

# Engendering university agricultural distance learning curriculum for sustainable rural development in developing countries: A Nigerian perspective

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**Abstract:** University agricultural education contributes to rural development. However, the gender irresponsiveness of the Nigerian Universities' agricultural curriculum has been identified as a significant factor hindering the expected sustainable rural development. Gender responsive university agricultural distance learning curriculum developed through systematic, gender responsive, and participatory methodological approach can help to empower the agricultural professionals and extension workers (the intermediaries) with the gender balanced knowledge that could improve the socio-economic livelihood of the rural dwellers in Nigeria. Engendered distance learning and conventional face to face learning (matched as blended learning) is recommended at the initial stage of the implementation of agricultural distance learning in the developing countries for effectiveness and sustainability.

**Keywords:** gender, university, agriculture, distance-learning, sustainable rural development.

## Introduction

Poverty, food insecurity, and gender inequality are interwoven social phenomena, which have attracted international attention over the years, especially in the last decade (Teherani-Krönner, 1995; 1999; 2000; Expert Group on Poverty and Hunger, 2005; FAO, 2005b; Rosegrant *et al.* 2005; IAASTD, 2009; Alliance for a Green Revolution in Africa, 2009). The eight Millennium Development Goals (MDGs) as outcomes of the meeting of the World Heads of States and Countries' representatives held in September 2000 could be summarized into four: education for all, gender equality, food security, and poverty eradication. Gender inequality is a major factor influencing low female literacy, food insecurity, and poverty in Nigeria. Joachim (2005) identified rural road construction, education, clean water provision, agricultural research and irrigation as the five key drivers essential for achieving the MDGs by developing countries by the year 2015. The prevailing culture of male child preference, even in education, fosters low female literacy with the resultant gender gap in education in Nigeria. Hence, education for all, as a Millennium goal could be achievable in Nigeria, if only female enrolment and retention at all levels of education in Nigeria is enhanced. The New Partnership for Africa's Development (NEPAD) statement goal otherwise called "Maputo declaration", which called for an increase in budget allocation towards Agriculture, is also an indication of the international awareness of the importance of agriculture to the attainment of sustainable development in the African countries (Joachim, 2005).

The United Nations Publications (1996), revealed that women constitute the major agricultural labor force and produce about 35-45 per cent of the gross domestic product and well over half of the developing world's food, yet, more than half of a billion rural women are poor and lack access to resources and markets. There has not been any drastic improvement in the poverty situation in the developing nations till now. Food insecurity and poverty have gender dimension when analyzed using socio-economic parameters. The Poverty situation in Nigeria has been summarised to be wearing woman face, probably because women, especially rural women, are the majority of the poorest of

the poor in Nigeria. In Nigeria, the incidence of poverty rose from 37.8% in 1985 to 58.2% of the urban population in 1996, while in the rural areas; it rose from 51.2% in 1985 to 69.8% in 1996 (Federal Government of Nigeria, 2000). UNDP Human Development Index, Nigeria's score deteriorated from the 142<sup>nd</sup> position out of 174 countries in 1998 to 151<sup>st</sup> position in the year 2001, while 60% of Nigerians live below the poverty level, 46% live in absolute poverty; and of this 46%, 70% are women (UNDP, 2001). Present situational reports about poverty in Nigeria have not shown any significant improvement despite various adopted poverty alleviation programs.

Despite the favorable climate and good soil in Nigeria that support the production of different kinds of crops, a high proportion of the staple food consumed in Nigeria are imported from other countries. Faborode (2005) submitted that agriculture is the most important, though not the only, economic rural activity and a healthy agricultural sector provides food for self-sufficiency, and a surplus for export. The prevailing food insecurity in Nigeria has been found to be associated with gender insensitive nature of agricultural policies and projects in Nigeria, which do not favor the major agricultural workforce (the women) in participation and allocation of agricultural resources. Likewise, the traditionally and legally placed restrictions on women's access to major agricultural resources, such as land, compelled majority of the women farmers to cultivate food crops and practice subsistence farming, thereby producing only for the consumption of their family members. This significantly lowers average food production in Nigeria, and consequently encourages importation of foodstuff from other countries to make up for the deficit (food insecurity).

