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STRATEGIES FOR IMPROVING THE IMAGE OF AGRICULTURAL EDUCATION THROUGH SCIENCE AND TECHNOLOGY

BY

ALADEMERIN, ADESEYE EDWARDS

ABSTRACT

In a rapidly changing world of today, science and Technology have taken over virtually everything on Earth and beyond. The two concepts serve as the bedrock of any social, political, economic, industrial and educational advancement of a country. Human needs are increasing every-day and becoming obsolete each moment as a result of complex and massive acquisition of technological inventions at a very high speed.

The image of agricultural education has dropped to a low prestige occupation as a result of lack of innovations still prevalent in our traditional African farming system - lots of drudgery, poor remunerations, incidence of pests and diseases, crop failures, low yielding varieties of crops and breeds of animals, poor farming tools and storage systems etc.

This paper is therefore set out to look at various strategies by which the status of agricultural education could be improved through a meaningful scientific and technological innovations of modern farming practices. Recommendations are also given in the paper.

PREAMBLES

Before the advent of the "Oil Boom" in the early 70's, agriculture was the greatest contributor to the economic development of Nigeria. But with the coming of the money from oil, agriculture - growing of crops and rearing of livestocks for man's uses was relegated to the background by the government and general populace in search of the

golden fleece - hard currency.

Within the past two decades or more, graduates and under-graduates of various institutions throng to cities and towns in search of white collar jobs and theseresulted into the poor image or status of agricultural education since agricultural education to these youths can only provide education that will "sentence" them permanently to the tilling of the soil under the heat of the sun and moreso, tie them down to rural areas where life is full of drudgery and total absence of the basic social amenities that exist in the cities.

In this era of economic recession, the government has realised the role agriculture can play to revamp our ailing economy. Hence, these various programmes and policies at boosting the image or status of agriculture in recent times such as the Operation Feed the Nation, Green Revolution Programme, Back to Land, Mass Mobilisation of Schools for Agriculture and Industry, National Directorate of Employment (graduates and non-graduates loan scheme), Better Life Programme for rural women, and then most recently , Family support Programme.

In realisation of the role that the youths of this Nation can play towards the achievement of our National goal and aspiration of self sufficiency and self reliance in food production, the government through the Revised National Curriculum on Education on the 6-3-3-4 system have made agricultural education as one of the core subjects in our schools.

Owingto the poor attitude and misconceptions about agricultural education by the youths in colleges, there is need to change this attitude and misconception by the provision of a more functional agricultural education in our schools since the lasting solution to our food problem (Okorie, 1976) would involve the young ones who are the

farmers of tomorrow. This will ultimately involve aggressive and meaningful approach through science and Technology for a more justifiable solution.

There is a limit to what a rural labour force can accomplish without improved technology, adequate education and training and also modern day agricultural inputs - fertilizers, herbicides, pesticides, soil ammendments, farm machinery of all sorts etc. Improved farm production can be best guaranteed by proper agricultural education that is comprehensive enough to our youths which form the bulk of the work force of a growing population in a developing Nation e.g. Nigeria.

> "Acoording to Okorie(1986), "Agriculture is generally looked down upon, hence, the youth have no indication to associate themselves with farming. Rather, the young men of today are willing to loiter in the cities indefinitely in search of jobs instead of going back to the land. Agriculture is viewed as the last resort for those that have failed in other occupations. Noticeably, there is a passive feeling by the younger generation towards the elderly citizens who have little or no alternatives other than farming. Therefore any attempt to curb the massive exodus of the youth from the villages as well as their indifference of farming will involve making all forms of agriculture more attrative".

Science and Technology in the last half a century or so have brought more convenience to all operations involved in both crops and animals production on farms and have thus been making agriculture more attractive to people. Operation like bush clearning, tilling of the soil, planting of crops, application of fertilizers to crops, wedding, harvesting, processing, storage etc. have all been mechanised and the operations are daily being improved upon through constant research and findings. Science based agriculture is an impetus to an overall economic development of a country. Of interest in agriculture and this have been investigated by Okorie (1978), Asogwa (1978), Osuala (1981), and Okeke (1985). Some of their findings cited by Ajala (1990) are:-

(a) Non-Mechanisation of agriculture

(b) Insufficient number of qualified agricultural science teachers in both primary and secondary schools in the rural areas.

(c) Parental wish for their children to engage in other occupations other than farming.

(d) absence of emphasis on the importance of agriculture in the school curriculum and on the economy of nation.

(e) Lack of recognition of the farmers and those preparing to farm.

(f) Great disparity between average income in the modern agricultural sector and the traditional agricultural sector.

Ajala went further to state that the need to get the Nigerian Youth interested in agriculture is four folds:-

(a) They constitute more than 65% of the population.

(b) They are literate and eager to try new innovations.

(c) They are to replace the present ageing farming population.

(d) They are to produce food and raw materials to feed the people and agro-based industries.

The youths generally have a misconception about agricultural education as a low renumerative and dirty venture which anyone without any special skill and knowledge can veer into; secondly, to most of them, it does not require any special training to till the soil and plant crops. Since agricultural education is now included as one of the core subjects at the Senior Secondary school level in the new 6-3-3-4 system of education, there is urgent need for the determination of the image of agricultural education among all and sundry to correct or erase these erroneous beliefs or misconceptions otherwise, the laudable objectives of agricultural education programmes in our schools and colleges will not be achieved.

