of this global issue while libraries will stand as instrument of self-education, a means of knowledge and factual information with provision of accumulated and preserved knowledge on climate change.

Educating and Informing Nigerian Rural Farmers on Climate Change: The role of Public library librarians

Libraries have ever maintained their social role as of selecting, acquiring, organizing, interpreting, and disseminating information and information materials to satisfy the information needs of people. This is because; libraries reflect the intellectual development, educational and cultural needs and aspirations of society and therefore remain the greatest treasure of human intellect serving as communication link between knowledge and its users (Abdulkarim, 2010). The library has been identified as a propeller of information dissemination for the overall national development. It is the broker between official information and the citizen. Libraries in the rural areas exist as a result of information dissemination for rural development in most societies. Unfortunately, there are paucity of public libraries in rural areas of Nigeria (Chijioke, 1999). Achebe (2008) defines public library as a tax supported institution that serves residents of the city, town or local council areas with a basic function of providing information, education and entertainment to all the people it serves (be they, children or adult who may engage in any aspect of a profession) by making books and other library materials available to them. Basic roles of public libraries are:

- Guidance in locating materials,
- Provision of reference and information services,
- Provision of book list. These are pamphlets, films, film strips and other materials that can direct library users and non-users to new paths of knowledge and learning.
- Guidance in reading and instruction in the use of books
- Photocopy service
- Provision of reading accommodation
- Skill training to users (e.g. in ICT, literacy, trade skill acquisition etc.) Achebe (2008).

Broadly speaking, public libraries have three major roles to play: information provision, literacy enhancement, and public education function. Public library information professionals execute these roles by making anticipated needed information as well as actual needed information available, accessible, and usable to community users; by enhancing its user community literacy level via the means and processes of searching accessing information satisfying their information needs and also, by educating them through enlightenments activities such as in the area of agriculture and factors that stands as global impediments to it. Over a long period of time, rural farmers in Nigeria has been in the global bandwagon of Climate change and its vagaries. Pathetically, Nigerian rural framers dominated with illiterates who lack basic education, little information and knowledge about climate change do not know that he is even the cause of his own problem as already discussed that man contributes to climate change while climate is the primary determinants of agricultural productivity. As a result, most rural farmers in Nigeria have witnessed devastating adverse impact of climate change just like other subtropical countries. These impact includes, frequent drought, increased environmental damage, increased infestation of crop by pest and disease, depletion of household assets, increased rural and urban migration, biodiversity loss depletion of wildlife and other natural resources base, changes in the vegetation type, decline in forest resources, decline in soil conditions, increased in health risks and the spread of infectious diseases, changing livelihood systems, among others (Reilly, 1999: Abaje and Giwa, 2007). Public library and librarians stands between these predicaments. They are called to solve human problems through the use of appropriate information, which is contained

in different sources (Olowu, 2004). Information is knowledge and knowledge is power without which there can be no meaningful development. Library makes available all records of knowledge of the past and present, whereas man acquires that conserved knowledge to choose as between good and, the right or wrong, which distinguish him from the other animals that has no rational power or thinking. Climate change has become a menace to the world. Librarians in rural public libraries as knowledge professionals are situated at the frontage of this auspicious period in the human history to play a utilitarian role in informing and educating rural farmers on climate change issues and its associate risk via their professional hallmarks. These roles include:

Role 1: Librarians in rural public libraries should play a functional role of building and boosting their collections with information resources on climate change information especially in the areas: - of new crop varieties that can withstand climate change conditions, how to develop and adapt to climate resilient seed and crop varieties, reports on climate-friendly methods of production, irrigation, land preservations, access to accurate and timely on crop yields, adaptive practices that improves soil, reduction of soil erosion, income diversification particularly nonfarm income, recycling and disaster relief etc. Aside this, public library librarians stands better chance in this electronic environment in segmenting, identifying, organizing, authenticating, retrieving, isolating and creating a database where information on climate change can be made available, accessible, and useable by rural famers. Although, the level of illiteracy in rural areas of Nigeria does not support reading and writing, this is where public rural librarians plays a very vital role in making sure that these information are accessible to local rural farmers in oral forms.

Role 2: Public library librarians in rural Nigerian communities can also use audiovisual resources such as CD-ROMs, Cassettes, Recorders, Video recorder, etc in alerting rural farmers on climate change vicissitudes. By so doing, they are in a way being mentally and virtually enlightened. According to Ezema (2010), the use of motion pictures creates a near real life situation and therefore, deepens the penetration of the message. The popularity of home videos and other television programmes on the viewing culture of Nigeria is no longer in doubt he stressed. A challenge here is poor electrification programmes in rural Nigeria that may stand as an impediment to this.

