SUSTAINABLE CHILDREN - IN - AGRICULTURE PROGRAMME IN NIGERIA

THE THIRD ANNUAL CONFERENCE OF CHILDREN - IN - AGRICULTURE PROGRAMME (CIAP)

C.J.C. AKUBUILO, J. U. MGBADA, I. J. CHIDOBEM
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CIAP 2000 - ENUGU

BOOK OF PROCEEDINGS

SUSTAINABLE CHILDREN-IN-AGRICULTURE PROGRAMME IN NIGERIA

The Third National Network Meeting and Conference of the Children-In-Agriculture Programme held at the Institute for Entrepreneurial Studies, Enugu State University of Science and Technology, Enugu, 26th – 30th June, 2000

C.I.A.P. 2000 – ENUGU
BOOK OF PROCEEDINGS

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Acknowledgement

We should begin by thanking the Almighty God for His special grace that enabled us to scale through all man made obstacles aimed at forestalling the smooth hosting of this Conference.

We will take this opportunity to thank all persons who have contributed to the success of the Conference, many of whom we cannot list. Special mention goes to the former Acting Vice-Chancellor of Enugu State University of Science and Technology, Professor and Mrs. Mark Anikpo who gave their unflinching support from the planning stage by accepting to host the Conference after we had won the hosting right. The exit of Professor Anikpo from the University before the Conference period made it impossible for us to host the Conference on schedule and this led to the re-scheduling of the Conference. We hereby apologise to the participants for the inconvenience caused them as a result of this development.

We acknowledge with thanks the financial support we received from: Rev. Father Dr. Chris Ofordile, Director, Institute of Ecumenical Education, Thinker's Corner, Enugu; Mrs. U.P. Chukwu (Nee Orizu); the Nigeria Union of Teachers, Enugu State Wing; and Dr. Dikeoha Okwu, Founder and Managing Director, Dikeohamatics Educational Services.

The Local Organising Committee are hereby commended for a job well done. The personal commitment, hardwork and zeal exhibited by Dr. Justina Mgbada, Secretary, Enugu State C.I.A.P., Mrs. Charity Ngwu, and G.I. Ene – all LOC members - are hereby acknowledged.

We thank in a special way Dr. F.O. Ukwuoma, Director, Institute for Entrepreneurial Studies, ESUT, Enugu, for making the facilities of his Institute available to us for the duration of the Conference.

Finally, we want to place on record the unprecedented encouragement we received from Dr. S. Fola Adedoyin, National Coordinator and Chairman, C.I.A.P. Board of Coordinators, Dr. Dixon O. Torimiro, Programme Officer and Secretary, C.I.A.P. Board of Coordinators, and Dr. Stella B. Williams, Osun State Coordinator of C.I.A.P. They were really instrumental to whatever success we have achieved in this venture.

May God bless you all.

Enugu, June 2000
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FORWARD

Enugu State University of Science and Technology (ESUT) Enugu hosted the Third (2000) Annual Research Network Meeting/Conference of the Children-in-Agricultural Programme of Nigeria (C.I.A.P.) between 26th June and 30th June,2000.

The theme of the conference was "Sustainable Children – In – Agriculture Programme in Nigeria". The Sub-themes were:

- Institutional Linkages for Effective Children-in-Agriculture Programme in Nigeria.
- Funding and Manpower Development for Effective Children – In – Agriculture Programme in Nigeria.
- Youth and Gender Perspectives in sustainable Children – In – Agriculture Programme in Nigeria.
- Role of Children – In – Agriculture Programme in Environmental Protection.
- Children – In – Agriculture Programme, Research and Extension Administrative Organization.
- Children – In – Agriculture Programme, Health and Rural Development.
- Children – In – Agriculture Programme, Education and Technical Progress.
- Children – In – Agriculture Programme, Extension Service and Agricultural Development.
- Children – In – Agriculture Programme, Rural and Agricultural Education and Economic Development.

Eight five papers were presented and discussed at the technical session of the conferecne.

In line with the editorial policy of Children – In – Agriculture Programme, all papers presented at the conference were subsequently peer-reviewed. This Book of Proceedings contains articules that the peer-review process has found worthy of publication.

The 37 technical papers in the proceedings have been organized into the nine sub-teams of the Conference. The distribution of articles in the sub-themes is as follows:

- Institutional Linkages	3
- Finding and Manpower Development	1
- Youth and Gender Perspectives	5
- Role of Children in Environmental Protection	3
- Research and Extension Administrative Organization	3
- Health and Rural Development	3
- Education and Technical Progress	6
- Extension Service and Agricultural Development	8

The issues discussed in these articles have great implications for agricultural development in Nigeria through effective integration of children in our agricultural education/extension system. It is hoped that the lessons and experiences gained from them will strengthen our determination to prosecute the Children – In – Agriculture Programme in Nigeria to its logical conclusion.

Professor C.J.C. Akubuilo, Ph.D., MNAE
Co-ordinator, Enugu State CIAP.

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KEYNOTE ADDRESS BY THE NATIONAL CO-ORDINATOR SUSTAINABLE CHILDREN-IN-AGRICULTURE PROGRAMME IN NIGERIA

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ABSTRACT:

Preparing and mobilizing farm children and youths is potentially a sustainable strategy towards the realization of agriculture and rural development in Nigeria. The Children-In-Agriculture Programme (CIAP) has emerged in Nigeria, as an organization for human capital development, focusing on children and youths with the aim to effectively harness and motivate them towards active participation in the agricultural and rural development process in Nigeria. For sustainable CIAP in Nigeria, the paper recommends, among others, that governments at all levels, UNICEF and all the other stakeholders should recognize and embrace the spirits of cooperation, integration, stakeholdership and participation as well as people-orientation. This will enable them to work effectively with CIAP in the struggle to reduce hunger, poverty and improve food security through capacity building of farm children and youth.

INTRODUCTION:

Children-In-Agriculture Programme (CIAP) is an integrated human development and agricultural development initiative aimed at building farming knowledge, skills, experience and dignity of honest labour into the socialization and education processes right from childhood (Adedoyin, 1999).

It is hoped that this will facilitate the capacity building and empowerment of children for agricultural sensitivity, which will predispose them to favourable attitude and/or future career in farming. The overall goal is to institutionalize CIAP into a programme for promoting continuity of farming and sustainable agricultural productivity as panacea for food self-sufficiency, nutritional well-being of people, modernization and industrialization of agriculture, popularization of farming as income earning and profitable ventures, rural transformation, improved livelihood and overall economic development of Nigeria.

CIAP has focused on children, which is the often neglected part of the rural farm family system in agricultural development planning and implementation, based on the work of Plato, a great Greek philosopher who

likened children's heart to a clean state on which nothing has been written. Whatsoever one wants the child to be or do in his later years can easily be written on it through a deliberate programme of sensitization, socialization and education. It is in this light that CIAP seeks to encourage a deliberate but skillful socialization and education of children to become agriculturally sensitive so as to implant in them favourable disposition and/or a spur towards a career in agriculture in their adult life.

In fact, CIAP is part of the overall strategy of fulfilling the right of the child to education, welfare and good future. It promotes:

i. The primary consideration of the best interest of the child in all actions concerning children.
ii. Situations whereby children's view will be heard and respected.
iii. Non-discrimination against children on grounds of sex, language, religion, origin, disability, birth or other status, and
iv. The right of all children to survival and development.

And in conformation with UNICEF (1997), CIAP activities for children is devoid of arduous, exploitative labour and child abuse factors such as:

i. Engaging children in full-time work at too early age,
ii. Spending too many hours working,
iii. engaging children in works that exert undue physical, social and psychological stress on them,
iv. Making children to work and live on the streets in bad conditions,
v. Giving children too much responsibility,
vi. Exploiting children through inadequate pay,
vii. Engaging children in works that hamper their access to education,
viii. Engaging children in works that undermine their dignity and self-esteem, and
ix. Engaging children in work that is detrimental to full social and psychological development.

Through CIAP, good foundation is being laid in Nigeria for enhanced agricultural productivity, agricultural modernization and industrialization, popularization of farming as profitable ventures, improved investment and employment in agriculture and continuity as well as sustenance of farming and farm-related professions in Nigeria.

The remaining part of this paper will address the concept of rural/farm children, CIAP activities in Nigeria, efforts to give CIAP a national outlook, the strategic integration of the CIAP concept into the nation's agricultural and rural development processes, and the strategies for sustainable Children-In-Agriculture in Nigeria.

RURAL CHILDREN:

According to Adedoyin (1999), rural or farm children are those born, being raised and growing up in rural communities or farm locations but who will form the core of the workforce both in rural and urban locations in their adult life.

Although the United Nations Convention on the right of the child describes individuals aged 0-19 years as children, CIAP has adopted 0-18 years as the ages for children based on the fact that the country recognizes people over 18 years of age as mature enough to vote and be voted for at elections. Also, using the dependency factor, most people of ages up to 18 years still depend on adults for their survival, protection and development. In the same vein, CIAP has adopted a more elastic age range for youths which is 13-40 years based on circumstances of poverty, unemployment and deprivations that are prevalent in Nigeria which make some people to still be dependants at the age of 40 years. To this end, CIAP's work covers children and youth programmes.

CIAP ACTIVITIES IN NIGERIA:

CIAP came into being on 2nd March, 1995 as an output of the Rural Farm Family Resources Research and Development efforts of Dr. S. Fola Adedoyin and Dr. Dixton Olu Torimiro in the Department of Agricultural Extension and Rural Sociology, Ogun State University, Ago-Iwoye, Nigeria. The researchers, identified a missing link in the process of ensuring continuity and sustenance of farming as a worthy profession and they conceptualized as well as initiated this missing link as the Children-In-Agriculture Programme (CIAP). After a series of research and development activities on CIAP within the Ago-Iwoye enclave, the idea was shared with other researchers and development practitioners nation-wide. The positive reactions obtained were encouraging and, as a follow-up, the 1st National Research Network Conference and Meeting on CIAP was held at Ago-Iwoye from 23-26 March, 1998 with "Rural Children and the Future Food Security of Nigeria" as the theme. The 2nd National Research Network Conference and meeting with theme "Farm Children and Agricultural Productivity in the 21st Century" was held at Ile-Ife from 3-7 May, 1999. The Books of Proceedings of the two conferences have been published for wide circulation. This occasion marks the opening ceremony of the 3rd National Research Network Meeting and Conference with the theme "Sustainable CIAP in Nigeria" holding at the Enugu State University of Science and Technology (ESUT) from 27-30 June, 2000.

Apart from the Books of proceedings of the Conferences, CIAP has published many other documents among which are:

1. Guidelines for Organizing CIAP Clubs in Nigeria.
2. Manual of Children-In-Agriculture in Nigeria.
3. Food production in Nigeria: The Perception of the Children in Agricultural Communities (CIAP '99) edited by Stella Williams, Ph.D.
4. Understanding Children-In-Agriculture Programme (CIAP) in Nigeria.
5. Hazards Associated with Rural Children Involvement in Home Food Security Activities – A film documentary.

CIAP has also held an International Roundtable Discussion on "Youth, Agriculture and Development" at Lagos with participants from twelve African

countries. It also held an international symposium on the same theme at the National Arts Theatre, Lagos, Nigeria. The Ogun State Chapter of CIAP (with Dr. Stella Williams as Coordinator) was instrumental to the organization of these two activities. The Ogun State Chapter of CIAP has also instituted an Annual Children-In-Agriculture Day for bringing together all farm and non-farm children for agricultural exhibitions and lecture series. I use this medium to encourage other State Chapters to come up with innovative strategies, which I promise that the National Headquarters will promptly consider for approval. CIAP Clubs should also be established in schools and in communities for in-school and out of school children activities. The CIAP National Headquarters is also working on holding the 1st Nigeria's Congress of Young Farmers.

EFFORTS AT GIVING CIAP A NATIONAL OUTLOOK:

CIAP was designed to have a national outlook in its membership and operations; hence the establishment of the National Research Network Meeting and Conference as an annual activity to be rotated round the country as a way to generate membership from all parts of the country and to sensitize people, governments, and relevant organizations across the country into understanding and participating in CIAP as members and stakeholders.

So far, CIAP has established its presence in 12 states, namely Ogun, Osun, Lagos, Enugu, Oyo, Ondo, Benue, Edo, Kaduna, Kwara, Rivers and Zamfara. State Coordinators have been appointed for each of the twelve states. The National Headquarters is going on with the effort to spread the CIAP concept to all nooks and corners of Nigeria.

For international involvement, apart from the International Roundtable discussion and the International Symposium held in Lagos; CIAP has established the "African Journal of Farm Child and Youth Development" which its maiden edition will be released in October, 2000.

The Agricultural Development Programme (ADP) nation-wide now have rural institutions and schools' agricultural projects as part of their activities. This development has opened as part of their activities. The development has opened a way for the ADPs to integrate CIAP activities into their projects. Positive response in this area is being received from Ogun State ADP while discussion is on with Katsina state, Plateau and Gombe States ADPs.

INTEGRATION OF CIAP INTO NIGERIA'S AGRICULTURAL DEVELOPMENT STRATEGY:

In the opinion of the United Nations Task Force on Rural Development (1986), Africa cannot solve its economic problem without its raising and educating more than 300 million young people (children and youths), most of whom are in the rural communities. According to Sosan et al (1999), this assertion was based on the realization that the most basic problem of African nations is not poverty of natural resources but that of underdevelopment of human resources. CIAP has therefore provided in Nigeria an organizational arrangement to build human capital through preparing children and youths for active participation in the agricultural and rural development process.

Emanating from the above, CIAP requires the right policy, logistic and financial support from government, non-government, community-based and private organizations as well as individuals for it to be properly integrated into the mainstream of agricultural and rural development in Nigeria. It should be possible for the Federal Ministry of Agriculture and its State and Local Government counterparts; the Poverty Alleviation Programme; the National Agricultural Extension and Research Liaison Service (NAERES), Social and Youth Development Programmes of governments, Community, Rural and Agricultural Development Programmes of governments; and the National Research Institutes to make it a policy that Children-In-Agriculture Programme (CIAP) activities become integrated to their own activities and those of their respective agencies. This will encourage Agricultural Development Programmes in all the 30 States and the Federal Capital Territory to actively embrace the programme (CIAP). This will also motivate the participation of all international, non-governmental, community-based and private organizations in the programme.

STRATEGY FOR SUSTAINABLE CIAP IN NIGERIA:

Preparing and mobilizing farm children and youths is potentially a sustainable strategy towards the realization of agricultural and rural development in Nigeria. The problem of Nigeria is not that of poverty of natural, agricultural and rural resources but that of underdevelopment of human resources. CIAP is therefore an organization for human capital development focusing on children and youths for effective harnessing and for motivating them towards active participation in the agricultural and rural development processes.