Agriculture is the source of income, food and fibres to the majority of Nigerian populace. Available empirical data confirmed that women are the majority of the agricultural workforce, and unfortunately, majority of the illiterates and the poorest of the poor in Nigeria. Poverty and food insecurity have been declared as the twin social problems embedded in gender inequality, which have defiled every strategies ever adopted in Nigeria. Most of these strategies have not employed the potentials of the educational institution, which is a fountain of improved knowledge on agricultural practices and place for empowering the human resources needed for achieving sustainable agricultural and rural development in Nigeria. Educational institution plays key role as both a contributor and as a mitigating force to fragility in the economic, governance, security, and social domains (USAID, 2006), and a potential institutional measure to poverty and food insecurity. Gender disparity in education is more glaring at the enrolment and completion level of tertiary education (FAO, 2005b), especially in some traditionally conceived men's disciplines, such as agriculture, in Nigeria.

Distance learning has the potential as useful strategy for addressing human development issues (Scott, *et al.* 2002). Gender inequality is a typical feature in the human development index of most developing countries, including Nigeria. Hence gender responsive distance learning curriculum could be a tool for enhancing gender equality in university agricultural education, required for sustainable rural development in the developing countries. Engendered blended and distance learning will be a channel to disseminate the gender knowledge that has not been taken into account in the agricultural educational system in Nigeria so far to the appropriate stakeholders in agricultural and rural development. Blended and distance learning curricula will help to overcome this knowledge gap with a gender perspective.

## Theoretical Framework

The *laissez-faire* school of thought perceives poverty as an outgrowth of lack of access to the basic resources needed for life sustenance by individuals (Wratten, 1995), while the structural school of thought attributes poverty to be an outcome of unfairly structured social institutions (educational, political and economic system), which discriminates against some groups of people, perceived to be disadvantaged within the context of the prevailing culture in the society. The structural school of thought on poverty alleviation forms the main plank to the paper. The school of thought emphasizes the roles of institutions, including educational institutions, in the structural refurbishing of the social, economic and political framework of the society, and proposes the role of institutions in alleviating

poverty. The feminization of poverty in Nigeria is a further confirmation that the women are usually at the disadvantaged end in resource allocation and representation in both academic and social issues. The reported gender irresponsive nature of most Nigerian university curricula, especially agricultural curricula, significantly contributes to poverty and food insecurity in Nigeria, not looking at the division of labour and the workload that is shouldered by women in rural areas.

The works of Boserup (1970), Shiva (2005), Agarwal (1988), Teherani-Krönner (1995, 2000) and Geeta (1992), specifically revealed the significance of women in agriculture, and general socio-economic development in African Countries. In all these research works, women are portrayed as the backbones for sustainable socio-economic development and food and meal security, with empirical evidence of their roles in economic development and as caregivers at the family and community levels. The summary of the contemporary research findings on poverty and diseases however revealed that women are the majority of the poorest of the poor and the most vulnerable group to social vices such as diseases like HIV/AIDS in most African countries.

The post-modernist and the third world feminist theoretical frameworks emphasize the promotion of local knowledge and traditions, and the creation of institutions and value systems rooted in indigenous history, which is congruent with the line of discussion in this paper. The theories advocate for trans-local and international exchange and transfer of knowledge and technologies appropriate and compatible with the existing local environment and culture. Instruction materials (a form of knowledge) stand the danger of being incompatible with the existing educational culture, when it is a product of mere internet search. Hence the significance of the social process methodology proposed in this paper, which gives adequate attention to the capability of the home environment (Nigeria) in sustaining the proposed engendered agricultural blended and distance learning curriculum.