Role 3: Public library librarians in Nigeria can also exploit the means of using a focal group discussion forum whereby songs, stories, dramas on climate change risks and effects on agricultural produce will be packaged by rural public librarians and presented to target group such as adult rural farmers who have been mostly victimized by this global phenomenon. It is also important that librarians under this process be able to analyze and deduct rural farmer's perceptions about these vicissitudes. This will actually help them to research on how rural farmers can change their farming practices, techniques and decisions in the face of climate change challenges.

Role 4: Public rural librarians should also be able to translate existing information on climate change- related information and risks which appear in foreign languages into local languages or dialects the intention here is to ensure that such useful information is disseminated to the target audience with ease via pamphlets, poster, handbills, and flayers. Due to literacy level of an average rural farmer this might not be easy. A way out of this is to firstly, design these resources in a way that it will be attractive to catch the attention of rural farmers. They should also be posted in strategic locations such as village squares, churches, hospitals and other strategic points where semi literate persons will assist in doing reading and doing some explanations.

Role 5: Rural librarians may take a time out to radio stations as guest to throw questions to rural farmers on climate change in local dialects creating a forum for discussion and dissemination of climate change information via radio programs. Timing of this program should be seriously considered as most farmers will not be out of their farms till evening period. One pleasing thing about radio programmes in local languages is that majority of rural dwellers regards radio as a luxury therefore presses hard to own this luxury. Besides, it is very cheap and easy to power radios.

Librarians can also host workshops on climate change via rural social organization (RSOs) or community based organizations (CBOS). These are informal or formal groups directing men and women with the major objectives of pursuing mutual benefits in return for mutual obligations (Girigiri, 2000). These groups share a consciousness of membership and interaction with each other. They are basic modes of social activities, which are followed by the majority of members of a given rural society. According to (Ezema, 2003; Okuna, 1992; Ughegbu, 2000), CBOS have been recognized as very useful in reaching out to the rural dwellers. Among this groups are the age grades social club, women groups, town unions, co-operative societies, youth movement, women group etc. He explains, since these organizations are closer to the people, information professionals armed with information on climate change should reach out to them and educate them on recent developments, risks involved and ways of mitigating or adapting to this global issue. In this case, language should not stand as a barrier. Language of the people should be orally used.

Role 6: Rural development activities have been usually propelled through the community leaders. This group of people includes political leaders, religious leaders; village heads school heads and other people in the community that commands high degree of respect and follower ship. According to Ngimwa and others (1997), community leaders form the bedrock of information in the rural areas. Being the light of the society, they are strategically placed in obtaining the right and timely information. They often serve as intermediary between the sources of information and the people as most of them are retirees who must have obtained basic formal education and semi-illiterates. These sets of leaders can be involved by having a meeting with them educating them on climate change issues and make them to train the illiterate rural farmers in the community therefore, creating a chain of understanding of this vital issue.

Aside this, rural public library librarians are also expected to utilize their professional technological training to segment climate change information in the internet, identify them, authenticate them, ensure their bibliographical records, organize them and even translate in local languages to enable their accessibility and utilization by rural farmers in Nigeria. Although, this might be difficult, because of issues such as non-availability of power, lack of ICT facilities in the rural libraries, poor communication infrastructures in the rural libraries, poor funding of public libraries in the rural areas, lack of human resources, and other factors that militates against public libraries both in rural areas and Nigeria as whole. It is the place of public library librarians in the rural areas to liaise with other rural information groups to inform such predicaments to appropriate authorities concerned in Nigeria.

Recommendations

Adequate funds should be made available to public libraries in rural areas in Nigeria for the acquisition of climate change information resources to enable rural library librarians provide quality information services to rural farmers.

ICT infrastructure in rural libraries in rural libraries in Nigeria should be given adequate and urgent attention as appropriate to global information environment.

Human resource training and skill acquisition for rural public library librarians in Nigeria should be taken as a priority to enable them give out their very best in discharging their services even in this challenging environmental moments.

Conclusion

This paper has discussed climate change and rural farmers-centered climate change awareness through information and education. Climate change has become a threat to agriculture world over. Rural farmers in Nigeria are now are still in the dark due to lack of awareness, lack of basic education and information. This has become a burden. Public rural librarians now have a major role to play in creating awareness, educating and informing rural farmers especially in Nigeria on climate change issue. However, this may not be an easy task in a country where public libraries have not been receiving adequate attention. It is assumed that after these roles are played by public rural librarians, rural farmers will be better informed on climate change issues.

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