The question is "How can CIAP be made sustainable in Nigeria?" CIAP has recognized and embraced the spirits of cooperation, integration, stakeholdership and participation which are germane to sustainable development process. The other stakeholders, especially the governments and their agencies, private organizations that are supportive of agricultural and rural development, non-governmental and international organizations, and development – oriented community – based organizations, and influential individuals should equally recognize and embrace those spirits. This will surely give more strength and

energy to CIAP and accentuate the development of the right type of policy, institutional arrangement, logistic and financial support from government at all levels as well as from development – oriented organizations.

As an illustration, most agricultural and rural development programmes of government at all levels are not usually people – oriented in design and implementation. This is one of the cardinal reasons why:

i. most of such programmes have failed in the past
ii. they have not made significant impact on the real beneficiaries
iii. they have had to be scrapped after huge public funds have been wasted on such programmes.

The Poverty Alleviation Programme of the Federal Government is currently toeing the line of its predecessors that failed to make the desired impact on the real people and have had to be scrapped. For example, it is not focusing on human capital development through empowerment and capacity building of children and youths whom investment in them is bound to yield long lasting dividends that will be sustainable. Also, some oil companies have continued to have unending problems with children and youths in their areas of operations because the agricultural, community and rural development programmes they have put in place in the areas were not sincerely people-oriented in design and implementation with respect to children and youths.

CIAP will become sustainable in Nigeria and contribute immensely towards genuine active participation of children and youth in the development process as well as in leadership and governance when and if governments and other stakeholders cooperate with CIAP, integrate the CIAP concept into their activities, join with CIAP as stakeholders and participate sincerely in CIAP activities.

CONCLUSION:

CIAP has emerged as an organization for human capital development aimed at effectively harnessing and motivating children and youths into active participation in the agricultural and rural processes. For CIAP to become sustainable in Nigeria, government at all levels, UNICEF and other stakeholders identified in this paper should sincerely recognize and embrace the spirits of cooperation, integration, stake-holder-ship and participation as well as people-orientation. This will enable them to work effectively with CIAP in its struggle to reduce hunger, poverty and improve food security through capacity building of farm children and youths.

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THE CHILDREN – IN – AGRICULTURE PROGRAMME OF NIGERIA: SOME CURRICULUM CONSIDERATIONS.

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ABSTRACT:

This paper examined some curriculum considerations in the prosecution of the children – in – agriculture programme of Nigeria. It states briefly the philosophy and concept of CIAP. The author further explains the meaning of curriculum and goes on to formulate a hypothetical CIAP curriculum.

Appropriate methods of teaching agriculture to farm – children/youths and highlighted. The paper ends with a summary and conclusion with a plea that farm – children/youths be given every amount of encouragement to enable them embrace agriculture as an occupation.

INTRODUCTION:

Rural poverty, illiteracy and disease are still rampant in rural Nigeria. The holding of numerous conferences, seminars and workshop and the mounting and prosecution of many agricultural programmes, have not done much to solve the stubborn issues of the rural poor. The present Poverty Alleviation Programme (PAP) should have provided an effective and efficient means of tackling youth unemployment and mobilizing millions of farm children/youths towards greater participation in agriculture activities. Regrettably though, even if one argues that it is still too early to evaluate the Poverty Alleviation Programme, there are indication that the programme has been politicized, and may therefore become abused and fail to achieve its aims and objectives.

A clear understanding of the philosophy and concept of the Children – In – Agriculture Programme (CIAP) is a sine – qua – non before one can successfully embark upon a critical examination of what should constitute a CIAP curriculum. According to Adedoyin and Torimiro (1999) is a holistic human development initiated specially focused at building capacity in farm – children/youths for favourable disposition and future profitable investment in agricultural occupation thereby ensuring continuity and sustainability of farming as a reputable profession. In this way, agriculture will become strong enough to serve as the real structure upon which the country's economic development could be built.

It is evident that the CIAP philosophy and concept can only be practically realized within the frame-work of a sound CIAP curriculum.

BASIC MEANING AND CONCEPT OF CURRICULUM:

The term, curriculum, has been looked upon in various ways. An appropriate and perhaps acceptable definition of curriculum is that which Tanner and Tanner (1975) advanced.

They defined curriculum as:

> A planned and guided learning experience and learning outcomes formulated through the systematic reconstruction of knowledge and experience under the auspices of the institution or agency, for the learners continuous and willful growth in personal social competence.

It is also known that curriculum definition has been tackled from a tripartite angle. These include:

1. The subject – centred definition, which considers the curriculum as a list of different school subjects.

2. The society – centred definition that sees the curriculum as an instrument which utilizes the experience and activities of the pupils for society; and
3. The child – centred definition which looks at the curriculum as all activities in school used for influencing the child based on his needs and dispositions.

Agriculture falls within the realm of technical and vocational education. For a proper understanding of what should constitute an agriculture curriculum one should define the meaning of technical and vocational education. The National Policy on Education (1981) describes technical education as the aspect of education which leads to the acquisition of practical and applied skills as well as basic scientific knowledge. Vocational education (or functional education) on the other hand, is that aspect of technical education that leads directly to a particular function in a society, that is, to employ in a job, a trade or occupation, (Abdullahi, 1995).

Supporting the above definition, Okoro (1991) stated that vocational education is any form of education whose primary purpose is to prepare persons for employment in recognized occupations. Thus, vocational education gives appropriate training in skills, abilities and knowledge both mental and physical to individuals to enable them enter and progress in their chosen occupations.

Curriculum as a subject/discipline is interested in not only what is taught but also in the methods of teaching those things that are considered necessary for inclusion in the curriculum.

A HYPOTHETICAL CHILDREN–IN–AGRICULTURE CURRICULUM

A standard CIAP curriculum should encompass aspects of agriculture, elementary physics, elementary chemistry and elementary biology. The level at which these subjects should be taught will depend on whether the clientele are farm children or CIAP Post – primary children. On the whole, farm – children/youths should be taught the following:

1. Importance of agriculture.
2. Farming system.
3. Farm and garden tools and agricultural machinery.
4. Soils and soil fertility
5. Vegetable production.
6. Weeds, diseases and pests of farm crops.
7. Poultry production.
8. Rabbit production.
9. Goat production.
10. Farm records and accounting.
11. Fish farming.
12. Conservation of natural resources.
13. Other items (unspecified).

As far as possible, these should be taught in an integrated form to embrace the physical, biological, chemical and agricultural components.

METHODS OF TEACHING AGRICULTURE:

Methods refer to how the whole process of instruction is expected to occur. To some teachers, methods of teaching refer only to planned activities involved in the presentation of curriculum. Some others think that methods describe instructional processes. Methods determine how the whole process of instruction is expected to occur. Methods highlight the obvious that the instructional process is a two – way communication process between the instructional system and the learner with provision for feedback.

Agriculture in an applied science for farm – children/youths, agriculture should be taught in a manner that is not objectionable. The teaching of agriculture should be practicalized. Emphasis should be laid on method and result demonstrations, field trips and excursions, home work, discussions, self – directed study and projects.

Learning is an activity that starts from birth and continues throughout one's life. If should be emphasized that farm – children/youths are central in all instructional planning for teaching as well as teaching itself should be centred on farm – children/youths. We can adopt the model (modified) for systematic planning for instruction as put together by Brown, Lewis and Hardclerod (1985)

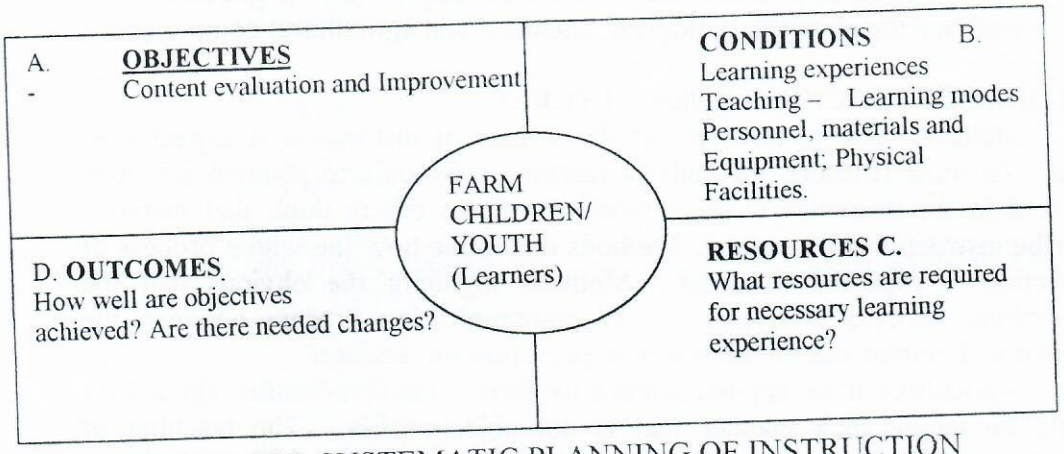

Table: A MODEL FOR SYSTEMATIC PLANNING OF INSTRUCTION
Adapted from Brown, J. W., Lewis R. B., and Hardclerod, F. F. (1985). AN INSTRUCTION, TECHNOLOGY, MEDIA AND METHODS, New York, Mc Graw Hill Book Co.

Description of the Model

Farm – children/youths are the focus – their capabilities, their special interests and motivations, and their styles of learning are taking into consideration while planning for instruction. What place do farm – children/youths occupy in a learning continuum? What are their present dispositions? What are their present levels of knowledge? What levels do we expect them to attain in the cognitive domain? Answers to have these questions will enable the practicing agriculture (teachers) to device appropriate methods and media to fill the gap between What Is and What Ought to be.

A. Objectives.

There are statements that state precisely what is to be taught. For convenience, objectives are classified into:

a. Knowledge information, understandings (the cognitive domain);
b. Attitudes and appreciation (the affective domain); and
c. Skills of many types (the psychomotor domain)

B. Conditions.

We consider here various types of experiences and activities that will lead to the accomplishment of stated objectives. Here also, we consider the provision of relevant materials and equipment as well as adequate infrastructure. The farm environment must be made conducive for healthy living so also as to arrest the exodus of farm – children/youths to the urban centres.

C. Resources.

Here we should look at the resources and facilities in the farm environment/school environment to determine which ones impede or facilitate learning and the achievement of specified

objectives. These include among others, materials and equipment (e.g. seeds and seedlings, fertilizers, farm and garden tools and agricultural machinery etc.) personnel (agricultural science teachers, agricultural extension staff, facilitators, media specialists and others who may have anything to contribute towards the success of the learning experience.

D. Outcomes.

This is an evaluation exercise to determine how far we have moved towards our set goals. In this case it may be the adoption of improved agricultural practices by farm – children/youths. If our objectives have not been properly achieved, we may re-appraise the whole teaching – learning process to see if there are needed changes and so on.

REWARDS:

No discussion on the teaching of agriculture to farm – children/youths will be complete without touching on the issue of rewards. Farm – children/youths should be encouraged to take their farm work seriously. Farm – children/youths who show outstanding contributions to the achievement of set goals and objectives should be rewarded. Such rewards could be material or psychological. Material award could be in form of cash. Psychological award may be inform of an honour certificate. Since the teaching of farm – children/youths belongs to the area of non-formal education, negative sanctions should be minimized.

In other words, we want to say that negative sanctions have little or no place in the area of non-formal education.

SUMMARY AND CONCLUSION:

Agriculture is a very important discipline and needs to be encouraged. There appears to be an urgent need to get our farm – children/youths interested in taking to farming as an occupation so as to maintain continuity. One of the best ways to achieve these objectives is to produce and put into use a functional agricultural curriculum. Such a curriculum should integrate aspects of agriculture (in large part), elementary chemistry, elementary biology and elementary physics.

As far as possible, the teaching of agriculture to this group of clientele should be heavily practicalized and made enjoyable. By its nature, farming (unless it is mechanized) easily leads to drudgery. There is every amount of need therefore to teach the children in such a way that they do not see their participation in agriculture as a punitive act. Farm – children/youths should be given every amount of encouragement. This should include supply of agricultural inputs at heavily subsidized rates and the grant of supervised agricultural credit coupled with support of the children in the area of agricultural information and marketing.

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ISSUES IN LINKING RESEARCH TO JUNIOR SECONDARY SCHOOLS IN NIGERIA: IMPLICATIONS FOR EXTENSION ADMINISTRATION

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ABSTRACT

This paper examined issues in linking research to Junior Secondary Schools and implications for extension administration under Children-in-Agriculture Programme in Nigeria. Field experience, observations and literature review were adopted as methods in the preparation of this paper. Specific issues identified as crucial in providing appropriate research linkages include: orienting research to areas of need of farm families and decentralization of research design to suit zones where schools are located. Others include: establishment of farm in school, involvement of research personnel in farms as resource persons, strengthening of supervisory and co-ordinating activities of research institutes and provision of in-service training for teachers in necessary areas of agriculture. Issues identified as implications for extension administration include: employment of focus group discussions with farm families and organizational reform on part of extension agency such as the Agricultural Development Programme. Others include: improved incentives to extension workers and relinguishing all supervisory and coordinating functions to research institutes while concentrating on extension training to school children as policy options. The paper concludes that effectiveness in implementing the Children – In – Agriculture Programme in Nigeria depends on the extent linkage issues raised can be addressed and sustained.

INTRODUCTION

Successive governmental administrations in Nigeria have initiated policies aimed at involving the youths in agriculture as a lucrative vocation. Some specific programmes implemented in Nigeria to enhance youths participation in agriculture include: Young Farmers' Club, YFC (1958) of the Ministry of Agriculture; the Farm Settlement Scheme (1959); the School – to – land programme (1990); and Mobilization of Schools for Agriculture and Industry, MOSAI (1991). The foregoing programmes had laudable objectives but the outcome did not match the material investment. Moreover, little effort was made towards enhancing the effectiveness and sustainability of the programmes.

As a reform of the past youths programmes, the revised National Policy on Education (1985) recommended integration of agriculture in the school

curricula and emphasized needed extension roles in implementing the programmes in schools. Earlier report by Food and Agriculture Organization (FAO) (1970) recommended schools' active participation in agriculture as a strategy towards orienting children to rural environment and overall achievement of sustainable food production in Nigeria.

Okatahi (1998), blamed ineffectiveness in integrating Agriculture in school curricula on absence of school garden, theoretical orientation of agriculture in schools and inadequate emphasis on agricultural research and extension roles in implementing the programmes.

Currently, the envisaged Children – In – Agriculture Programme (C.I.A.P.) is a welcome development aimed at enhancing the involvement of school children in Agriculture as a strategy in disseminating agricultural information to farm families. Junior secondary schools co-stitute a critical implementation level for Children – In – Agriculture Programme in Nigeria basically because the level forms the ma or point of introduction of agriculture as a discipline to the teaming school children. Effectiveness in disseminating agricultural information demands conscious efforts on the part of agricultural research in designing and supplying of necessary information to farm families. According to Olowu and Windapo (1994), agricultural research system was established in Nigeria in 1893 to assist in developing necessary agricultural information for farmers. Madukwe (1996), had blamed ineffectiveness in past Nigeria agricultural reform policies on weak linkage between agricultural research, extension and training. What measures are in place to enhance linkage between agricultural research, extension and junior secondary schools in implementing Children – In – Agriculture Programme in Nigeira?

