Agriculture is Nigeria's second largest source of national wealth, after oil. National Economic Empowerment and Development strategy (NEEDS) will promote the cultivation of improved higher yielding crop varieties and provide extra support to agricultural research and training. NEEDS aims to encourage business interest, provide credit, supply and distribute agricultural inputs such as seeds, fertilizers and machinery. Silo complexes will be refurbished to increase the capacity of the food-reserve programme and move closer to food security (NEEDS, 2004).

As contained in the NEEDS document, some evidence suggests that the rural sector, where about 70 percent of Nigeria's people live, has been facing a more serious poverty situation than the urban sector. Reasons responsible for this ugly situation include sharp seasonality in the fall of production, income, and employment opportunities in the rural sector; shortage of social and economic infrastructure compared with urban areas; migration of the educated workforce to urban areas and the consequent ageing of the rural population; low productivity of rural (and especially agricultural) production, due partly to limited access to credit, pesticides, extension services, and modern technology for agricultural production, processing, and preservation.

NEEDS document also revealed that about 95% of agricultural produce and products in the consumer markets are produced by the peasant and small scale farmers in the rural-setting. Apparently, solutions to the above enumerated problems affecting the rural farmers will ensure sustainable agricultural productivity in the contemporary society. This text presents some programmes and activities that are
able to reposition and sustain agricultural education in accordance with the millennium Development goal. These programmes and Activities include:

(1) Women-in-Agriculture, (2) Youth-in-Agriculture, (3) Farmer Field Schools and participatory technology Development, (4) Information sourcing approach by indigenous farmers and (5) Millennium Development Goal from the endogenous development perspective.

**Women in Agriculture**

NEEDS seeks to fully integrate women by enhancing their capacity to participate in the economic, social, political, and cultural life of the country. To do so, the government will adopt the following measures:

- Ensure equitable representation of women all over the country in all aspects of national life by using affirmative action to ensure that women represent at least 30% of the workforce, where feasible.
- Implement the provisions of the UN convention on elimination of all forms of discrimination against women.
- Support legislation for the abolition of all forms of harmful traditional practices against women.
- Mainstream women's concerns and perspectives in all policies and programmes.
- Promote access to microfinance and other poverty alleviation strategies, with a new to reducing poverty among women.
- Reduce women's vulnerability to HIV/AIDS and other sexually transmitted diseases by empowering them through sustained advocacy, education, mobilization and engagement in agricultural activities.
- Establish scholarship schemes at the secondary and tertiary levels to expand educational opportunities for female students where necessary. Expand adult and vocational education programmes that cater for women beyond former school age.
- Increase the access of women, youth and children to information on key national issues.
• Provide social security for unemployed women, youth and poor children.

Based on these policy thrust and expectations of women in exhibiting cherishable responsibilities, agriculture, which is the backbone of human existence received 85% of women participation (Olayiwole, 1982, Patel & Anthonia, 1973). Although, division of labour on the basis of sex and gender has been widely reported, it is also a known fact that both male and female members of rural community have different but complementary responsibilities for the survival of rural community. Available evidence from some studies in Nigeria (Olayiwole, 1982, Patel & Anthonia, 1973), appears safe to conclude that women participate in almost all farming activities along side with men.

Generally, rural women embark on the following: child bearing and rearing, household management (cooking, cleaning, washing, fuel gathering etc) in addition to some aspects of agriculture: Production, Processing, marketing and trading. Their specific tasks vary from place to place depending on different cultures. Several studies carried out in different parts of Nigeria reveal that almost all agricultural production and marketing activities including animal husbandry activities were performed by women. Olayiwole (1982) reported significant differences in the male and female tasks between muslim and non-muslim households. Although, women in the non-muslim households played major roles in crops and livestock production, discriminatory practices against women in the allocation of land, technology and extension information were reported.