The negative socio-cultural factors affecting females, preference for male child, constraints in women's accessibility to agricultural resources and participation in major agricultural decision-making, and increase in rural-urban migration of able-bodied men, etc. are antecedents to the problems of gender inequality, rural poverty, and food insecurity in Nigeria. Consequent upon these antecedents are the feminization of poverty and diseases such as HIV/AIDs, low literacy among women, high maternal and infant mortality, food insecurity, and on the final analysis: lack of development.

Low level of gender awareness among the major stakeholders in agriculture and low female representation in decision-making in many strategic sectors in Nigeria are prevailing situations further depict the presence of gender inequality in the society. This results in formulation and implementation of policies and projects that are not gender responsive usually excluding women that are the major contributors to both economic and social development of the nation. The major challenges to distance learning in the rural areas of Nigeria are gender related. The conceptual framework to this paper explains the potentials of the engendered agricultural distance learning in mitigating the challenges of distance learning in the rural areas of Nigeria.

## **Challenges of Distance Learning in Rural Areas of Nigeria**

Rural dwellers in Nigeria as it is in other developing countries are hindered from direct participation in distance learning because of the following major challenges:

- Inadequate availability of infrastructures required for smooth running of distance learning e.g. electricity, internet server, computer, buildings, etc. in most rural areas in Nigeria.
- High level of poverty: feminized poverty characterised the rural areas of Nigeria with women being the majority of the poorest of the poor.
- Language barrier: Nigeria is a multi-ethnic country with multi-languages. English is the official language in the country, but the majority of the rural dwellers cannot speak because of high level of illiteracy.

- High level of illiteracy: Majority of the illiterates are rural dwellers with women being the majority. A minimum level of literacy is required in order to participate in distance learning.
- Socio-cultural values e.g. preference for male child, discrimination against women in decision making, use of family labor for farm activities, etc. A typical rural household will prefer sending a male rather than a female child to school, even under the conventional face to face. Rural dwellers leave their houses for works on their farms as early as possible in the morning, to come back in the evening at sun set, when women and children enter into domestic chores of fetching water, cleaning, cooking and serving food for the family members before going to bed. Even the men might have not much to do after coming back from the farm are tired and almost inactive due to the hard labor they have engaged in the farm. Detail analyses of all these factors reveal that the female gender is the most affected. This paper is proposing the need for mainstreaming gender into distance learning and also the use of the intermediaries such as village extension workers, agricultural policy makers and implementers, agricultural officers as target of blended and distance learning in agriculture.

### **Potentials of the Engendered University Agricultural Distance Learning Curriculum for Sustainable Rural Development in Nigeria**

The challenges of distance learning in the rural areas of Nigeria are gender based, however female gender is hit harder than the male by each of these challenges. A gender responsive approach is proposed in this paper. In addition, all these key-aspects serve as impediments for direct participation of rural dwellers in distance learning in most developing countries; hence the use of the intermediary approach is suggested.

Furthermore, majority of the rural dwellers in developing countries are farmers by primary occupations. Agricultural research in the universities serves as a major source of agricultural innovations for improving the agricultural production and their socio-economic livelihoods.

University serves as training ground for the majority of the intermediaries between the university and the rural dwellers. The agricultural extension units are staffed with experts in interacting with the rural dwellers in all issues relating to rural livelihood. An engendered university agricultural distance learning curriculum operates through the intermediaries (village extension workers, agricultural policy makers and implementers, agricultural officers, etc.) to reach the rural dwellers through gender responsive adult education, dissemination of appropriate and gender responsive technologies, vocational and home management training.

Agricultural information dissemination processes comprises elements such as: Source, Channel, Message, Receiver, and Response. University is one of the sources of agricultural information, which is located in its curriculum of instruction. Women farmers are a significant proportion of the agricultural information recipients, and usually receive secondary information from husband, relatives and friends, as a result of the culturally and societal obstacles against women along the agricultural information dissemination process. Likewise, in the formal sector of agricultural education, male students are more than females, especially at the university level of education in Nigeria. According to Perraton (2000) distance learning models and practices must be adapted to the social, cultural, economic and political circumstances of the learners/receivers and their environment. Gender inequality is a predominant phenomenon that permeates the social, cultural, economic and political environment in Nigeria, especially in the agricultural sector. Furthermore, the Authors observed that distance learning tends to be more socially and economically attractive at higher levels of education and delivery strategies for distance learning initiatives should be developed according to the communication infrastructure that is currently available, reliable and affordable to the learners. Gender responsive distance learning has the potential of reaching the usually excluded group in education, usually the women, through the gender aware agricultural extension workers, agricultural program planners and policy makers. Probably we need as well female intermediate personalities that can forward and make the new media accessible.