Research as a linkage institution responsible for design and supply of necessary agricultural information involves sequential procedures namely: problem identification, situational diagnosis and provision of solution to existing problems. Furthermore, the adoption of Children – In – Agriculture Programme for universal implication requires institutional linkages involving agricultural research, extension and education in order to address food production needs of farm families. The successful implementation of Children – In – Agriculture Programme in Junior Secondary Schools requires relevant research information on crops, livestock, fisheries, processing and storage, agro-forestry and soil management. The situation demands provision of training on necessary agriculture sub-sectors for teachers and practical orientation on extension methods to Junior Secondary School students. What are the critical issues in agricultural research network for secondary schools, provision of training for teachers and orientation on extension methodology for students?

The overall purpose of this paper is to examine critical issues in linking agricultural research to Junior Secondary Schools as a strategy for sustainable Children – In – Agriculture Programme in Nigeria. Specifically, the objectives include to: examine issues relating to research activities and linkages in relevant

agriculture sub-sectors, provision of necessary orientation and training to students and agricultural teachers in Junior Secondary Schools, and highlight implications for extension administration in implementing Children – In – Agriculture Programme in Nigeria. The methods adopted in the preparation of this paper include: field experience, observations and literature research

Issues relating to research activities and linkages:

Research is a continuous attempt to investigate issues aimed at reducing a problem situation. Agricultural research is an investigative activity aimed at relevant technology design in order to increase food production. The technique involves adoption of modern facilities, appropriate personnel and infrastructure to the predominantly rural community. (Bolade, 1990, Eziaka, 1990, Njoku, 1991). Agricultural Research as a crucial sub-system in agricultural development network results in production of farm technologies through the use of necessary mechanical, chemical and biological inputs to improve a production system. The research precedence involves definition of boundary spanner, problem identification, research layout, and management of technology generating sub-system. According to Bagche (1994), issues in agricultural technology such as design of technical information, field research management, and management of technology generating sub-system influence the activities of research in servicing the farmers.

The success of any agricultural reform policy depends largely on appropriate research efforts aimed at technology design and supply services to meet the needs of programme beneficiaries. Appropriate research effort should be directed towards generating technologies that are location specific and focus on the use of available resources, compatible with existing practices and adaptable to various fields (Meier, 1984; Massaquoi, 1993). In contrast, research activities in Nigeria face the problem of orientation towards western pattern of research design in implementing agricultural and educational development policies (FGN, 1992). This situation is capable of limiting meaningful research design and associated technology generation as well as overall linkages due to rigid adherence to conventional research activities. Defects of conventional research activities in Nigeria are poor consideration of farmers' field problems, skill, scale of operation, and financial status and orientation of research to journal publications (Ajala and Madukwe, 1992; Madukwe, 1996).

To achieve success in linking research to Junior Secondary School Agriculture, policy requires the research sub-system to orient efforts towards the needs of farm families in providing relevant technical information in various agricultural sub-sectors. This indicates that linkage mechanism should involve adequate technical information which is compatible with existing practices of farm families and which can be implemented within available resource (Obibuaku, 1983; Monu and Omole, 1983; Bell and Pavitt, 1993). Efforts have been made to implement research activities through indigenous process but the

issue of establishing workable relationship between institutional approach and indigeneous knowledge system still pose great challenge to research sub-system in Nigeria. A workable relationship between institutional research approach and indigenous knowledge system (IKS) is crucial in securing participation of farm families in problem identification and priority setting as necessary measures in implementing research activities (Rajasekaran et al, 1993). This can be achieved by organizing intensive focus group discussions with representatives of farm families, employing existing commendation practices and involving social groups in problems identification.

In addition, efforts have been made under Agricultural Development Programme (ADP) extension policy through On-farm Adaptive Research (OFAR) trials and Small Plot Adoption Techniques (SPATS) in Nigeria. However, the issue of location specifically to various farming systems under research design and adaptation activities and liaison services between research and educational institutions pose great challenges to research linkage policy in Nigeria. In implementing appropriate group discussion involving school administrators, legal framework needs to be established between research, extension and educational institution as a policy option. This requires training on agriculture sub-sectors and general orientation on potentials of relationship for the school administrators and classroom agricultural teachers as a pre-condition for implementing effective research linkages and overall sustainable Children – In – Agriculture Programme in Nigeria.

Training is viewed as an educational procedure aimed at enabling the beneficiaries acquire appropriate skills, knowledge and attitude in order to address specific issues and reduce problem situation (Halim and Ali, 1988). Both FAO (1970) and revised National Policy on Education (1985), supported that schools should participate in agriculture as a way of enhancing scientific and manipulative skills in children. This situation demands that teachers as trainers should be equipped with appropriate subject matter content to enhance the impartation of skills and appropriate knowledge to school children in areas of agriculture.

Training can be imparted to teachers as in-house or external sponsored by the state secondary education board. In-house training for teachers could be organized at schools or local levels within the environment where the junior secondary schools are located. In-house training for teachers could be implemented among other things, to ensure uniformity in the implementation of contents of curriculum in junior secondary school agriculture as well as clarification and proffer solutions to problems, which arise during field orientation practical session in schools. Similarly, external training is provided at institutions of higher learning such as colleges of education, technology, and faculties of agriculture of Universities. Also, agencies which implement training programmes namely: Agricultural Development Programmes (ADPs) and some research institutes such as Agricultural Extension Research Liaison Service (NAERLS) could provide external training to junior secondary school teachers

and school administrators. Training whether in-house or external is aimed at improving the skills, knowledge, participation and overall efficiency of the classroom teachers in implementing linkage services between research, extension and education.

However, issues such as involvement of training facilities such as flip charts, slides, audio-video tapes, bulletin, inputs for demonstration, need to be critically addressed. Other issues needed to achieve meaningful training of teachers in agriculture include: payment of training incentives, proximity of venues to secondary schools and adequate consideration of teachers' socio-economic background and areas of academic specialization.

Actualization of training in relevant areas of agriculture for teachers depends largely on the establishment and use of school garden as demonstration plot. In spite of efforts made in using radio, television and print media in communicating relevant issues under the revised National Policy on Education, the use of school garden as skill acquisition plots has proved indefensible. According to Hartmul et al (1989), school gardens accelerate the diffusion of innovations on various sectors of agriculture in the rural areas. Okatahi (1998), added that school garden constitutes supportive tool to extension services and assists school children in concretizing information and disseminating agricultural information to parents as farm families. The issue of establishment of school gardens appears to be addressed by most junior secondary schools. However, issues relating to involvement of research and extension personnel as resource persons in planning and implementation of school gardens need to constitute a critical policy option in utilizing the school gardens for training.

Implications for Extension Administration:

Achievement of effective linkage between research and junior secondary schools and overall success of Children – In – Agriculture Programme has implications for extension in implementing the crucial linkage areas namely: research activities, training of teachers and students as well as extension involvement in planning and execution of Children – In – Agriculture Programme.

Research design and supply services have been increasingly valued as crucial activities in implementing agriculture reform policies in Nigeria. Ineffectiveness of various research efforts in Nigeria has been attributed to inadequate consideration to existing field problems as well as absence of focus on farmer's skills, scale of production and financial status (Ajala and Maduekwe, 1992). Research as a deliberate activity aimed at diagnosing and proffering solutions to problem situation is required under Children – In – Agriculture Programme to address imminent problem and avoid perpetuating problem situations. To achieve relevance among the beneficiaries, the Children – In – Agriculture Programme requires research sub-system to orient efforts towards existing problems. Beneficiary driven research designs should emanate

from farm families. The issues require involving extension personnel who have adequate knowledge of rural dynamics, social systems and social processes (Eze and Igbokwe, 1997). The situation requires involving field extension workers in research designs and school gardens as demonstration plots as a critical policy option and priority in order to address current field problems of farm families. Field extension workers can make relevant contributions in this regard by intensifying efforts on field visits; focus group discussion with farm families and providing well-articulated field reports to research.

Effective research linkage under the Children – In – Agriculture Programme demands appropriate training of school teachers in order to improve their knowledge and necessary skills in various areas of agriculture. Thus, training of teachers is a crucial technique in implementing the Children – In – Agriculture Programme. Meaningful training for teachers requires adequate facilities, payment of training incentives to teachers and provision of supervisory visit on part of extension personnel to the teachers. The situation demands improved budgetary allocation to extension services to attract and sustain quality extension personnel in the implementation process of the Children – In – Agriculture Programme. In addition, adequate extension contacts to schools involves intensification of educational and committed services, provision of information on relevant inputs such as seeds, livestock breeds and farm mechineries by extension personnel (Ijere, 1992; Eze, 1994). The afore-mentioned involvement of extension in implementing linkages of research with Children – In – Agriculture Programme requires organizational reform on the part of extension agencies such as the ADP and local government councils (LGCs). Whereas, efforts are needed to make LGCs embrace staff training techniques of the ADP, the ADP should reform to perform increased and challenging extension functions. The increased extension functions would demand increasing the number of extension workers or increasing the workload of available staff in the ADP. Either recruiting more staff or increasing, the workload of ADP staff demands improved work conditions of the ADP extension staff to reduce staff turn over (Madukwe, 1996).

Increased effort on the part of extension in enhancing linkage roles of research with junior secondary schools require institutional unification. Institutional unification involves relinquishing extension activities to the ADP as a priority, while other relevant agencies involved in improving rural life such as the LGCs, and research institutes should supervise, finance and provide necessary linkages to the ADP. The situation implies that the extension agency of the ADP should arrange to accommodate the LGCs, and school teachers in their block and zonal training programmes. This situation will largely imply improved professionalism to extension agency as a necessary measure in achieving cost-effectiveness in implementing the Children – In – Agriculture Programme in Nigeria.

CONCLUSIONS

The provision of linkages between research sub-system and junior secondary schools is crucial in implementing effective Children – In – Agriculture Programme. It serves as a clearly defined institutional arrangement for regular contacts between research scientists, extension personnel and junior secondary school children to solve the myriad of field problems to farm families. By establishment of the linkage mechanism, it is possible to provide effective two-way communication link between research and farm families through extension agency. Adequate consideration of specific critical research design and supply activities will enhance effectiveness of research in addressing relevant agriculture areas in implementing a sustainable Children – In – Agriculture Programme in Nigeria. It is therefore, concluded that effectiveness in implementing the Children – In – Agriculture Programme depends largely on the extent the crucial issues in implementing the linkage activities at Junior Secondary School Level can be addressed and sustained.

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CHILDREN IN AGRICULTURAL PROGRAMME: THE LEGAL ASPECTS

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ABSTRACT:

The paper examines the legal aspects of children in agricultural programmes. It starts with the definition of concepts and goes on to examine the intendments of the nature and scope of the right to dignity of human person as enshrined in Section 34 of the 1999 Constitution as well as the Doctrine of Forced labour. The paper goes on to analyze the involvement of children in agricultural activities/programmes vis-a-vis the children and young persons' law; the Infant Relief Act of 1874 and Section 34 of the 1999 Constitution.
The paper goes further to make appropriate recommendations aimed at strengthening the children-in-agricultural programme.

1. DEFINITION OF CONCEPTS:

A. WHO IS A CHILD?

According to Black's Law Dictionary (Sixth Edition), a child is any person who has not attained the age of 14 years. WILSON V. WEAVER: 358 F. Supp 1147, while a young person is one who has attained the age of 14 years but has not attained the age of 16 years. This definition is similar to the definition in the Children and Young Persons' Law".

Thus, any boy or girl who has not attained the age of 14 years is a child in law irrespective of the level of his or her physical, morphological developments.

B. (I) THE CONCEPT OF AGRICULTURE:

Agriculture is defined in Blacks' Law Dictionary (supra) as "the science or art of cultivating the soil, harvesting crops and raising livestock and also as the science or art of the production of plants and animals useful to man and in varying degrees, the preparation of such products for man's use and their disposal". MILLER V. DIXTON 176 Neb. 659 127 N.W. 2d 203, 206.

It is also defined in the Longman's Dictionary of contemporary English (second edition) as the science and art of production of food-crops and meat for man's consumption.

Thus, agriculture boarders on the employment of man's resources human and material to cultivate the land, grow crops, raise and domesticate animals all geared towards the production of food and allied products for man's consumption. There is no gain saying that agricultural activities are quite laborious and

entails quite a reasonable degree of physical exertion especially with non-mechanized agricultural activities.

II. TYPES OF AGRICULTURE:

Suffice it to state that there are several classes into which agricultural activities could be categorized. It could be animal husbandry, which deals with the raising of animals, horticulture, which deals with the growing of flowers, crop science, which deals with the planting, and cultivation of crops etc.

However, broadly speaking, agricultural activities can be either on a subsistence level or commercialized level.

SUBSISTENCE Agriculture largely deals with the small scale production of food crops within a small circle often at family level strictly for the sustenance of the family. Here, the incidents of agriculture are not quite onerous as tilling of land, cultivation, planting, weeding etc are all done on a small scale often on small parcels of land. Some could even be by way of small gardens. Two things however, that are worthy of note here are that:

(a) Production of food crops are done only with the sole aim of producing food for the family and thus is on a small scale while excess are sold and

(b) The labour requirement here is largely on a small scale and not quite physically exterting.

COMMERCIALIZED Agriculture on the other hand involves the large scale production of food crops and allied agricultural products with the aim of selling same and making profit. Thus, here, unlike in subsistence agriculture, tilling of farm lands, cultivation, sparse over wide acreages. Furthermore, the use of labour here is quite physically exterting. One very distinct feature here is the fact that agricultural activities are usually highly mechanized. Thus, farm machinery like tractors, ploughs, harrows, planting machines, weeding machines etc are used.

III. THE NATURE AND SCOPE OF THE RIGHT TO THE DIGNITY OF HUMAN PERSON IN SECTION 34 OF THE 1999 CONSTITUTION AND THE DOCTRINE OF FORCED LABOUR

The constitution of the Federal Republic of Nigeria, 1999 in its Section 34 provides for the fundamental right of dignity of human person. By this provision, it states that every individual is entitled to respect for the dignity of his person. As such, it eschews/prohibits any form of:

a. Torture, inhuman or degrading treatment.
b. Slavery or servitude.
c. Forced or compulsory labour.

However, it goes further in subsection (2) to provide exception to the prohibition of forced or compulsory labour. By these exceptions, forced or compulsory labour does not include inter alia:

(a) Any labour required in consequence of the sentence or order of court.

(b) Any labour required of members of the Armed Forces or Police Force.

(c) Any labour which is reasonably necessary in the event of any emergency or calamity threatening the life or well being of the community, or

(d) Any labour which forms part of the normal or civic obligation for the well being of the community or such compulsory national service which forms part of the education and training of citizens of Nigeria as may be prescribed by an Act of the National Assembly.