Women play an important part in rural development, participating heavily in food production and bearing near-total responsibility for food processing and distribution. Agriculture is the single most important occupation among women in the rural sector of Nigeria, where most of them are engaged in the production of food crops. According to Enwezor, 1984 and Clarke, 1985), women most important agricultural activity is the small-scale food farming, which is now recognized as being vital to ensuring food security in Africa, since it has been found that food production on this scale is more efficient than large-scale mechanized food production. Not only are women responsible for the bulk of food production in Nigeria, they are also responsible for most local food crop distribution from farming centres to the urban areas;
over the country.

A disturbing situation, however, remains that despite women's importance in ensuring production and distribution of the country's staple food supply, they have limited access to the resources and services required to facilitate their bestowed tasks. In the distribution of farm produce, women are similarly constrained, and most market women operate at marginal levels of profit in the face of limited capital to expand their operations, and limited training (Enwezor, 1984).

In the rural areas women are most often engaged in agro-based food processing and preservation activities on a small-scale. These include garri-making, maize-processing, fish-smoking and palm-oil extraction. These are areas in which Nigerian women are now being given increasing support with the development of simple technological devices to reduce the drudgery of such activities.

Edith (2002) reported in India that women can move the earth. Realizing the important role women play in the development process, NGOs' started organizing women's self-help groups (SHGs) in the mid-eighties. It quickly became clear that women's SHGs often functioned better than the men's groups. The focus of these groups has been on credit and savings, and today women's SHGs are receiving increasing recognition from governmental development agencies and the formal banking system. These developments have led to tremendous growth in women's individual and collective self-respect and their visibility in the community. This has had a positive impact on development as agricultural producers still remains largely unrecognized and has not been addressed.

Reports on Kadiri Women's Federation Fuel SPTD in groundnut in India conformed the assertion that women can move the earth, if given the space. Kadiri is situated in drought prone Anantapur district, the largest groundnut-producing district in India. Since the late 1960s, groundnut has gradually monopolized the farming system. Now, 85% of the dry lands are under groundnut. Myrada, a large NGO, started working in Kadiri in 1982 with a focus on wasteland development. Women's SHGs were established.

In 1997 the women's SHGs formed a federation with the support of UNDP and Myrada. Total membership was 2250 women. In the same year, erratic rainfall led to a shortage of seed. The district collector was contacted and he promised to help them but asked:

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What will you contribute?" within five days, the women remitted 7 lakh rupees into their collective account as assurance for seed repayment. This should the emerging power of the federation. District Authorities arranged for released of 3600 bags of groundnuts from the Andhra Pradesh State Seed Development Corporation (APSSDC) UNDP supported the effort by providing 8, 5 lakh rupees worth of seed capital for the women group. At the end of the season, the Federation repaid the groundnut seed to the APSSDC (Clarke, 1985).

In the same year (1977) the women’s SHGs tried out new technologies for improving groundnut production. They identified three effective technologies: gypsum application, rhizobium and application of farmyard manure. Being convinced about the usefulness of these technologies, they decided to share them with other members of the federation.

Inferences drawn from these reports apparently equip Nigerian women farmers to form organization for collective bargaining and decision-making in ensuring adequate attainment of subsidies from Government towards achieving their goals in agricultural production. This scenario poses challenges to agricultural educators.

Implication for Agricultural Education
Agricultural Educators should embark on the following to assist rural women overcome some of the identified deficiencies in the production of agricultural produce and products:

- Ensure adequate identification of individual and collective needs (areas of preference).
- Embark on effective advocacy to instill interest and acceptability of a particular task.
- Embark on practical training on the usage of equipment for processing.
- Practical teaching designs of some low agricultural machines.
like, maize shelter, pedal rice threshers, palm kernel cracker, cassava peeling machine, melon shelter, corn dehusker, grain cleaner, maize shelter etc. Remember that it is your duty to direct where these trainings are acquired.

- Educate women on the ills of Farm-gate price and where to sell their agricultural goods.
- Guide women to form organizations that could attract multiple finances and other subsidies for the attainment of their goals in agricultural productivity.

