Technology Education For Sustainable Youth Empowerment In Nigeria.

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Re- Engineering Agricultural Technology Education Towards Production For Sustainable Youth Empowerment in Nigeria

DR. ANTIABONG OKON EKONG
&
PATRICK SAMBO WILLIAMS
Department Of Vocational Education
Faculty of Education
University Of Uyo
Uyo

Abstract
There is the need for empowering Nigerian youths with relevant knowledge and skills in agricultural production for self-improvement, self-reliant and self-sustenance through engineering of technological education in agriculture. This paper proposes new approach to skills acquisition through Engineering of Agricultural Technology Education toward Production for Sustainable Youth Empowerment. The effect would be that of graduating skilled and marketable individuals who can enter the Agricultural industry gainfully.

Introduction
There have been extensive call for vocationalisation of Agriculture in Nigeria, (Okoye, 1971, Cobley, 1972 and Ozoro 1993). There has also been massive call for the application of indigenous technology in Agricultural production (Aniah 1995, Ekong and Williams 2004b).
In 1983, the Federal Government of Nigeria urged training institutions in the country to reorient their programmes towards the graduation of Nigerian youths who can employ themselves and become self-reliant. Olaitan (1984) observed that the youths could only be self-employed and self-reliant if they acquire relevant technological and vocational skills for successful establishment in occupation of choice.
Agusiobo (1988) and Williams (2003) agree with Olaitan's assertion and emphasized that Vocational Agriculture is the most relevant career oriented programme which concerns itself with the development of specific technological skill, scientific knowledge and technical abilities relevant to Agricultural occupations.
Chimuwaza and Obamya (1989) explained further that for favourable skills and competencies to be developed in the youths, the strategies adopted should expose the youths to the acquisition of specific technological skills, knowledge and values. To achieve sustainable youth empowerment technological Skill Acquisition should be vocationally engineered.
Technological Skill Acquisition will result in efficient utilization and effective application of available technologies for livelihood. It would also involve adopting and adapting of existing techniques to local conditions and peculiarities for improvement of the increasing number of persons in the society.

Youth Empowerment involved the acquisition of relevant knowledge and skills needed in the world of work for self or engaged employment.

Philosophy of Agricultural Technology Education for Youth Empowerment

Technology education incorporates science and technology for instructional training in engineering, business orientation and management leading to the production of agriculturally trained manpower with such objectives as;

providing technical knowledge and skills necessary for small-scale agricultural development;
imparting, technical knowledge and skills for agricultural industries development;
providing technical knowledge and skills for commercial agricultural development;
imparting technical knowledge and skills for agricultural economic development;
providing necessary skills for the developed of agricultural technicians;
providing necessary skills for the training of agricultural technologies;
equipping youths with necessary skills for agricultural enterprise development.

Concept of Engineering of Agricultural Technology Education toward Production for Youth Empowerment

Engineering of Agricultural Technology Education is the application of vocational principles in developing agriculture technological skills in the youths for increased production. The individual would therefore become self-employed, self-sustaining and self-reliant. It also involves the gradual but systematic transfer of technological skills required for effective agricultural occupations (Ekong and Williams 2004a)

To achieve sustainable development, emphasis must be placed on positive aspects of technological skills transfer wherein the youths would acquire necessary and essential skills for effective and efficient participation in agricultural operations. The process encourages the practicalization of indigenous technology smoothly integrated with foreign technology for increased agricultural production. This will supports poverty alleviation, youth development and emancipation.

Most importantly, engineering of agricultural technology education restores the inventive and creative spirit in the youths as well as making them to become aware of their technical abilities, capabilities and competencies. It is directed towards supporting small-scale agro-based industries and enterprises that would create employment to the teeming population of Nigerian youths.

Agricultural Technology Education Policy Toward Production for Youth Empowerment

A well developed technology is the heart beat of a nation and it is also an indication of the level of national development. Appropriate technology could lead to sustainable development. Moreover, sustainable development is the empowerment of greater number of the members of the society.

National Policy on (Technology) Education (2004) provides for:

acquisition of technical skills by youths,
acquisition of manipulative skills,
improving scientific knowledge and attitude of youths,
exposing youths to career awareness and options in the world of work,
enabling youths to have an intelligent understanding of increasing complexity of technology,
equipping trained manpower in the applied sciences, technology and business,
providing technical knowledge and skills necessary for agricultural, commercial and economic development and
imparting necessary skills to individuals for socio-economic self-reliant.