From the foregoing provisions of Section 34 which was quoted almost in extenso one can see that the right to dignity of human person conferred on the individual is not absolute. Eventhough it can be derogated from in, situations that are reasonably justifiable under the constitution. ARIORI V. ELEMO. (1983) ISCNLR I.

On the scope of this constitutional right, it becomes pertinent to remark that the section in subsection (2) provides some exceptions to the types of forced or compulsory labour which if required from an individual would not approximate to an infringement of his right to the dignity of human person. It should be noted that these exceptions only go to water down the effect and scope of paragraph (c) and (b). Consequently, inflicting of torture and inhuman treatment and subjecting a person to slavery or servitude are absolutely prohibited and cannot be reasonably justifiable in a democratic society. FORCED LABOUR which has to do with compelling a person to carryout some physical activities is apparently prohibited in so far as it does not come within the permitted exceptions. This is because it approximates to servitude.

IV. INVOLVEMENT OF CHILDREN IN AGRICULTURAL ACTIVITIES/PROGRAMMES VIS-A-VIS THE CHILDREN AND YOUNG PERSONS LAW, INFANT RELIEF ACT AND SECTION 34 OF THE 1999 CONSTITUTION:

We had in the preceding segments of this paper delimited the relevant age limit for determining who a child or young person is. Suffice it to state that this will form the bedrock of our discussion in this segment. We shall also be calling to mind here the different classes of agricultural activities expounded above and their incidents with the view of attempting a compromise

course within which the involvement of children in agriculture could be justified.

The children and young persons' law which obtains in the various states of the federation is an enactment made to provide some measure of protection to children and young persons. It is one of the several of such statutes conferring protection on children and young person. Section 11 of this law prohibits the involvement of children in certain types of manual labour especially those, which are not only very physically exerting but also geared towards engaging the child for a pay. This is because it approximates to child labour and even run foul of the Child Labour Act.

Section 2 of the Infant Relief Act of 1874 which is a statute of general application also creates some restrictions on the scope of contractual capacity of infants, children inclusive as a child is basically an infant. Thus, under this statute, an infant is not liable and cannot be held bound to any contract he enters into except contract for necessaries. Such contracts are basically void as against the infant though voidable in favour of the infant. Necessaries here include only these things which are materially necessary for the infant to advance his/her position in life, example: food, clothing, etc. Since a child is basically an infant, it then means that any contract entered into by a child probably with a farmer which will entail the child engaging in manual labour in the farm or in some other type of agricultural activities will be void as against the child and thus the child can rescind it.

Furthermore, Section 34 of the 1999 Constitution prohibits torture or inhuman treatment, slavery or servitude forced or compulsory labour save in some circumstances. As such, where a child is subjected to agricultural activities amounting to torture, slavery or servitude or forced compulsory labour, the latter not coming within the exceptions, this will be tantamount to an infringement of his fundamental right of dignity of the human person and the infant can enforce his rights – CANDIDE – JOHNSON V. EDIGIN (1990), NWLR nt. 129 at 659.

The questions that become pertinent are:

1. Does it then mean that a child can never be involved in agricultural activities?
2. Is there a permitted level of participation of a child in agricultural activities.
3. What is the legal justification of the different agricultural policies of government relating to schools and the poverty alleviation programme involving children and young person?

To state outrightly that a combined effect of the provisions of the different statutes expounded about is that a child can never be rightly involved in agricultural activities would be making too sweeping a statement which can neither commend itself to legal nor moral reasons. There are some levels of participation of children in agricultural programmes that are right and legal.

Firstly, the family is the basic unit of our society and food is a basis of physiological need of man. Thus, the family often gets involved in subsistence farming to produce food for their consumption, especially in our rural communities. While asserting positively that it would run foul of the provisions of the different statutes, expounded above for a child of below 10 years to be involved in any farming activity of this level, it would be permissible for a child of between 10 and 14 years (both years inclusive) to engage in very minor farming activities like placing seeds into holes made for planting by adults).

Secondly, as a child grows, he begins to acquire skills that will be of immense benefit to him in future. Thus, involving children in minor agricultural activities will enable them acquire farming skills which will be beneficial to them in future. This forms the philosophy underlying the introduction of agriculture in the syllabus of primary and post-primary institutions in Nigeria with attendant minor manual labour. The programme of "Mobilization of Students for Agriculture and Industry (MOSAI) embarked upon by the then Anambra State Government in secondary schools is a case in point as well as the various school farms which comes within Section 34 (2) (d) (iii) of the 1999 constitution part of training of children.

Furthermore, involvement of children of not so tender age in subsistence agriculture will no doubt increase productivity.

Thus, where a community is threatened by imminent famine resulting from drought or other natural disaster which will engender the massive participation of all hands in agricultural activities to alleviate or obviate the effect of such, children should rightly be involved here. This will rightly come within the exception of prohibition of forced labour provided under Section 34 (2) (d) of the 1999 Constitution as it will approximate to labour required which is reasonably necessary in the event of any emergency or calamity threatening the life or well being of the community. In this case, the constitution being supreme will supercede any provision of the children and young persons' law and the Infant Relief Act to the contrary – Section 1 of 1999 constitution.

Subject, however to the above stated circumstances which it would be right and proper to involve children in agricultural

activities/programmes, it should be noted that there are limits to such participation which includes inter alia:

Firstly, involving children in any over-exerting manual labour under the guise of subsistence farming within the family will approximate not only to child labour, but also to torture and inhuman treatment.

Secondly, involving children in commercialized agriculture with the high level of risks attendant to the operating of big machines will be most unreasonable and cannot be justified on any grounds.

Thirdly, engaging the services of a child in agricultural activities for a pay would run foul of the Infant Relief Act and thus would be void.

Fourthly, compelling a child under state of servitude or near slavery to engage in agricultural activities would run foul of Section 34 of the constitution and thus unconstitutional, Section 34 (1) (b).

V. CONCLUSION:

In conclusion, the author has in the preceding segments of this paper discussed the outright prohibitions on forced labour or participation of children in agricultural programmes. The author also x-rayed the different types and levels of agricultural activities. He came to the conclusion that any agricultural activities amounting to torture, slavery, and servitude or forced labour not coming within the permitted exceptions run foul of these statutes. The author also made out an argument supporting the limited involvement of children in such agricultural activities both for their own advancement and for the general improvement welfare/well-being of the child and family in particular and the society at large. It is lastly submitted that the poverty alleviation programme being embarked upon by the present administration should be agriculture-oriented, and limited participation of children and young persons in permitted degrees encouraged for better results. Infact, limited participation of children in agricultural programmes will help reduce child delinquency.

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FUNDING CONSTRAINTS OF ANAMBRA STATE ADP (1988 – 1992): IMPLICATION FOR CHILDREN – IN – AGRICULTURE PROGRAMME.

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INTRODUCTION:

Several agricultural programme and agencies have been introduced in different parts of Nigeria since independence by both the state and federal government. These programmes with laudable objectives and organizational structure had often collapsed before they could bring about the desired change in the society.

Financial constraints among other factors have been identified to be responsible for the failure of such programmes in Nigeria and other African countries, Anthonio (1973) observes that even though nearly all governments in African agreed that agriculture is the backbone of their countries' economy, in practical terms, however, only few of them even give the question of agriculture any priority in allocation if funds.

The Agricultural Developement Programme (A. D. P.) is one of the agricultural programmes in the country geared towards helping small-scale farmers increase food production, raise their income and thereby their standard of living. Basically, the activities of the ADP in Anambra State were to be funded by three organs: World Bank (66%); the federal Government (20%) and the State Government (14%) (Anambra State ADP Staff Orientation Manual, 1987). Nevertheless, at the inception of the programme in Anambra State, Menakaya and Okeke (1986) expressed fears of poor and irregular budgetary allocation as part of the constraints that would hinder the effective implementation of the programme.

2.0 THE PROBLEM

Agricultural Pogrammes have been known to be well thought out and planned but most often fail woefully during implementation. According to Idachaba (1999) the difference between programme design and programme implementation has been so wide, in Nigerian agriculture. Like other agricultural programmes the ADP has been known to be faced with the problem of inadequate funding and untimely release of fund by the sponsors and donor agencies. Eziakor and Isitor (1998) 2observed that the major problem militating against the accelerated growth and development of the agricultural sector in Nigeria is lack of fund. Sometimes, it is not just lack of finance but untimely release of fund and misuse or mismanagement of available funds. Thus arising from these problems one would ask:

- How was the Anambra State ADP funded?

- Was the funding regular?
- Was the funding in line with the plan?
- Was there any shortfall in funding?
- What is the implication of these on the funding of C.I.A.P. in Nigeria?

3.0 PURPOSE OF THE STUDY:

The overall purpose of this study was to examine the funding constraints of the Anambra State ADP with a view to examining its implication on Children-in-Agriculture programme (C.I.A.P.).

Specifically, the study was designed to:

(i) examine the funding pattern of the Anambra State ADP;
(ii) identify problems associated with fund disbursement and management in the organization;
(iii) Examine the policy implication of the above on C.I.A.P.

1.0 METHODOLOGY:

1.1 DATA COLLECTION:

A set of questionnaire which was designed to elicit information on patterns and problems of fund disbursement and management was administered to 6 zonal and 11 senior headquarters staff of the Agency. Relevant financial records of the Agency were reviewed to identify the funding pattern of the organization for the years under study.

1.2 DATA ANALYSIS:

Percentages were used to present the funding pattern of the programme by the financing agencies. A 5-point Liket Scale was employed to determine respondents' perceived constraints associated with fund disbursement and management in the organization. Responses were later categorized into two patterns depending on mean to or is above 3.0 was classified as positive perception to the item while responses with mean scores below the numerical value of 3.O were classified as negative perception to their corresponding items.

1.0 RESULTS AND DISCUSSION:

1.1 Funding pattern of the Anambra State ADP

TABLE 1: SOURCES OF FUND FOR THE PERIOD 1988-1992

SOURCE	1988 ₦ 17,210,548	1989 ₦ 19,025,774	1991 ₦ 28,366,000	1992 N 42,743,000	Average % for The four years
IBRD (WORLD BANK)	32.4%	40.9%	13.4%	47.9%	33.65%
FEDERAL GOVERNMENT	5.1%	10.7%	8.9%	4.7%	7.35%
STATE GOVERNMENT	12.5%	9.5%	19.9%	30.4%	18.1%
FERTILIZER SALES	30.1%	31.6%	56.4%	16.4%	33.63%
I.F.A.D.	-	6%	-	-	1.5%
LOANS	17.4%	-	-	-	4.35%
SALES FROM SEEDS	-	-	-	.01%	-
SALES FROM CHEMICALS	2.4%	1.2%	1.4%	0.1%	1.36%

SOURCE: ANAMBRA STATE ADP ANNUAL REPORT FOR 1988, 1989, 1991 AND 1992.

Data was generated on the sources of fund inflow to the organization, proportion of fund from each source and the general financial status of the establishment for 1988, 1989, 1991 and 1992. The mean contribution of each of the sources for the period under review indicated that the least proportion of the Agency's income came from the Federal Government (7.35%). The State Government provided 18.1% of the total income while the World Bank was responsible for 33.65%. The highest proportion of 40.85% accrued from other sources which included proceeds from fertilizer sales, loans, international fund for agricultural development (IFAD) and other internal sources. This finding contradicted the planned funding formula of the ADP at its inception. Moreover, the Federal Government Financial Commitment to the establishment was quite unimpressive.

1.2 PROBLEMS ASSOCIATED WITH FUND DISBURSEMENT AND MANAGEMENT:

TABLE 2: PROBLEMS OF FUND DISBURSEMENT AND MANAGEMENT

S/NO.	AREA OF CONSTRAINT	XS
1.	Delay in releasing fund to ADP by the financing agencies to carry out its activities	3.00
2.	Inadequate fund disbursed to the programme for implementation of the activities.	2.75
3.	Undue interference of top state government officials with the assets of the organization	3.75
4.	Inadequate incentives to field staff.	3.20
5.	Utilization of programme vehicles for domestic purposes.	4.00
6.	Influencing choice of projects for execution.	3.15
7.	Misappropriation.	3.00
8.	Apathy to public property.	4.25
9.	Diversion of programme fund for other purposes.	4.65

SOURCE: FIELD SURVEY, 1992.

Data analysis on areas of constraint in fund disbursement and management in the ADP revealed the existence of a number of problem areas. These problems included delay in release of fund to ADP by the financing agencies ($X = 3.0$), undue interference of top State Government officials with the assets of the organization ($x = 3.20$). Other problem areas were utilization of the Agency's vehicles for domestic purposes ($x = 4.0$), influencing choice of projects for execution ($x = 3.15$), misappropriation ($x = 3.0$), apathy to public property ($x = 4.25$) and diversion of the agency's fund for other purposes ($x = 4.65$).

1.3 IMPLICATION FOR CHILDREN-IN-AGRICULTURE PROGRAMME:

Successful and sustainable implication of any agricultural programme largely depends on the availability and prudent management of fund in the execution of its activities. Adequate and regular fund disbursement is required for the provision of material and logistic support for effective programme implementation. Moreover, well-trained and motivated staff is a sine-qua-non for progress in programme implementation.

Unfortunately, findings of this study unveiled the existence of areas of constraint in funding the Anambra State ADP at its inception. These constraints range from late release of fund to short-fall in Federal Government fund allocation to the Agency, among others. Such development as this has a far-reaching implication for sustainable implementation of Children-in-Agriculture Programme in Nigeria. An effective agricultural programme for the young ones must require financial sponsorship from the three tiers of government, namely,

the Federal, State and Local Governments. The apparent role of the Federal Government in funding the ADP at its inception was regrettably unencouraging. Successful implementation of an effective Children-in-Agriculture Programme demands diligent financial commitment and leadership role by the Federal Government. Moreover, sustainable Children-in-Agriculture programme demands timely delivery of fund since most agricultural activities are time-bound. The objectives of a well-conceived programme are easily defeated when fund for its actual implementation is untimely disbursed. Question of resource management is an area that must be properly addressed for sustainable children-in-Agriculture programme. Many well-financed development projects in Nigeria have suffered serious set-back in the past as a result of poor management of resources for implementation, as revealed by this study. Related to the above is general indifferent attitude of most Nigerians to public property. For the C.I.A.P. to succeed, all stakeholders must cultivate a positive and morally acceptable attitude to its resources and facilities.

1.0 CONCLUSION:

The result of this study has gone further to show that many agricultural programmes in Nigeria suffer setback as a result of poor policy implementation than formulation. Therefore, the most apparent set-back that Children-in-Agriculture programme in Nigeria would suffer lies in its implementation.

Sustainable Children-in-Agriculture Programme demands prudent appropriation of its fund as well as careful management of its resources. All necessary arrangement must be made to ensure timely release of fund by its donor agencies during programme implementation. The Anambra State ADP and other state ADPs' current poor performance in the agricultural sector is not unconnected with constraints in funding and management of their resources. It is, therefore, concluded that unless good lesson is learnt from the Anambra State ADP experience, the C.I.A.P. will phase out before its good intentions could ever be realized.