Also, there should be the need to broaden the minds of the students and everyone on the benefits accruing from agricultural education and erase the errorneous belief that farming is a profession for school drop outs and

"never do well" people. They should be exposed to various occupations that exist in agriculture so as to enable them develop positive image of agriculture in their mind because agriculture is a veritable tool for technological advancement. It is therefore noteworthy that an improvement of the image of agricultural education at all levels of our educational system is the bedrock for our National growth and development and therefore this paper is set out to fully discuss on various strategies for improving its image through the involvement of Science and Technology.

IMPACT OF SCIENCE & TECHNOLOGY ON AGRICULTURAL DEVELOPMENT

Education improves man's thinking ability, freedom from poverty, disease, ignorance, enslavement of labour and the hazards of Natural phenomena - such as flood, famine, drought etc. Advancement of man's knowledge leads to improved under standing of science and technology in all its ramifications.

The Encyclopedia of Science and Technology regards technology to be "a systematic knowledge and action, usually of industrial process but applicable to any recurrent activity". The implication of this is that technology is a combination of science which deals with man's understanding of the real world around him, and engineering - which is concerned with the application of the objective knowledge in designing and creating plans in order to achieve desired goals. From the above definition, it will be clearly seen that there is no aspect of human life that is not directly or indirectly affected by technology. It is not the amount of natural resources a country has that determines its development, but the ability to exploit them. For the desired technological development to be achieved, government must maintain an educational system that will provide leadership in piloting and harnessing the human and material resources within its boarders (Anikweze, 1996).

The role of science and technology in building a strong and self reliant, a great and dynamic economy can be better appreciated by reflecting on Sambo (1996) as he wrote "prevocational education is aimed at exposing the student with use of his hand **in making and assembling things;**

v o c a t i o n a l -

education to provide pupils with necessary training for skilled crafts, construction, sewing, maintenance etc; technical education for acquiring track or field. In realising these, Sambo went ahead to highlight the various measures taken by government in providing functional educational through:-

(a) Training graduates in applied sciences, technology and commerce particularly at sub-professional levels.

(b) Training graduates to acquire vocational skills and technical knowledge necessary for agricultural, industrial, commercial and economic development.

(c) Training graduates so that they can apply scientific knowledge to the improvement of our environment.

(d) Training graduates to acquire skills leading to the production of craftmen, technicians and other skilled personnel who will be enterprising and self reliant. and

(e) Enabling our youth to have an intelligent understanding of the increasing complexity of technology.

Through the application of Science and Technology, Natural resources have been transformed into invaluable goods and services for better quality of life for man. The primary product of agriculture which is food is the engine of life that propels all and sundry. The adoption of science and technology in agriculture marks the difference between development and underdevelopment status of Nations all over the world. It has led to massive creation of wealth, maximisation of human energy, provision of comfortable living, improved health care services, improved thinking processes and above all conservation of energy for other activities. The benefits accruing from the adoption of Science and Technology to improve agriculture cannot be

overemphasized. Among others are:-

- It increases the amount of food that can be produced from a given level of input thereby contributing to an increase in food supply/hectara.

- It reduces the cost per unit of output which means lower food costs to the consumer. This has a significant effect on nutrition and real net income in developing countries where low income people typically spend 60-80% of their income on food.

- It raises the incomes of farmer who spend a large portion of their new income on a wide variety of non-agricultural goods and services. This increases the effective purchasing power of the poor at the same time that it provides for new rounds of growth in the economy at large.

- It increases the consistant record of high returns to countries that invest in agricultural research than returns to other kinds of agricultural investment. (Swing, 1993).

RECOMMENDATIONS & CONCLUSION

The following are hereby recommended as a measure to redeem the image of agricultural education and to improve the overall productivity for self reliance in food production:-

- The government should as a matter of urgency train enough manpower for the teaching of agricultural science in all the formal institutions ofthe country.

- The government should provide enough machinery and inputs for schools with land advantage to practice extensive mechanised agriculture and also the necessary inputs too for those with land hinderance to practice animal production on a small scale. The use of machinery will reduce drudgery on farms and thereby reduce the poor image.

- Abstract teaching shouldbe discouraged in all forms. Students should regularly undertake trips and excursions to farms and institutes. This will go a long way in arousing their interest in the subject and comprehending class work with real life situations on farms.

- There should be an effieient transport and communication netwerk in the form of navigable waterways, feeder roads, etc to deliver inputs to schools and private farmers and also to move surpluses and harvests to markets.

This will prevent spoilage of farm products after harvests as some may perish easily.

- Efficient storage systems should be provided in schools and colleges and also to local farmers on a co-operative basis.

- The National Directorate of Employment graduate and non-graduates schemes should be made more functional to serve fresh graduates from schools and colleges. Loans, inputs and advances should be given to students that show willingness to take to farming after schooling. Also, there should be an efficient monitoring system of the programme.

It should be noted however that the school as an agent of educational change is the central core in portraying a good image of agricultural education in the society. The aggressive stance of some educators in handling the subject should be discouraged to a more humane and subtle nature. The gradual introduction of science and technology will to a reasonable level reduce the ever increasing tension and drudgery, normally associated with the subject on the practical farms. Machinery can make human inputs to be drastically reduced and the output in terms of harvest to be increased.

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