'Higher-education institutions are highly relevant for rural and agricultural development. First of all, they train the next generation of experts, researchers and extension specialists. Moreover, their research is relevant for boosting rural economies. Some universities directly engage in extension work. Messages from faculties help to disseminate new insights to farmers. Some universities even organise farmer field schools. Higher-education curricula need to pay more attention to rural-sector needs in general. Most universities in developing countries are located in urban agglomerations. Too often, they are simply not aware of the issues the poor in rural areas are struggling with. The establishment of farmer-scholar links could improve the relevance and effectiveness of university research, and turn institutions of higher learning into resource centres for rural communities' (Kwadwo and Joachim, 2010). Higher education passes information and knowledge to people through its curriculum adopted within the teaching learning framework. Gender inequality, which characterises Nigerian agricultural education and policy sectors, is an outcome of lack of gender sensitive curriculum of instruction. Today, the number of specifically trained postgraduates, especially females, is too small to ensure the sustainability of agricultural development in many poor countries (von Braun and Babu, 2004). Engendered agricultural distance learning education enables people, especially women, to pursue university education without leaving their families or their jobs. Consequently more women agricultural professionals will be available, especially at the decision making levels and agricultural extension sectors to reach their fellow women in the rural areas. When the intermediaries between the universities and the rural dwellers are gender aware through the engendered university distance learning agricultural curriculum, they are empowered to promote gender equality through agricultural policy and budget formulation, and program planning for sustainable rural development in Nigeria.

## **Methodological Approach for Engendering Agricultural Distance Learning Curriculum**

An appropriate methodological approach for engendering university distance learning curriculum must be systematic, gender responsive and participatory to give room for the co-operation of all the agricultural and rural development stakeholders. The Authors assumed that there are at least two institutions involved in the agricultural distance learning gender mainstreaming; the first institution (contextual environment) is the one with the successful record of existing engendered agricultural distance or blended learning, while the second institution (immediate environment) is the one that is at the stage of engendering its agricultural distance learning. An on-going case study is that of Humboldt Universität zu Berlin (contextual environment) and Obafemi Awolowo University in Nigeria (immediate environment). The social discipline that hosts the agricultural extension and rural development courses in the Faculty of Agriculture in Nigeria could be the appropriate department to champion the engendering of the agricultural distance learning in the immediate environment for proper connection with the rural areas. A committed, experienced and gender aware lecturer from the initiating department should be in charge of the whole process and may possibly write proposal to relevant International Institution (e.g. Alexander von Humboldt Foundation) for funding, and also link up with another committed, experienced and gender aware lecturer in an Agricultural Institution (abroad perhaps) to serve as a Host. A systematic, gender responsive and participatory 5-stage social action process is proposed as the appropriate methodological approach for gender mainstreaming into university agricultural distance or blended learning process in developing countries.

**Stage 1:** Participatory situational analysis in the two institutions: This includes use of both qualitative and quantitative data collection techniques for problem identification and establishment of common ground, identification of gender gaps and issues in the existing curriculum in the immediate environment, and existing academic and technological capacities required for effective distance learning in engendering agricultural curriculum. At this stage, the courses and topics that could be engendered in the immediate environment are identified. There should be positive enabling environment for successful adaptation and implementation of the engendered distance learning, such as adequate human and material resources and technological know-how, readiness for collaboration between the two Institutions, etc. All the major stakeholders such as undergraduate

and postgraduate University agricultural students, the lecturers, agricultural extension workers, agricultural policy makers and program planners, etc should be involved on equal gender basis as much as possible at this stage. At the end of this stage research questions are also clarified for appropriate conceptualization of model, and research proposal for funding is drafted.