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CHILDREN IN AGRICULTURAL PROGRAMME: EDUCATION AND TECHNICAL PROGRESS (CHILDREN WORK AND LABOUR ABUSE)

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ABSTRACT

The ever-increasing abuse of the Rights of the child through exploitation of children labour and work in agricultural production in Nigeria constantly feature. The Basic Agreement signed in 1997 on 1997-2001 programme of cooperation approved by UNICEF's Executive Board seek amongst other things to promote child survival, development protection and participation through access to Universal Basic Education.

The purpose of the paper is to examine children in Agricultural Programme, education and technical progress with a view to reviewing the Rights of the Nigeria child in context of UNICEF cooperation programmes and abuse of children work and labour. Apart from economic factor, cultural pattern plays a crucial role that involves children in labour and work. Family work is a major rural occupation required for transfer of skill and socialization. Children are involved in labour and work because adults/parents cannot provide all the need rights of the child at home. Poverty is an inexcusable reason for child work. (Alarcon, 1986).

INTRODUCTION:

The monolithic economy of Nigeria that hinges itself on petroleum remains a great concern for decades. Agriculture, a virtually neglected sector, is the biggest employer of labour utilizing over 75 percent of the nation's workforce. The purchasing power of the average Nigerian continues to dwindle while the cost of food and social services including health and education increases daily. The deeply entrenched poverty stares many of the populace in the face and hence put the Nigerian child in a sorry and pitiable condition. There is a steady annual growth in the population of children involved in menial labour and work. A study conducted by Walter in 1998 showed that slightly more than one million school children reside in urban areas, this is a reflection of rapid process of urbanization.

The Government of Nigeria, both past and present, at one time or the other have designed and implemented a number of measures to alleviate poverty, yet the quality or life remains abjectly poor. The present global economic hardship is a herculean task preventing parents from providing the basic rights of the child. Many children therefore engage in hazardous, disabling and exploitative work and labour at the expense of education. Similarly, the advent of the economic austerity in Nigeria has exacerbated the scathing effect of poverty to the point that even the basic needs of the family cannot be meet effectively. The authority and leadership of the parent have been challenged by their inability to provide effectively for the family. (Denga, 1998).

The recently established Universal Basic Primary Education (UBE) is timely and crucial for combating abuse of child right to compulsory quality education. The approach is to ensure the child rights to education, enforce child labour work laws and decrees, provide incentives to poor families to educate their children as well as to assist in achieving the goal and improvement of the child's total well-being (Beliamy, 1996). The purpose of this paper is to examine children in Agricultural Programme, education and technical progress with a view to reviewing the right of the Nigerian child in context of the United Nation's Children's Education Fund (UNICEF) co-operation programmes and abuse of child work and labour.

UNICEF COOPERATION PROGRAMME IN NIGERIA

United Nation's Children's Education Fund (UNICEF), an organ to United Nations Development System created basically to front and police welfare of the child globally, have weathered and survived the hundles of economic, social and civic turbulence in Nigeria for the past three decades. The organization cooperates with Nigeria Government and other progressive partners in planning and implementation of programmes aimed at promoting the child survival, development, protection and participation. Nigeria government mediates through different ministries and agencies on a 5 year jointly developed and articulated master plan of operation.

A basic cooperation agreement provides the legal foundation for UNICEF operational presence and programmes in Nigeria. The existing Basic Agreement of Cooperation covering 1997-2001 was signed in 1997 and commits UNICEF to the provision of financial, technical and human resources to the implementation of programme in support of human social priorities. The essential aspect focus on the rights of the child to universal basic education and abuse of child labour. The National programme of Action for Nigeria Children (NPA) reflects the government committment to the convention on the endorsement in 1990 of the goals of children. One of the five specific objectives in the cooperation programme stresses the understanding and implementation of the convention on the rights of the child. Universal Basic Education, a global concept, searches for an answer to the challenge of preparing people for meaningful living in a Learning Society (Obanya, 2000). The Joint Declaration

and Framework of Action on education for all views education as a close mechanism for awakening and all-round development of the human potential (FME, 2000). A closer look at article 26 of the Universal Declaration of Human Right in 1948, recorded that more than 100 million children including at least girls have no access to primary schooling.

The same number of children fail to complete basic education programme while millions merely satisfy the attendance requirement but do not acquire the essential knowledge and skills (Haggis, 1995).

Based on this scenario, UNICEF's involvement focus on building the capacity of local communities in the planning, management and supervision of basic education. The organization lays emphasis on the education and empowerment of the girl-child through increased enrolment especially in eight Northern states, while stressing the need to increase boys' primary school enrolment and completion in five south-eastern states. Focus is also on improving the quality of education through teacher training, strengthening of monitoring and supervision, the supply of teaching and learning materials and supporting inter-sectorial approaches to create a better learning environment. In its cooperation programme, the organization coopts into its services improved access to basic service in low-income urban area and addresses the growing problem of child abuse through children's total abandonment of schooling for farming and other children in difficult circumstances. Its programme advocacy for children rights is to improve understanding of gender issues, eliminate harmful traditional practices and promote a culture of putting 'Children First'.

CHILDREN LABOUR AND WORK

The demographic profile of Nigeria put the total population at 111.7 million and growth rate of 2.83%. The rural and urban population measure 64% and 36% of the total population respectively with an urban growth rate of 6.2%. the population of children under one year, under five year and age 6-11 quoted were 2.5, 17.1 and 19.3 million respectively. (Federal Office of Statistic and National Population Commission, 1995).

Children as young as 5 years of age help their parents by tending small animals as well as participating in off-farm activities. As they grow older, these children assume other tasks like land clearing, planting and harvesting. Reaching adolescence, they take on work that become more differentiated according to gender. Boys perform tasks that require greater physical strength while girls concentrate more on household work and less on activities directly related to production. Most of the studies done on child labour and work do not have much bearing on the child education, schooling and performance. Cunningham and Viazzo (1996) pointed out that the need for compulsory primary education deal with child labour and work as well as to prevent idleness and social vices. The convention on the rights of the child in 1989 drew a link between child labour work and education. Article 32 of same treaty, requires

that children be protected not only from work that is harmful in term of the child's health on physical development but which is likely to interfere with the child's education, mental, spiritual, moral and social development. Gradually, there seems to be more and more attention on this subject because of its crucial nature and inter-relationship between the agreed goals of reducing and eventually eliminating child labour work and the renewed extension of compulsory free education. Compulsory primary education has been viewed as a policy instrument by which a state can effectively remove children from labour and work because children are believed to remain in school when there is free access to school that are affordable, relevant and stimulating, especially for children from poor families. However, increased school attendance rate does not so much remove the children from work and labour since many children are engaged in labour and work after school work on weekends and vacations. Several recent literature reviewed have emphasized the complexity of the relationships between education and child labour work. Children face the singular risk of substantial time loss or undermining of basic education necessary to equip them with fundamental skill for success in life (Baquele and Myers, 1985). The International Labour Organization (ILO, 1985) policy document on child labour review stated conditions for child labour and work.

CONCLUSION AND RECOMMENDATION

In conclusion, the review observed that a sizeable proportion of Nigerian children engage in farm labour and work with attendant negative effect on regularity in children school attendance. Children labour and work do not only impede children education, but by and large compete with it. Children of the ages of 10-17 are highly involved in labour and work. Farm work and labour adversely affect school attendance, performance and children often find it difficult to remain in school or cope with schooling standard.

Majority of the rural parents see education as irrelevant to their children's future and prefer the children to work and labour on the farm. The children of the poorest rural farmers particularly those of the impoverished peasants are the most vulnerable to the harsh demands of family labour. Farm work and labour is not particularly conducive to successful children schooling and performance, as they often get exhausted, lack adequate concentration during lessons and have little or no time for study and homework.

It is debatable as to the extent the agricultural activities of children under the age of 12 contribute to family subsistence. However, the author feels that there is no justification using this group of children on the farm for labour. It is necessary therefore to encourage the parents to withdraw them from the farm and find better ways to improve their school and academic performance.

The government has the sole responsibility of making the education of these youngsters affordable in every sense and regain faith in the public school as a place for instruction, socialization and the building of citizenship.

The prohibiting law and decree against children labour and work is quite insufficient and government intervention in abuse of children should be followed up by enforcement measures. However, prohibiting legislation is not comprehensively enforced on children under informal sector and family labour. (Nieuwenhuys, 1996).

Special assistance to keep children in school through education subsidy and scholarship (Relatorio, 1997) should be considered.

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ADOLESCENTS CONTRIBUTION TO SMALL SCALE FARMING IN SELECTED VILLAGES OF IKORODU LOCAL GOVERNMENT AREA OF LAGOS STATE

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ABSTRACT

This study investigated the adolescents' contribution to farming activities in selected villages of Ikorodu Local Government Area of Lagos State.
The data for this study was obtained through interview schedule. The data collected were analyzed using frequent counts and percentages.

The findings revealed that the majority of the respondents' age were between the ages of 18 & 20. The result further revealed that adolescents have contributed very much towards small scale farming in the area of crop production. The study also revealed that male and female adolescents contribute at different stages of crop production. Respondents also indicated that lack of fund, transportation, farm input, social amenities, militated against small scale farming in the study area.

The study recommended that agricultural development planners should design a programme that will assist in identifying areas of adolescents' potentials. Also, the planner should also include in their programmes a package for adolescents to enlighten them on agricultural practices and their role within the community.

INTRODUCTION

Adolescence indicates that period in a person's life between the childhood and mature adulthood. It preceeds period of youth. This is regarded as the road to the full person. During adolescent age, otherwise known as the stage of formal operations which on the average begins around age 11 or 12, there is development of reasoning and logic to solve all classes of problems. According to Barry (1989), the adolescent with fully developed formal operations typically has the cognitive structural equipment to think like adult. The adolescents are always a separate group of people within the society. They stand in groups on the street corners, and gather together in different groups. The adolescents apply criterion of pure logic in evaluating reasoning about human events.

From the point of view of integration into the society, adolescence is essentially characterized by the fact that the individual no longer considers himself as a child, he ceases to see himself as inferior to adults and stands to feel he is equal to the latter, he envisages becoming a member of society, playing a role and making a career. The adolescents play a fundamental role in our society of liberating the new generation from the older ones.

Agriculture is still a family enterprise in most areas of the developing world. Women and youths not only perform much of the labour involved but help decide what shall be grown and how. In traditional societies, few changes in farming practice can be made without the concurrence of the family. Young people are less conservative than their elders and hence are more likely to experiment. With education they become successful investors and are in a better position to evaluate new technologies for possible adoption.

Farming is typically done by Nigeria's small-scale peasant farmers whose average farm size is 1-7 hectare and are fragmented into many plots. Small-scale method of farming is very important in Nigerian economy in that these small holders are responsible for the bulk of both food and arable crops produced. The role of adolescents is being identified as crucial, in agricultural production because larger percentages of the Nigerian youths are resident in the rural areas of the country and they contribute to food production. However, despite their contribution and many approaches by government to increase food production, the level of production cannot meet the food demand of the populace. Many reasons had been adduced for this failure in increased food production among which is the non-recognition of adolescents contributions to agricultural production, and in cases where their contributions were recognised, the policy makers had wrong assumptions about their contributions at different stages of agricultural production. It is also obvious that adolescents are constrained by some factors in their food production bid. Among these constraints are:

- Limited access to resources for agricultural production;
- Inadequate social/infrastructural facilities;
- Lack of enough time to fully participate in farming;
- Lack of contact with the extension agents.

These constraints could be attributed to their age class and cultural influence in their society. It is against this background, that the study on Adolescents contribution to Small Scale Farming in selected villages of Ikorodu Local Government Area of Lagos State, was carried out to answer the following questions that were posed:

1. What are the contributions of adolescents to small-scale farming?
2. What are their demographic characteristics?
3. What are the constraints being faced by the adolescents in their contribution to small-scale farming?

*Note that in this study, small-scale farming refers only to crop production.

METHODOLOGY

Area of Study:

The area of study is Ikorodu Local Government Area of Lagos State. Ikorodu Local Government Area is one of the fifteen local government councils in Lagos State. It is located in the Northern part of Lagos and has an area of approximately 161.954 square kilometres. The provisional population result of

1991, census was given as 181,914 (National Population Commission, 1991). It is bounded in the North by Ogun State, in the South by Lagos Lagoon, West by Somolu Local Government Area and East by Epe Local Government. The basic occupation of the people is farming. There are pockets of grass land which are suitable for animal rearing. The people grow varieties of crops such as pineapple, kolanut, maize, cassava and cashew.

The population for the study consists of male and female adolescents involved in farming in selected eight villages in the local government area. The eight villages were purposely selected because of their similarity in socio-economic and ecological characteristics. The villages are Odo-nla, Erikorodo, Isiu, Adamo, Agunfoye, Igbe, Agura and Gberigbe. A purposive sampling technique was used for the selection of respondents. Ten males and ten females were selected from each of the eight villages, giving a total sample size of one hundred and sixty adolescents.

Data collected were analyzed using frequency counts, and percentages for both demographic and non-demographic variables.

The dependent variable of the study is contribution of adolescents and this was measured by presenting questions on participation in farming, example, farm land clearing, planting, sowing, transplanting, weeding, thinning, harvesting, processing, etc. Frequency of participation was measured on a 3 point scale of regularity (2), occasionally (1), Not at all (O). The respondents were asked to list out constraints that they were facing and these were then ranked from the highest to the lowest. The following independent variables were also measured: Age and Educational attainment.

RESULTS AND DISCUSSION

AGE:

Table 1 below shows that the age of majority (61.25%) of the respondents are between 18-23. This means that majority of the adolescents that contribute to small scale farming in the study area are between the ages of 18-23 years old. That is, they are in their energetic age and can carry out energetic labour.

Table 1: Age Distribution of Respondents

Age (Years)	Male	Female	Frequency	Percentage
15-17	6	16	22	13.75
18-20	38	24	62	38.17
21-23	20	32	52	32.50
24-26	16	8	74	15.0
Total	80	80	160	100.0

Source: Field Survey, 1998.

EDUCATION:

Table 2: Distribution of Respondent According to Educational Level

Educational Level	Male	Female	Freq.	Percentage
No formal education	10	10	20	11.25
Do not finish primary school	8	6	14	7.50
Finished primary school	12	12	24	13.75
Do not finish secondary school	12	28	40	28.75
Finished secondary school	38	24	62	38.75
Total	80	80	160	100.0

Source: Field Survey, 1998.

Table 2 shows that majority of the respondents had finished secondary school education, while 11.25% had no formal education, 7.5% did not complete primary school education. The implication of this is that most of the adolescents in the study area can easily understand the use of improved method of farming, which they can easily transfer to their parents.

CONTRIBUTION IN FARMING OPERATIONS:

Table 3: Distribution of Respondents According to Contribution in Various Farming Operations.