Youth-In-Agriculture

As contained in NEEDS document (2004): Joblessness has resulted in a rising incidence of social ills among young people. Policies will target youth empowerment and development in order to reverse the negative consequences associated with the past pattern of development. Specific interventions include the following:

- Expand opportunities for vocational training and entrepreneurship development.
- Promote the arts and culture.
- Wage a sustained campaign against drug use and abuse, cultism, prostitution, and trafficking of women.
- Increase awareness about the dangers of HIV/AIDS and other sexually transmitted diseases.
- Use of public works, such as road maintenance and agriculture-based schemes to reduce youth unemployment.
- Inculcate in Nigerian youth the virtues of patriotism, discipline, selfless service, honesty and integrity through revitalization of organizations such as the Boy Scouts, the Girls Guide, the Boys Brigade, young farmers club etc.
- Promote targeted youth employment to deal with the short-term consequences of the reform process.
- Increase access of women and youths to credit under existing arrangements. Eliminate factors that promote ethnic, religious, and social divides among Nigerian youths.

All the specific interventions listed above point to the fact that youths who are the real target farmers, replacing the aged farmers.
The major emphasis of the intervention strategies is to reduce unemployment rate among the youths and making them acceptable to the society. Apparently, these youths could become assets instead of liabilities through self-sustained agricultural practices.

**Challenges for Agricultural Educators**

Agricultural Educators who are the custodians of knowledge and skills in the business of agricultural training should live up to the following challenges,

- **Inculcation of interest:**
  It is the primary duty of all agricultural educators to instill interest in the students especially, when teaching as well as during excursions and field trips to distant places. Interest is the nucleus of student’s performance in agricultural practicals.

- **Establishment of Young Farmers’ Club**
  The agricultural science teacher is expected to organize young farmers club and be able to persuade students to enroll as members. This club will further sustain the interest earlier inculcated in the students.

- **Establishment of School Farm**
  Agriculture is both taught in the classroom as well as on the land laboratory. A successful teacher of agriculture is one who balances theoretical teaching with practicals on the farm. The requisite skills and knowledge needed for continued-progress in the field of agriculture are acquired at this phase.

- **Organization of Co-operative Farmers**
  An agricultural science teacher is both an academic trainer to students in the school and the would-be agriculturists outside the school environment. Farmers outside the school come together with identified mission and mandate. Rules and regulations guiding the association are acceptable by all the members and co-ordinated by the teacher, trainer or extensionist.

- **Establishment of Farm Settlement Scheme**
  Although, this may be above the reach of the teacher, however, he could put up proposals to the authorized body. Farm settlement scheme existed in the 60’s to early 80’s. Benefits of this scheme are enormous, these are the reduction of
unemployment, reduction of societal ills, reduction of mass-
movement from the rural to urban centres in search of white
collar-jobs, enhancement in the standard of living through
income-generation and wages, enhancement of multi-cultural
integration and aversion of communal conflicts. Youths are the
pivot for agricultural development.

Farmer-Field School and Participatory Technology Development
Approaches such as Farmer Field Schools (FFSs) and
Participatory Technology Development (PTD) aim to promote
sustainable development through learning processes based on self-
discovery activities and meetings in the field. Through the self-
discovery activities, farmers are asked challenging questions, their
responses to these questions are refined by the teacher, instructor and
or extension officer, who in turn use it in teaching. This means, the
farmers are actively involved from the beginning of the lesson to the end.

To be useful to farmers, both approaches require a well-
developed and organized programme. This includes the selection of
topics which farmers want to know more about, the content of the
meetings in the field schools, and the reflection on the activities
undertaken. For instance, in the "sustainable cassava project, relevant
and well documented data has played an important role in supporting
the learning process of the farmer field schools. This is illustrated here
with three examples: a survey of the cassava farmers situation as a
basis for developing the content of the curriculum for the FFSs, the
development of field school leaflets to support the education process in
FFSs, and the use of a field book in the evaluation and comparison of
farmer practices as part of a Participatory Technology Development
Process.