To attain the above objectives stated in the national policy on technology education directed toward youth empowerment, the implementation should take cognizance of the following vital elements:

assisting Nigerian youths make appropriate choice and evaluation of available technology,
assisting the youths in the adaptation and transfer of needed technology,
promoting better utilization of technology for development,
encouraging the adoption and utilization of information and communication technology,

integrating science and technology into the machinery of economic and social development,
providing avenues for effective utilization of new technology and
adopting and modifying indigenous technology for socio-economic development of the nation.

Adaptive Agricultural Technology And Youth Empowerment

Adaptive Agricultural technology is the technology that can be effectively attuned to the local environment. It is a technology that is financially affordable, technically available and socially compatible to the tradition and culture of the indigenous people (Aniah 1995). Adaptive Agricultural Technology should satisfy the following criteria to be effective and efficient in youth empowerment:
utilizing the technical abilities in the Nigerian youths for Agricultural production,
gradually exploring the acquired technological potentials in the youths for increased Agricultural production,
encouraging maximum utilization of available materials for food and fibre production,
creating job opportunities through improvisation technology,
utilizing science and technology in converting environmental waste to wealth such as organic fertilizer and animal feeds for increased crop and animal production.

Agricultural Technology Education Specialty Areas Requiring Re-engineering For Youths Empowerment

There is the need for reorientation of the entire agricultural technology education curriculum to provide for cognitive, psycho-productive and attitudinal skills and competencies required in the world of work (Ekong and Williams 2004b). Therefore, the listed programmes should be re-engineered for youth empowerment in the different suggested skills areas:

Vocational Animal Production Technology
Animal equipment and tools production technology,
Animal health care technology,
Animal nutrition technology,
Animal product marketing technology,
Animal product processing technology,
Animal product storage technology,
Cattle production technology,
Fisheries production technology,
Goatery production technology
Local resource for feed and equipment technology,
Piggery production technology,
Poultry production technology,
Rabitary production technology and
Snail production technology.

Vocational Crop Production Technology
Arable crop production technology,
Cash crop production technology,
Forage crop production technology,
Fruit crop production technology,
Ornamental crop production technology and
Plantation agriculture technology.

Vocational Technology Device Improvisation
Indigenous processing technology,
Indigenous storage technology,

Indigenous incubater production technology,
Improvised animal production equipment technology,
Organic fertilizer production technology,
Organic insecticide production technology.

Off Farm Agricultural Production and Management Technology
Agricultural business management,
Agricultural machinery maintenance,
Environmental friendly agricultural practice,
Farm power generation and maintenance,
Farm tools production technology,
Farm tools maintenance technology,
Soil conservation technology and
Water conservation technology.

Adoption of Indigenous Technology Education In Agricultural Production For Youth Empowerment

Indigenous technology in Agriculture is the locally developed and adapted Technology that would equip individuals with necessary skills and attitude for increased agricultural production.

The main focus of indigenous technology education is the preparations of individuals for food and fibre production and utilization as well as energy generation for gainful self-empowerment and employment.

It involves the utilization of local innovations and creativity for improved livelihood through the adoption of simple techniques that can effectively meet the youth basic technological needs.

Most importantly, the locally innovated and developed agricultural processing technologies need be incooperated into the training, programmes of the youths. Such processing technologies include:
ball mill technology,
essential oil plant technology,
filter press technology,
fish fryer technology,
kernaf decorticator technology,
palm kernel cracker technology,
palm oil processing technology,
shea-nut butter plant technology,
sorghum malting plant technology,
steam boiler technology.

Implications of Re-engineered Of Agricultural Technology Education Toward Production On Youth Empowerment And Employment

The re-engineering of agricultural technology education towards production would have the following implications on youth empowerment and employment.
providing relevant agriculture vocational and technological skills making the youths employable,
providing essential and versatile skills for increased agricultural production,
enabling the youths to fully utilize their potentials in the diverse sectors of agricultural enterprise,
integrating foreign and indigenous technologies together for greater opportunities in agricultural production,
enhancing self-employment, gainful employment, self-reliance and self-sustenance in agricultural production,
would promote life enhancement and poverty alleviation among the youths,

encourage adaptable and locally innovative transfer of technologies that can easily be adopted by the youths.

Conclusion

Re-engineering of agricultural technology education toward production in Nigeria has become imperative if the sector must continue to play its traditional role of efficient and effective source of empowerment and employment of the youths. The interplay of the vital and essential aspects of the suggested re-engineered agricultural technology areas would result in smooth transfer of knowledge and skills necessary for youth empowerment. They are therefore recommended for try-outs..

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