From the above table 3, the result of analysis shows that male respondents contributed more in farm land clearing activities than their female counterparts. But overall, 55.0 percent of the respondents contribute to land clearing activities. Majority (47.5 percent) contributed to planting/sowing activity, weeding (47.5 percent), Harvesting (56.3 percent), Processing (58.0 percent) and Marketing (76.2 percent). Male respondents contributed more in farm clearing, planting, weeding, harvesting and marketing more than their female counterparts, the reason being that this requires more energy.

The female respondents contributed more in the areas of processing, transplanting, harvesting and marketing activities. This confirms past studies that women in the rural areas are more into processin8g and marketing activities.

REGULARITY OF THEIR CONTRIBUTIONS:

Table 4: Distribution of Respondents According to Regularity of their Contributions to Small Scale Farming.

Response	Frequency	Percentage
Regularly	66	41.25
Occasionally	52	32.50
Not at all	42	26.25
Total	160	100.0

Source: Field Survey, 1998.

The above shows that majority (41.25%) of the respondents do contribute regularly in small scale farming in the study area, while only 32.5 percent contribute occasionally. This means that mot of the respondents help their parents in the farm on regular basis.

CONSTRAINTS BEING FACED:

Table 5: Distribution of Constraints being Faced by Respondents *Multiple Response

Response	Frequency	Female	Ranking
Fund	102	63.8	5
Lack of farm input	88	55.0	1
Transportation	100	60.2	3
Contact with Extension	110	68.0	7
Social Amenities	104	64.0	6
Processing Machine	100	60.2	3
Access to Market	88	55.05	2
Storage	120	75.0	8

Source: Field Survey, 1998.

Majority of the respondents listed lack of fund, transportation, contact with extension agent, social amenities, processing machine, access to market and storage facilities as major constraints that they are facing. These constraints are peculiar to problems of agricultural production in most rural areas of the country.

CONCLUSION AND RECOMMENDATION

From the findings of this study the following conclusion statements were therefore made:

- Majority of the adolescents who contribute to small scale farming are between the ages of 18-23 years old.
- Most of the adolescents that contribute to small-scale farming had formal education and as well can understand improved packages of agricultural production.
- Male adolescents contribute more in the area of land clearing, planting and weeding, while female adolescents contribute more in the area of processing, transplanting, harvesting and marketing.
- There is regularity in contribution of both male and female adolescents to small scale farming in the study area.
- Constraints that hinder their contributions to small-scale farming include lack of fund, transportation, contact with extension agent, social amenities, processing machine, market and storage facilities.

Based on the above conclusions from the study, the following recommendations are hereby made:

1. Agricultural development planners should design programmes that will fit into areas of adolescents' activities in small-scale farming.

2. Provision of fund for the adolescents to be able to participate fully in farming.
3. Agricultural development planners should also include in their programmes a package for the adolescents that will assist to enlighten them on agricultural practices.
4. Provision of social infrastructural facilities, this is to check rural-urban migration of youths.
5. Adolescents in rural areas should be organized in groups to embark on a farm project.

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THE PSYCHOLOGICAL DIMENSION OF AGRICULTURAL ACTIVITIES AMONG THE NIGERIAN YOUTH.

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INTRODUCTION

Agriculture used to be the mainstay of our economy until the lopsided dependency on petroleum as the nation's greatest source on income. The neglect of our agricultural activities has brought with it a lot of untold hardship to the country. In fact, agricultural activities are not only the surest ways to curb the downward trend in our economy but also have been recognized as the cradle of the world's civilization. The attitudes of Nigerians to agriculture are very deplorable and this extends to our children. To say the least, most Nigerians have negative attitudes towards agricultural activities and until this trend is reserved we will be a long way from sustainable development. Children – In – Agriculture Programme is a conscious and positive attempt to revive interest in agricultural activities more so among the youths. This justifies the academic exercise in which we are – seminar on Children – In – Agriculture Programme. As a matter of fact, human element is vital in any efforts towards national development programmes including Children – In – Agriculture Programme. There is definitely nothing wrong with our soil but there is something wrong with our values, attitudes, perception and educational system and practices.

The fundamental factors which have affected agricultural progarmmes and activities in Nigeria are indeed socio-psychological and are related essentially to such identifiable psychological factors as wrong values and attitudes, hasty need-gratification orientation in Nigerians, misperception of agriculture-related activities, faulty socialization system, and poor educational system and practices. It is the contention of this paper that Children – In – Agriculture Programme should involve behaviours engineers to help diagnose and treat the behavioural handicaps and deficits responsible for low agricultural development in Nigeria. The scientific goal of the discipline of Psychology is to understand, predict and control or modify human behaviour. And indeed, the Agricultural Programmes are hampered more by behavioural deficits and abnormalities. We need to inculcate in our children a disposition to correct values and attitudes, correct perception of agricultural activities and a disposition to delay gratification and to have futuristic thinking. Psychologists believe that what is learned can be unlearned. Consequently, Waston (1919) said that if given a dozen children that he would make each of them whatever typology of human being is wanted of him/her. Therefore, the major task facing those in Children – In – Agriculture Programme is to develop appropriate socialization and educational pattern through behavioural engineering that will not only encourage interest in agriculture but also develop positive values that

will reinforce agricultural activities. In doing these we need to retain the best of our past as we struggle to use, control and direct current agricultural technology to serve our human needs.

HASTY – NEED GRATIFICATION ORIENTATION

The current downward trend in agricultural activities is traceable to our hasty-need gratification orientation and excessive material greed. The disposition to delay gratification is s sine-qua-non in any programme aimed at enhancing agricultural activities in Nigeria. The concept of delay of gratification is a learned disposition to wait for valued goods even when some tempting or immediately available goals are beckoning or presented. Farmers of the old have learned that cropping habits depend on season. In this case, nature imposes a "waiting game" on humanity (see Uzoka, 1987). Therefore, the farmers did not eat up all their seed yams because of present hunger, rather they would endure or control their appetites and deprivation in the hope and knowledge that upon planting their seed yams, they would be better able to cope with future needs for food. This shows that they had learned the disposition to delay gratification. This disposition is a characteristic of healthy society and nations. In fact, it implies long term planning. In our people, you can easily see the attitude of killing the goose that lays the golden eggs. The oil boom and the colonial experience with its 'pay' feature had destabilized this psychological equilibrium. The message being sold here is that the ability to ignore immediate gratification in favour of long-term goals (called delay of gratification) is a behavioural characteristic that could enhance agricultural activities in Nigeria. This is the bane of agriculture in modern day Nigeria where the majority of us are engrossed in hasty-need gratification and the get-rich-quick syndrome. It is only when we begin to appreciate that gratification delayed is not gratification denied that we can move forward agriculturally. This is important since agriculture requires long-term investment. With capacity for self control, people can control their appetites and thirst for immediate satisfaction of their wants. It is the contention of this paper that this debilitating situation could be reversed through Children – In – Agriculture Programme. And if we hope to have successful Children – In – Agriculture Programme we need to take this matter seriously. The belief of psychologists is that whatever is learned can be unlearned using appropriate behavioural techniques.

Social psychologists and indeed all psychologists through empirical research have shown that for a child to learn the disposition to delay gratification, the child must be able to perceive that adults can be trusted and must experience events where promised rewards are actually presented as promised (see Eyo, 1995 & Uzoka, 1987). Simply put, the development of the capacity to delay gratification in children could be based upon the perception of the adult society as orderly and predictable. This, therefore implies that ability to delay gratification cannot reasonably develop in a system where there are insincerity, arbitrariness in actions, untrustworthy leadership and inconsistencies in dealing with promises. In fact, stability of social contracts and reliability of persons charged with the dispensation of rewards and incentives in society is a

necessary condition for the inculcation of delay of gratification. Our educationists, socializers and those involved in Children – In – Agriculture Programme should avail themselves of this important information.

The relationship between agricultural activities and delay of gratification cannot be overemphasized. As a matter of fact, the absence of delay of gratification is associated with a lot of other negative psychological consequences such as infantilism and deficiencies in creative as well as alienation and insecurity. Infantilism is a condition that is characterized by easy distractibility, impulsivity, selfishness and undue dependency on others. Again creative is affected by our "here and now" orientation because it has the ability to hamper our intellectual and cognitive functions. Furthermore, stress develops when one is aware that he is at the mercy of external agents. On the other hand, the alienated individual feels estranged from the social and political structures in which he operates. The looting of public funds by our rulers is an outstanding consequence of insecurity and uncertainty. In fact, Nigeria's socio-economic system is a culture in which everyone plunders the system in search of immediate need gratification because there is a pervasive feeling of insecurity. Most programmes in Nigeria are tied to the get-rich-quick syndrome in their economic and social policies (cf Eyo,1995). This type of orientation cannot but inhibit the evolution of a dynamic Children – In – Agriculture Programme.

The Children – In – Agriculture Programme should aim at socializing children and adutls into a culture of futuristic thinking, into a culture that promotes delay of gratification and into a culture that encourages visionary leadership and followership.

WRONG VALUES AND ATTITUDES:

Another psychological factor, which affects agricultural activities in Nigeria, is the issue of over-valuation of foreign goods without controls and priorities. The issue of self-reliance is not seriously taken up by individuals and governments. Discussing the damaging effect of this conditions, Maduka (1987) contends that over-valuation of foreign ideas and our being extremely "other-directed" has had the negative effect of delaying our national development. Our people prefer to import ready-made goods. This over-valuation inhibits the socio-psychological factors that facilitate and motivate agricultural activities. The other-directed mode of conformity to some Western and European values is characterized by lack of confidence in a people's ability to explore and cope with situations facing them. Individual and collective achievement motive in agriculture is not sufficiently encouraged through reward and recognition and we shall remain agriculturally stunted as long as we remain other-directed. This disposition of other-directedness leads to inferiority complex, inhibition of creativity and lack of confidence.

Those involved in Children – In – Agriculture Programme should work with educationists and psychologists in preparing instructional materials that will reverse this ugly trend. Children should be taught to appreciate agriculture and be rewarded to motivate and recognise excellence in agriculture. We should look inwards and be inner-directed.

MISPERCEPTION:

The concept of misperception can be used to explain the problems that have hampered agricultural activities in Nigeria. The issue of misperception requires address and positive response on the part of those involved in Children – In – Agriculture Programme. The perception of agriculture-related activities in Nigeria is negative. We misinterpret agriculture and what it stands for. Agriculture is misperceived as an activity for the illiterates, the poor and the downtrodden For many also, it is seen as a dirty job for the unfortunate and the unemployed. It is good to note that perception is the capacity to impose meaning unto experience (Newman and Newman, 1981). The point is that agriculture is not seen or perceived as a decent profession or activity when compared with other civil service jobs. Even some who studied agriculture as a course shy away from agricultural activities not so much because of the finance required to embark on them as it is to the way they perceived or take agriculture. Agriculture is misperceived in the Nigerian context. It is this misperception within individuals and governments in Nigeria that is one of the banes of Nigerian agriculture. In fact, Onyeneje and Ugwu (1987) and Eyo (1995) have noted the deadly consequences of misperception in National development. The misperception of agriculture in the Nigerian context has led most Nigerians to develop negative attitudes and actions towards agriculture. Our reaction to issues and events are based primarily on the way we perceive, interpret or understand those events and not so much on the events themselves. If we perceive correctly, we will act correctly most of the time, other things being equal and vice-versa. Therefore, Children – In – Agriculture Programme should aim at dismantling this psychological bedbug. This means that part of our problem in agricultural activities lie in the way we take or rate agricultural activities and what they mean to us.

In fact, vigorous and sustained formal and informal agricultural education of the adults and children in particular will have to be the first step towards enhanced agricultural activities in Nigeria. It is only a pity that most Nigerians perceive agriculture as out-right demeaning job meant only for the unfortunate, dirty, poor and uneducated ones. Consequently, any programme to enhance agricultural activities in Nigeria will be vitiated by this problem of misperception among the people of Nigeria.

CONCLUSION:

This paper identifies wrong values, hasty-need gratification orientation, misperception and faulty socialization as the bane of agriculture in Nigeria. The paper also contends that through Children – In – Agriculture Programme, we can turn difficulties into opportunities for growth and that careful thought and analysis are required perhaps with a new view of our purposes, values and ourselves. We need to reorient Nigerians to be disposed to correct values, self-reliance, correct perception and the ability to delay gratification. Agriculturists, educationists and psychologists should revive interest in agriculture in Nigerian as the era of compartmentalization of knowledge is over.

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ATTITUDE OF NATIONAL DIPLOMA (AGRIC) GRADUATING STUDENTS TO FARMING AS A CAREER

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ABSTRACT:

The purpose of the study was to evaluate the attitude of National Diploma Graduating Students of Schools of Agriculture in Ondo, Oyo and Lagos States towards farming as a Professional Career.

A total of one hundred and twenty students were interviewed Stratified random sampling technique was used based on the gender of the students. The instrument used for the collection of data was questionnaire which was divided into section A and B. Section A focused on the sociological background of the respondents while section B comprised twelve (12) items which focused on the students attitude towards farming.

The 'LIKERT' attitudinal scale was used to measure the students response. The results of the analysis show that majority of the students were from rural/farming community and offered agricultural science at the School Certificate level, a large proportion would like to be in farming on full-time basis, while very small proportion had disability that would prevent them from going into farming, a large proportion was encouraged to pursue agriculture as a course of study and there was no significant difference in the attitude of both male and female graduating students towards farming. Based on the findings, a number of recommendations were made.

INTRODUCTION:

Nigeria like many developing nations has agriculture as the mainstay of her economy. There are various indications that many people derive their living from agriculture because of the following six contributions of agriculture, food, livelihood, a market, raw materials, foreign exchange, and a source of savings. However, the agricultural sector is perceived to have performed below expectation because of the low per capita agriculture and food production thus it is not surprising to find that 'food importations have increased tremendously'.

The low performance can be attributed to a number of factors, the most important of which are the twin problem of lack of Youth trained in agriculture taking up farming as a career to replace the old and the ageing farmers and the near total absence of basic infrastructural facilities in the rural areas which has exacerbated rural-urban migration. The most unfortunate aspect of societal lives is the low status accorded agriculture by majority of the educated members of the society. This negative attitude is largely displayed by the urban populace

who in most cases possess the required papers to qualify for admission into the University or other higher Institutions.

With this urban background, little understanding or sympathy is displayed towards agriculture and rural life. It is important to note at this point that some students that enrolled for agriculture as a field of specialization or course of study did so after failing to secure admission to study some courses perceived as being more prestigious. Due perhaps to the fact that agriculture is not seen as a profession like Accountancy, Engineering, Law and Medicine, students tend therefore to choose disciplines with professional status. Moreover, most of the students who eventually enrolled for agriculture placed their hopes on city-based jobs in the Ministry of Agriculture, Banks, other government parastatals and in some cases jobs that have no direct relationship with the training they received in School.