In developing content of the FFS, various tools were used to
gather data. This tool include a four-page questionnaire. The
questionnaire addressed technical issues in cassava production and
processing, extension and training in the region, local organization and
participation as well as livelihood security. It also included questions on
the difficulties faced, such as a lack of labour or land, availability of
inputs like fertilizer or pesticides, financial or supply constraints,
social/gender analysis, and the lack of information as a result of
extension services that were difficult to reach.
The farmers themselves defined their constraints using the questionnaire. Analyses of all documented answers and initial observations in the cassava fields resulted in qualitative and quantitative data on the farmers' constraints (Eefje, Martin, Don, 2006).

During the Farmer Field School meeting, a variety of approaches are used to work together photographs, boxes, living materials, oral presentations, songs, poems, plays and leaflets. In the farmer field school, communication is basically done using vernacular so that the farmers could actively participate in all the processes. Even the writings in the leaflets are done using the mother-tongue for those who could not read or write. Sometimes, the leaflet written in English is explained by the facilitators to those who can not read or write.

Examples of some useful questions contained in the leaflet for Farmer Field School Programme.

Some groups of between 5 to 8 participants were formed. Each group discussed their problems and reflected critically on their experiences, trying to answer several questions. Under the guidance of a facilitator, critical reflection on existing pruning practices and on new knowledge lead to "Conclusions" (Eefje, Martin and Don, 2006).

The conclusions are summarized in the leaflets:

Why should we Prune?
- Because an old plant becomes a young plant and produces like a young plant.  
- Because you may want to prevent the tree from growing too tall, which will make tasks such as harvesting easier.  
- It maximizes the amount of new wood for the next season's crop, you encourage the growth of new vigorous stems and branches.  
- Pruning results in bigger berries of higher quality than smaller berries.  
- It prevents overbearing and thus reduces biennial production.  
- It helps prevent some pest and disease problems.  
- So it can use the manure more efficiently.  
- It improves the economic situation of the farmer.
What happens if you do not Prune?

- It will be more difficult to prevent and reduce some pests and diseases.
- It will be more difficult to harvest the berries from a tall tree with branches of 3-4m.
- We will harvest smaller berries with more infestations.
- The worker does not want to harvest in an old field if you do not pay extra.

While Farmer Field Schools are a useful addition to local knowledge, the strength of Participatory Technology Development lies in the evaluation of locally acceptable technological alternatives. If the daily work in the farm and reflection on the choices made is documented, record keeping can be an important tool and help develop decision-making skills. In this process, the field book is essential. Farmers used the field book to register all their expenditures and hours spent on the farm for the production and processing of agricultural produce and products. It also include hired labour.

Within a short time, however, farmers often openly informed each other about their own results. These discussions allowed for comparison of different farmers' practices, farmer to farmer information exchange, as well as comparing progress. Farmers adapted existing technologies and tried out new ideas. Comparison of existing farmers' practices gave farmers the opportunity to think about problems that were difficult to experiment with, because of high costs involved. In this way, through record keeping, farmers developed skills that allowed them to analyze their own situation. Some examples of the skills acquired include:

- How to compare the differences in hours spent in harvesting in relation to the total harvest;
- How to compare hours of field work and total harvest;
- How to compare income per hectare in relation to all expenditure on the farm.

Farmers appeared to find this type of data collection, analysis and discussion very interesting, challenging and enjoyable.

Information Surging approach by Indigenous Farmers

There are basically two main types of data collection methods used by indigenous farmers. These include: qualitative and quantitative...
data collection methods.

**Qualitative Data Collection Methods**

This involves the use of focus group discussion participant observation, in depth interview with key informant and case studies in gaining information from respondents. This method ensures perfect networking with the local people in order to obtain first class information on indigenous technology. This method encourages button-up approach system of involving local people in solving their own problems. According to Alonge (2006), this type of grass roots involvement of local people in solving their own problems often leads to sustainability especially in the areas of agriculture.