**Stage 2:** Conceptualization stage: the importance of engendering agricultural distance learning curriculum in the achievement of sustainable rural and national development should be designed. The draft of the conceptual framework should be discussed by the two institutions involved, among the male and female students and staff in the agricultural university, and then presented in related local, national and international, seminars, workshops and conferences for correction and modification. The concept should be gender responsive and the items in the conceptual framework should be gender specific as much as possible, e. g. the impact of a factor on the men and on the women genders should be stated separately. The final research proposal is written and submitted to relevant International Institutions for funding. If the funding is guaranteed, then the Researcher moves to the contextual environment (host University) for further stages of the research.

**Stage 3:** Review and adaptation stage: the design and development of appropriate instruction materials needs detailed analysis of the immediate and contextual environments for successful adaptation and adoption of appropriate knowledge. A first draft of a curriculum should be developed based on existing work and literature.

A few things should be avoided: ordinary internet search and downloading of materials for instruction purpose at the university level of education, without personal observation and interaction of the researcher with the human and material resources of the knowledge source (the contextual environment) usually lead to a lot of errors such as transfer of inappropriate knowledge to the students, transfer of low quality knowledge and skills to the students, etc. with the ultimate production of low quality university graduates and lack of development. Hence, there should be detail critical review, and revisiting of instruction materials on engendering agricultural distance learning curriculum of the Hosting University. The researcher participates in courses (including e-learning related lectures), seminars and conference as well as carries out personal observation of the gender specific situations within the visual classes of the related courses. An intensive literature review is commenced at this stage. All the gender specific factors identified during stage 1 should be taken into consideration. The proposed implementation strategies for the engendering of the agricultural distance learning curriculum will include learning management systems like MOODLE used at Humboldt Universität zu Berlin or its alternatives, external blogs, web site, with face to face conventional teaching-learning methods. The proposed teaching-learning processes are presentation, discussions, tutorials and practice, with group works, as well as poster designs. The potential delivery strategies are lectures (both face to face and online), print media, computer based instructions, and audio and video tapes. It is better to select all the gender sensitive tools appropriate for both distance learning and face to face learning.

**Stage 4:** This involves the design and development of adequate instruction materials. Gender sensitive instruction materials for both distance and face to face learning are developed at this stage, e.g. the e-courses' concepts and outline, course-note, as well as model and module. Blog and web pages can be opened at this stage to introduce the topics in the engendered curriculum for discussion, even by male and female students and staff in the immediate environment. There should always be space for comments and suggestions of those who participate in a course. This is important to get involved and identified with the information exchange. This allows the whole concept to remain open as a dynamic and ongoing learning process.

**Stage 5:** Verification/Dissemination stage: The economic and social viability of the distance learning program is verified. All the distance-learning tools, materials, strategies are tested in the real situation and amendment is done as promptly as possible, before the final dissemination for accommodation. Male and female students and staff in the agricultural universities are asked to evaluate the engendered agricultural curriculum. Awareness is created among the agricultural and rural development stakeholders and appropriate assessment is conducted periodically to measure the impact of the engendered agricultural distance learning curriculum on rural development.

## Conclusions

The challenges of distance learning in the rural areas can be alleviated by engendering agricultural distance learning curriculum in Nigerian Universities. This involves targeting the intermediaries (extension agents, agricultural officers and policy makers, agricultural program implementers) between the universities and the rural dwellers through engendered distance learning. A systematic and participatory social action methodological approach is recommended to enhance the capacity of engendered distance learning curriculum to significantly contribute to rural development in Nigeria. Engendered distance learning and conventional face to face learning (blended learning) is recommended at the initial stage of the implementation of distance learning in the developing countries for effectiveness and sustainability.

**Acknowledgements:** The support of Alexander von Humboldt Fellowship Foundation, and Gender & Globalization division of Humboldt Universität zu Berlin is acknowledged.

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