This low esteem of agriculture could also be attributed to the School Curriculum and prescribed examinations, which tend to be theoretical with emphasis mainly on learning. Corroborating this, Solarin (1974) noted that "Some agricultural science teachers are not really interested in practical farming. They believed their roles are limited to teaching students to pass their examinations, without making them farmers which would involve the actual practical demonstration by the teacher". Invariably, such teachers could not teach agricultural science effectively and successfully to have meaningful results. The students may have a fair grounding in agricultural related basic sciences, but are seriously lacking in many qualifications required for making a successful business out of farming, Williams (1978) opined that if the food needs of the country are to be met, and economic development is to proceed, trained men must be at hand to carry out the whole complex business of agriculture.

In the same vein, Bellonole (1992) explained that the farming profession (Agriculture) must be made attractive for large number of young people if the developing nations are going to be able to feed themselves. This study was therefore designed to provide a descriptive profile of students trained in agriculture as well as their attitude towards farming as a **professional career.**

MATERIALS AND METHODS:

The study covered three out of the six states in the South-West of Nigeria, that is, Lagos, Oyo and Ondo States; each of the three states has a School of Agriculture located in it, each of the schools runs programme in General Agriculture/Agricultural Technology at the National Diploma level.

Pre-tested questionnaires were used to elicit responses from one hundred and twenty students selected through stratified random sampling technique. The female members of the sampling frame were taken care of by administering 25% of the questionnaires to them for each school, forty (40) respondents consisting of thirty (30) males and ten (10) females were interviewed.

The scoring of the questionnaire was done separately for each students for section B. The LIKERT TYPE Scale was used where by responses were put in order of magnitude. In scoring continuum, the value of five points (5) was

assigned to each response indicating strongly Agree (SA), a value of four points (4) to Agree (A), three points (3) to undecided/uncertain (U), two points (2) to Disagree (D) and one point (1) to Strongly Disagree (SD) when the question is positively worded and reversed when negatively worded.

For each student the scoring was determined by summing up the ratings in section B. The highest scoring student had a maximum of six points while the lowest scoring student scored a minimum of twelve points.

Simple statistical technique like frequency distribution and percentages were used to describe the data while student test was used to establish the sex difference in attitude of the respondents towards farming as a professional career.

RESULTS AND DISCUSSION:

a. Selected Characteristics of the Students:

The results shows that majority (53.57%) of the students were within the age range 20 – 22 years, 25.89% were within 23 – 25 years while 17.86% fell into the 17 – 19 years of age brackets, about 2.68% were older than 25 years. The implications of this is that the respondents would perform actively and efficiently in their proposed career since they are in their prime.

Majority of the respondents (91.07%) were from the Yoruba speaking states of South/Western Nigeria, this might be attributed to the location of the Schools (study area) which is inhabited mostly by the Yoruba ethnic group. About 8.20%, which constitute the remainder of the respondents, were from the South-East of the country.

The background of any individual goes a long way in determining the type of personality the individual will exhibit since the norms of the society would have been imbibed by such an individual.

The study revealed that 66.96% of the respondents were from a rural/farming background while 33.84% had urban background. Those with urban background could still engage in market gardening or urban farming and or the provision of agricultural services.

The students were required to indicate their parents land ownership status. Majority of the students (66.96%) were of the view that their parents owned land, that could be used for agricultural practices, while 33.04% of the respondents stated that their parents did not possess land. The importance of land as the most essential resource required for agriculture cannot be over-emphasized. The type of agricultural system to be practiced on the land is mainly determined by the type of title to such land.

The result showed that majority of the student sampled could make use of their parents land for farming. However, only 45.56% of those whose parents possessed land could practice Crop Production using improved technology as the size of their parents land holding ranged from 4 hectares and above. It was also revealed that 85.71% of the respondents offered Agric. Science at the SSCE/GCE level and they passed at not below credit level.

and physical infrastructure that would make these youths live and practice their calling in the rural areas.

In view of the foregoing, the following recommendations may be found resourceful.

Encouragement should be given to those youths who are interested in farming through the creation of enabling environment such as the availability of resources (example land) which is the single most important factor. Towards this, there should be a rethink on the present position of government on the scrapping of NALDA which should instead be made to be alive to the attainment of its objectives by catering for those interested in farming, especially youths trained in agricultural production technology at local government areas level throughout the nation. This will sustain the youths interest in farming.

Government policy should be based on location specific, participatory in design and implementation properly monitored and evaluated such that there would be quick feedback which will enhance the sense of belonging of the people.

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THE ANATOMY OF A SOCIOPATH: IMPLICATIONS FOR CHILDREN-IN-AGRICULTURE PROGRAMME

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ABSTRACT

This study examined the Anatomy of a sociopath and its implications for children-in Agriculture Programme. The purpose was to identify the source and characteristics of sociopath with a view to highlighting their negative effects as well as remedies. The paper identified that sociopathy originates in childhood where it is characterized by such things as truancy, persistent lying, theft and vandalism. It also revealed that sociopathy has both genetic and environmental causes, and that physical punishment is particularly ineffective with sociopaths because of their under arousal and aberrant limbic function.

INTRODUCTION

One way we can approach the issue of Children-in-Agriculture Programme (C.I.A.P.) is to inquire into the area of behavioural abnomality. Understanding the psychological problems of children is a first-major step in the right direction because lack of knowledge of these childhood behavioural problems may vitiate all attempts aimed at introducing and sustaining children's interest in agriculture. It is, therefore, important to examine one of the most researched personality disorders among children population which may have deleterious effects on children's involvement in agriculture. For this purpose, "The Anatomy of a sociopath: Implications for Children-in-Agriculture Programme" was considered an appropriate topic for this conference.

Sociopathy is a kind of personality disorder usually referred to as a "disorder of traits". This disorder is reflected in the individual's tendency to perceive and respond to the environment in broad and maladaptive ways. The stress associated with this personality disorder is borne by others and not the sociopaths themselves. Children with this personality disorder (i.e. sociopaths) constitute a major legal and socio psychological problems that will hamper agricultural activities. The hallmark of this disorder is a rapacious attitude towards others, a chronic insensitivity and indifference to the rights of other people that is marked by lying, stealing and cheating, among others (Rosenhan & Seligman, 1984). Children with these disabilities will find it worthless engaging in agricultural activities. Indeed, they require serious education and psychological treatment in order to come back to accepted norms and practices of their people. In fact, their characteristic ways of perceiving and thinking about themselves and their environment are inflexible and as such a source of

social and occupational maladjustment. In view of this knowledge, there is need for those involved in Children-in-Agriculture Programme to identify such personality and refer them to appropriate agencies or persons for treatment so that they could become adjustive to the calls of the programme.

Characteristics of Sociopaths

Sociopaths are really characterized by a number of behaviours. For instance, Prichard (1837) said that sociopaths are incapable of conducting themselves with decency and propriety in the business of life. By this characterization, we can infer that sociopaths will be social misfits in the affairs of Children-in-Agriculture Programme. This social disorder called sociopathy is a disorder of the will defined by sustained antisocial behaviours developed in childhood and continues in a variety of areas during adulthood. Examining the concept further, Cleckley (1964) characterized the sociopaths in the following broad qualities: (1) Inadequate motivated antisocial behaviour, (2) The absence of a conscience and sense of responsibility to others, and (3) emotional poverty. In the context of this paper, inadequately motivated antisocial behaviour would mean that we do not understand why sociopaths do what they do, and neither do they understand it. The sociopaths seem not to be motivated by any rational purpose, but rather they seem perversely impulsive. Secondly, they are characterized by absence of shame or remorse for past misdeeds. Simply put, sociopaths lack conscience, and with it, any deep capacity to care about other people; their relationships tend to be shallow and exploitative. That is to say that soicopaths lack capacity for love and sustained attachment and are unresponsive to trust, kindness or affection. Worse still, they lie shamelessly and can mercilessly abuse those who have trusted them. Thirdly, sociopaths seem to lack the capacity for sustained anger, grief, joy or dispair. In short, they experience very shallow emotions. This incapacitation may be the very reason they lack conscience and to the ease with which they violate the expectations of others. These psychological deficits have serious implications for Children-in-Agriculture programme. How these characteristics arise should be a serious concern for the operators of the Children-in-Agriculture Programme (C.I.A.P.). This knowledge can offer avenues for remediation and prevention.

Sources of Sociopathy

In the first instance, sociopathy originates in childhood or early adolesence as a conduct disorder characterized by such things as truancy, persistent theft and vandalism, and then continues into adulthood. Sources of sociopathy would include among others the following: (1) The family and social contexts, (2) Defects in learning, (3) Genetics, and (4) Physiological dysfunctions in the central nervous system.

The family is the smallest social unit from which foundations for life is laid. As the child grows, other social settings become important in the formation of a child's behaviour. That sociopaths have little or no conscience arises from the fact that they seem not to have internalized the moral standards of the larger society through the family and other social milieu. There is

evidence that sociopaths who grew up in the lower social classes experienced more difficult childhoods than other people from those same social strata. In fact, broken homes, parental deprivation, impoverished homes, presence of antisocial adults, experience of severe physical punishment and the related emotional climate that precedes them (e.g. arguments & violent fights, alcoholism, parental instability, neglectful father) are all highly implicated in the development of sociopathic personality (Bandura & Walters, 1963; Gregory, 1958; Greer, 1964; Smith, 1978 & Rosenhan & Seliman, 1984). The early childhood experiences that correlated with sociopathy include theft, truancy and school discipline problems. The attention of the operators of the Children-in-Agriculture Programme should be drawn to this psycho-pedagogical problem. This therefore, requires positive address and response on the part of those involved so as to have children who are not handicapped.

It appears also that defects in learning is a source of socipathy. Unlike ordinary normal people, sociopaths do not rapidly learn to anticipate and avoid punitive situations. It does seem that they are deficient in avoidance learning, that is, their learning defect is an inability to learn from painful experience (e.g. severe physical punishment). Simply put, punishment or its threat does not seem to influence a sociopaths behaviour (Lykken, 1957; Rosenhan & Seligman, 1984). This may be due to the fact that sociopaths are under aroused and may actually seek avenues for stimulation. They are emotionally flat, borrowing from Cleckley (1964). And because they are under aroused generally, the emotions that ordinarily inhibit criminal behavour are not sufficiently aroused in sociopaths. Those involved in the Children-in-Agriculture Programme should note that sociopaths are less responsive to physical punishment and social disapproval. However, affectional parents and parental supervision can go a long way to inhibit the development of sociopathic personality, a possible psychological impediment to the C.I.A.P.'s activities.

There appears to be indication that both genetics and environment play strong roles in the development of sociopathy. There is evidence also that XYY males are more prone to be criminals than the XY males. Physiologically, this class of people (sociopaths) show slow brain wave that are characteristic of children. This suggests brain immaturity. Besides, sociopaths show positive spiking in their brain waves (i.e. sudden and brief bursts of brain wave activity). This phenomenon is associated with impulsive, aggressive behaviour and with no guilt or anxiety about their actions. The dysfunction in the brain's limbic system, which controls emotion and motivation, are implicated in sociopaths. In the light of the above, the sociopath's failure to learn from punishing experiences may be the product of faulty physiology, and too, biology, rather than malice, may be the well-spring of the antisocial personality disorder (Sociopathy).

Implications for Children-in-Agriculture Programme

The anatomy of a sociopath has implications for Children-in-Agriculture Programme (C.I.A.P.). Firstly, this personality disorder has been identified as a deficit and a disability which could negatively affect Children-in-Agriculture Programme. Sociopathic personality disorder is characterized by motivational problems, absence of conscience and emotional poverty. The family, the school and psychologist have to join hands in combating this ugly disorder-disorder of the will. This disorder is learned in the course of one's upbringing and as such it is modifiable and preventable. With appropriate behavioural engineering, we can produce children who are properly developed to tackle the problems posed in our agricultural sector.

The sociopaths have been found to have little or no conscience. This, therefore, constitutes a big task to both parents and educators. It is only when we produce children and people with correct or appropriate conscience that Children-in-Agriculture Programme can meaningfully thrive. A lot of the problems in Nigeria today bothers on the question of conscience in our lives. Conscience is learned in the context of one's upbringing. It is an aspect of one's personality structure called superego. This superego is the internal representative of the societal values and ideals as interpreted to that child by his parents, and enforced by means of a system of reward and punishment imposed upon the child. To obtain the reward and avoid the punishment, the child learns to guide his behaviour along the lines laid down by the parents. Whatever parents say is improper and consequently punish the child for doing tends to become incorporated into the child's conscience. Conscience punishes the child by making him feel guilty. Conscience, when formed, functions to inhibit the impulses of id (e.g. aggressiveness). It is, therefore, the task of those operators of Children-in-Agriculture programme to take note of this information and act accordingly. The development of strong conscience in our children will go a long way to effectively organize and mobilize the youth towards agricultural concerns.

Another implication is that for effective Children-in-Agriculture Programme, the sociopaths could be helped to develop motivation backed by rational purpose. Kelman (1980) suggested three ways of being motivated, namely: through compliance, identification and internalization. Compliance makes people adopt an attitude with the purpose of getting a reward or avoiding a punishment from one's group or from another person without any conviction of the content of the behaviour itself. The reward – punishment matter is not necessarily physical in character, but often, psychological (Cencini & Manenti, 1992). The implication of this to C.I.A.P. is obvious. Scholarships, Bursery award and automatic employment to students majoring in agriculture-related fields could motivate children into developing interest in the affairs of the 'C.I.A.P.'. For instance, one who chooses a given profession in order to get a privilege, or social position is being compliant.

Children, sociopaths inclusive, could be motivated into agriculture through another psychological process called identification. In identification, one adopts a behaviour because it serves him to maintain a gratifying relationships with a person or group. Children could be motivated to develop interest in agriculture if their fathers or significant others are found to be engaged in agriculture. One way to achieve this is to treat those already in agricultural production favourably such that they become worthy models for children, including sociopaths. They could be given enhanced salary with attractive fringe benefits. In this manner, children would want to be like them (ie the models), do, believe and say what their models do, believe and say. What starts off identification is the perception in the 'other' of something that helps to give meaning to one's own ego. This could redirect the sociopathic characteristics in children such as truancy, vandalism and lying. Internalization helps a person accept social influence, making the suggested values and attitudes his own because he sees their intrinsic validity and discovers them to be coherent with his own system of values. This could be achieved by making the contents of agriculture intrinsically satisfying such that children find them useful for the solution of their problems. In order to succeed the operators of the Children-in-Agriculture Programme (C.I.A.P.) should not only be credible but seem to be credible. Simply put, internalization are motivations that have become convictions. It is believed that these strategies will meaningfully invite and engage the sociopaths as well as children in the affairs of Children-in-Agriculture Programme.

Conclusion

The anatomy of a sociopath provides some revealing information that has serious implications for the Children-in-Agriculture Programme. Sociopathy is a disorder of traits and of the will, which is believed to originate in childhood and characterized by the absence of a sense of remorse or conscience. While the effects of genetics are evident in the development of sociopathy, there is a weighty evidence that sociopathy is a learned personality disorder which could be prevented and treated by qualified psychologists educators and the presence of good parental models. Moderate punishment, enough to make the child take the consequences of his actions serioulsy, but not so much as to send him to places where he can learn to be a criminal, has a genuine deterrent or preventive effect. It is, therefore, concluded that sociopathy requires address and response by the operators of Children-in-Agriculture (C.I.A.P.). This programme is considered worthwhile in the promotion of the nation's economy and as such government should endeavour to patronize and fraternize with the operators of this laudable programme.