**Quantitative Data Collection Methods**

This method is used to collect data that are easily analyzed through numerical method. Action verbs such as who, what, how, where, how many and how often are used to collect information from respondents. These information are collected using surveys, observations, content and documentary analysis. Survey in particular is best used for the quantitative data collection for the following reasons.

1. It involves focusing a study on a particular population or phenomenon in order to study some or all of its attributes and characteristics.
2. It can be used to gather information on the indigenous practices of the local people.
3. Quantitative data is best used when precise data are needed and the sample is large.

**Millennium Development Goal from the Endogenous Development Perspective**

The word endogenous means "growing from within". Endogenous development is development that is based mainly, though not exclusively, on local strategies, knowledge, institutions and resources. It involves a continuous process of adaptation and innovation, starting from within the local community. It implies working with people instead of working for them. A key criterion for endogenous development is that it is controlled by local actors. One aim of those involved in supporting endogenous development is to enhance the
city of farmers to solve their own problems, and so broaden the
ons available to them, without romanticizing their views and
ices. Working in this ways, people's own strategies, culture and
d views stand at the centre of the endogenous development efforts.

The endogenous development process requires a conscious re-
ition of the relationship between local people and the supporting
edy. This does not imply, however, that all local values and beliefs
uld be embraced uncritically, and all modern development options
cted. In endogenous development, both local and external
ces are taken into account, and one of the main objectives is to
the best way to combine these, based on people's own priorities
riteria. Supporting endogenous development can also imply
engthening traditional organization and forms of exchange, as well as
ucing for local, national or international markets.

Endogenous development is based on local resources and
hood strategies. The sustainable livelihood framework, used as
ing frame work by many development organizations, recognizes the
wing local resources: Natural resources (water, forest), human
ources (knowledge, health), social resources (family structure,
ership), economic-financial resources (credit, market), and
uced resources (roads, communication). Having explained
ogenous concepts it behooves the writer to outline the millennium
elopment Goals from the endogenous development perspective.

Millennium Development Goals from the Endogenous
elopment Perspective

- Eradicate extreme poverty and hunger. Reduction of 50%.
- Achieve Universal Primary education. 100% for boys and girls.
- Promote gender equality and empower women. Eliminate
genrer disparity in education.
- Reduce child mortality. Reduce by 66% the mortality rate among
children under five.
- Improve maternal health. Reduce by 75% the maternal mortality
rate.
- Combat HIV/AIDS, malaria and other diseases. Halt and begin
to reverse.
- Ensure environmental sustainability. Reverse loss of
environmental resources; reduce number of people who have no

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access to safe drinking water by 50%; significant improvement of the lives of at least 100 million slum dwellers.
• Develop a global partnership for economic development. Several specific targets (Hartcourt, 2005).

Conclusion
Before the emergence of oil wealth, agriculture was the mainstay of the populace in Nigeria. The large hectares of land with desired micro and macro nutrients that supported high agricultural production still live within us today. These practices and programmes that supported high productivity can still be re-visited and resuscitated. Now that “oil boom has become a doom”, there is a dire quest to refocus attention on perfect nurturing of land and the entire practice of agriculture. The Millennium Development Goals emphatically address repositioning of agricultural training and teaching in order to equip the target producers with saleable skills and knowledge for greater productivity of agricultural produce and products. For the next ten years, the nation’s economy shall be tied to this concept of Millennium Development Goals. This makes it paramount to occupy contemporary discussions in the field of agriculture. Issues raised in this text formed pivotal premise, for geometric growth and sustenance of agricultural education in the education sector.

References


Get the development of the 21st century and the role of women in it. "Women can move the earth: Experiences in working with Indian women farmers." The Netherlands. LEISA Magazine.