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THE ROLE OF CHILDREN IN ENVIRONMENTAL PROTECTION IN SOUTH – EASTERN NIGERIA.

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ABSTRACT:

For many generations, **agrobiodiversity** in most regions has been in the hands of traditional farmers. Indigenous knowledge and management system are developed and adopted for specific local conditions by farming communities. Harnessing these unique roles would help stimulate **children's interest in environmental conservation** activities. Projects on sustainability oriented environmental management could encourage them to set up their own conservation movements, experiments, demonstration, and extension services. This would also help the children who are youths to strengthen their creativre works.

Most empirical studies of traditional agriculture focus on the productivity areas where crops are grown. This neglects the fact that many farmers utilizes, maintain and preserve units of natural ecosystem like forest, hillsides, lakes, grassland, streams, swaps etc, which provide valuable food supplements, construction materials, medicine, organic fertilizers, wood as fuel and religious items. Based on these, the ecosystem form a continuum where plant gathering, fishing and crop production take place. Thus many peasant societies consider agriculture to be part of a large system of land resources use and management.

The identified problems are that soil erosion and oil spillage are the greatest threats to the Nation's soil productivity particularly in South – Eastern Nigeria, and the largest sources of pollutants in our water ways which destroy fish and wildlife habitats. These cause other environmental degradation of high social economic hazards, especially in South Eastern Nigeria.

The general objectives of this project is to mobilize the children in south Eastern Nigeria into active participation proven and sustainable practices for food security, biodiversity and soil conservation, as well as protection of the natural farming environment through agroforestry under the **community based farmers insitu environmental conservation (COBFIEC).**

1.0 INTRODUCTION:

According to Virginia Farm Bureau (1990), the top soil is the layer of soil which contains plant nutrients and minerals and support plant

growth. The top soil is the layer which must be conserved and protected against erosion (Akamigbo, 1986). If the top soil was eroded away, many of the agricultural crops which we now use for food and fiber supply would be drastically reduced. It takes about 100 years for nature to build 2.5cm of top soil (Saxton, 1980). Emphasis can be placed upon soil, water and sunshine as natural resources and how they influence agriculture in different parts of Nigeria. Soil is a major natural resource that influence agricultural productivity.

Livestock and games produce valuable products such as meat, fish which are excellent source of crude protein and oil. These livestock convert crops which humans cannot use such as hay and grass, and other crop by – products into products we use (Pretty, 1995). However, crop and livestock can grow well only where there is the right amount and kind of soil, water, plant food and proper temperature (Mijindadi et al, 1993) Plants and animals grown in a given ecology are adapted to natural resources, biodiversity and climatic conditions of the ecosystem of the region (Hugues et al, 1988).

Eicher et al (1984) defined food security as the ability of food deficit countries or regions and household within these areas to meet target levels of consumption on a yearly basis. An efficient environmental protection in agriculture is essential since food is a necessity for life. The more money we spend on food, the less money we have to spend on other necessities such as medicine, housing, education, savings and investment in industries which can lead to better living standard and higher per capita income (IFAD, 1997). Inspite of the importance of food and fiber to the social and productive life of individuals in any society, Nigeria with her increasing population is faced with a major food crisis which is reflected in the declining food productivity. This has been manifested in the ever increasing food imports (Aziegbe, 1993).

This is consequent upon the seriously degrading environmental conditions caused by increasing intensity of cultivation even on marginal lands, uncontrolled burning of vegetation, deforestation, urbanization, industrialization and other pressures of modernization. This environmental crisis in Nigeria is associated with land degradation which culminate into severe erosion, pollution and oil spillage, deforestation resulting in shortage of wood, and loss of bio-diversity (Okafor, 1992).

In the last decade or so, as human population and urbanization have increased significantly, the close link between population, the increasing destruction of the environment and disappearance of biodiversity and food security problems of poor countries have become more apparent (Helen et al, 1995). It is becoming increasingly clear that pure stands of single crops combined with intensive mechanical tillage, minerals, fertilizer and chemical plant protection may be "modern" but are incapable of conserving and improving the fertility and productivity of tropical crop land (Janzen, 1993; Igbozulike, 1977). "New cropping and farming system adapted to the special conditions of the tropics are being rediscovered and developed. The new development approach common to these is that agricultural activities must fit into the social economic setting and take ecological requirements into account. The sustainability of production takes priority over short-term gains in yield and

profits (Egger, 1982; Altieri et al 1983; Kotshi and Adelhelm, 1984). It is now accepted that appropriate modern technology are employed in conjunction with tested traditional practices which are more sustainable and environmentally more friendly especially with regards to the small families. Based on these, practices such as **Agro-forestry** including alley farming and taungya are being increasingly advocated (Ayanlaja, 1985). In the past decade, forestry experts and agronomists have been undergoing symbiotic change in attitude now culminating in the concept of **"Agro-forestry"** in environmental protection.

1.1 AGRO-FORESTRY

Is a land management system which combines growing of forest, fruit trees and food crops with or without livestock husbandry in such a way that they are technically and economically feasible which enable small farm families to obtain high income through overall higher production and living standards while ensuring forestry improvement of soil and natural environment on a sustained basis (Okali, 1992; Mijindadi, 1993). The combination of trees and crops, sometimes with livestock which in a nut shell is **Agro-forestry,** provides an important path to intensification of agriculture in African countries, with great prospects of boosting food production with very low inputs, for soil conservation and reducing absolute poverty. In all, **Agro-forestry** is fast becoming practicable as a system which is capable of yielding both wood and food and at the same time, conserving and rehabilitating our natural ecosystem (Kio, 1989) – Appendage I.

1.2 FOOD CRISIS

The current food crisis is due among other factors, to poor management of natural resources, especially land, resulting in hunger, disease, energy shortages, environmental degradation and pollution (FAO, 1992). The extent of environmental degradation in Nigeria varies from one place to another (Adegeye and Omonona, 1998). For the food crisis and environmental degradation to be reduced substantially, the natural resources, especially land, must be under good management.

1.3 POVERTY VS DEGRADATION

Inter-twined with poverty is environmental degradation. Elsa, a researcher, reports Awake (1998), has observed that "poverty is the destruction of nature: the forestry, land, animals, rivers and lakes". This is tragic cycle as poverty leads to environmental destruction, which perpetuates increasing poverty. According to International Fund for Agricultural development (IFAD, 1997), during the past 30 years, almost 20 percent of the world's top soil from crop land has been lost, mostly because of a lack of both the money and the technology needed to carry out conservation measures. Axiomatically, the poor are forced to exploit the environment because of their need (food and fuel) and the rich often exploit the environmental resources of the poor for profit. In this paper, therefore, the types of environmental problems and their protection relative to the role of children will be examined.

2.0 SOME IDENTIFIED FACTORS RESPONSIBLE FOR ENVIRONMENTAL DEGRADATION

Several variables have been identified as causative factor of environmental pollution and degradation and include the following:

2.1 EROSION PROBLEMS

It is estimated that millions of hectares of cultivated land are lost to agricultural production world-wide yearly because of soil degradation (FAO, 1992). This is so because teeming world population is demanding ever-increasing quantities of food, fibre and fuel from the environment (ICRISAT, 1986). In the Eastern States of Nigeria, Mijindadi (1993) reported that thousands of hectares are lost each year to erosion and land degradation which forced the relocation of so many farmlands and communities out of their ancestral homes; as shown by various studies on the Agulu – Nanka erosion disaster in Anambra State.

Every state in Nigeria is adversely affected by erosion, but the intensity and type vary from region to region. Coastal erosion afflicts virtually all the states bordering the Atlantic Ocean while riverine erosion is a problem very serious in the Niger Delta Region (NEST,1989). At the same time, human activities have contributed immensely to this problem through wrong crop cultivation practices, ranging from tillage to road construction. Over – grazing and indiscriminate destruction of vegetation are causative factors (Napier, 1987).

It is quite apparent that our soils have degenerated owing to constant tillage and constant use of fertilizer. Our farmers now have access to organic fertilizer which is environmentally more friendly and less hostile on the nature of soil (Ahned Usman, 1998). According to Umaru Alkaleri (1998), the future of agriculture and also that of our economy depends on a more scientific and safe use of our basic natural endowments, land and water being the most important amongst them. However, land degradation loss in Nigeria is as high as US $3 Billion annually and this represented about 30% of the country's GDP in 1990 (World Bank, 1994). Stemming from the above, the total land mass according to Umaru (1998) is 92.4 million hectares, and an area regarded to be relatively fixed; which can only increase marginally through limited and partial reclamation but can equally decrease by flooding and erosion. Efficient Environmental conservation practices are therefore sine-qua-non for optimum agric production especially taking into consideration, the rising needs for land for housing, industry, recreation, wildlife and forestry, livestock, mining, communication etc, while the use of land for any of these purpose does not engender/ endanger depreciation but to enhance its desire appreciation (Umaru, 1998).

In USA for instance, on and off the farm annual price tag for erosion damage is estimated to be in billions of dollar; but the full cost of erosion is unknown. Agian there is estimate of the effects of sediments and associated pollutants on human health. Thus, soil productivity cannot be economically

sustained unless erosion and environmental degradation are reduced (USDA, 1990).

The effects of the above highlights are clear due to the facts that :- sediments, along with accompanying plant nutrients and pesticides, can destroy fish and wild habitats and pollute water supplies. Sediments from other areas clog rivers and decrease reservoir capacity, thereby restricting navigation, reducing recreation and scenic value, and increasing the hazards and severity of flooding (Edwin et al 1985).

Tisdale et al (1985) stated that soils differ greatly in their characteristics, hence in their management requirements and their sudies showed that erosion must not be taken for granted and it is imperative that agric production are carried on in such away as to minimize the destructive effects of water and wind erosion.

2.2 DEFORESTATION:-

This is another environmental problem which is most serious for tropical rainforests which were estimated in 1980 to be declining by about 11.4 million hectares per annum; out of which revegetation and afforestation offset only about 10 percent of this loss (FAO, 1989). The cause are as noted earlier by Napier (1987). The cumulative effects of all these is that Nigeria which in 1897 had 60 million hectares of forest and wood lands, now has only 9.6 million hectares of forest reserve, much of which are degraded and only 2.4 million hectares of forest in less than 100 years (Adeyeye and Omomona 1998).

The loss in biodiversity and genetic resources can be imagined from the list of 484 species in 112 families compiled by Gbile et al (1981) as species threatened with extinction and researcher reported else where of the use animal dung or farm residues in Jos Plateau state for cooking instead of being recycled for soil improvement (NEST, 1989). This deforestation is also synonymous with the destruction of wildlife habitats and has drastically reduced animal population. This has led to reduction in the population of "bush meat" a good source of animal protein to the local people. It has also reduced the roles wild life play in recreation, education and scientific research (Tree Owners Manual, 1990).

The socio-economic implications of deforestation are alarming. Accordingly, shortage of both industrial timber and fuel wood are signals and loss of numerous shrubs, and herbs of high nutritional and medicinal values, as well as valuable plant genetic resources (Akamigbo, 1980). Also from 1980 – 1982, over 900 hectares of Gmelina pulp wood plantation in Oluwa forest reserve, Ondo State and 490 hectares of pine pulp wood plantation in Anambra State; both established with World Banks loans were lost to wild fire. Replanting was at additional cost, which included pollution and decline in biodiversity (Adegeye and Omonona, 1998).

Accelerated run-off resulting from deforestation also gives rise to floods with very disastrous environmental consequences to life, property and farm crops. For instance, the Ogumpa flood disaster of 1980 in Ibadan, claimed more

than 200 lives, displaced over 50,000 people and destroyed a great deal of property (Oguntala and Oguntoyinbo 1998).

2.3 FLOODING

Flooding, though primarily caused by climatic factor has a socio-economic impact on our environment. Our interaction with the environment in form or Urbanization, agric activities, lumbering, cause flooding. The consequence is that large proportion of the rainfall which should infiltrate into soil instead run-off to result into flooding (Ayoade 1979).

Other socio-economic implications include structural and erosional damage, disruption of socio-economic activities, loss of lives and properties etc. In 1989, 130,000 hectares of farm land in some parts of Cross River and Akwa Ibom States were flooded due to over flooding of its bank by Cross River, an estimated 150,000 farm families were rendered homeless with property destroyed (NEST, 1988). In Ilorin, 24 houses were lost, 50 others were vacated and farmlands washed away in 1976 (Olaniran, 1983). The material damage done by the collapsed baguda dam in Kano in 1988 was put at N650 million naira (Sunday Times, 1988).

2.4 POLYTHENE BAG

The supposedly harmless polythene bag is dangerous to the environment. We use it to store food items as well as use it as a transparent container for saleable food items in both rural and urban areas. It is also used widely as shopping bag. It is a by-product of petroleum. It looks simple but it is almost indestructible. It has very limited usage and no after usage value at all (Dogonyaro, 1994).

For developing countries like Nigeria, the hazards of the polythene bags are enormous. Pollution, environmental degradation and death of livestock are added problems.

2.5 INDUSTRIAL POLLUTION

Before 1998 a fouled environment was really not an issue in Nigeria, but the dumping of deadly toxic waste in koko, Bendel State brought to fore, the issue of an endangered environment. It rudely awoke the country from environmental ineptitude, showed that the increasingly amount of toxic industrial wastes generated yearly by industries could wreak havoc if care is not taken through dust and carbon monoxide etc (NEST, 1990). The Ewekoro Cement dust pollution has attracted the attention of indigenes, Federal Environmental Protection Agency (FEPA) under Aina and international donor agency with little success in the control. Nigercem is also a cement factory in South East with its dust polluting the Ebonyi River and the environment.

2.6 OIL SPILLAGE

In Niger Delta Region, where petroleum exploitation has been on for years, oil spillage is one main environmental problem which encourage land degradation and pollution in Nigeria. The socio-econimic impacts are mainly

loss of fish, crustaceans, decline in biodiversity and ecological damage, loss of farmlands; drinking and industrial water, recreational and aesthetic value of water bodies, increased economic burden in pollution clean-up, population resettlement, rehaiblitation and worsened rural under development (Adegeye and Omonona, 1998).

The KIAMA declaration of 11th December, 1998 arose due to oil problem and by 30th December, 1998; youths of the Niger Delta went into Public demonstration; prior to this, the Jesse fire out break of 17th October, 1998 as recorded by reporters are still very fresh in our minds. The youths among other things claimed that their farm lands had been devastated, drinking water and fish gone among others through oil spillage.

3.0 MULTI-DISCIPLINARY CONTROL APPROACH

However, socio-economic and **Agro-ecological** changes increase the vulnerability of local systems of conservation and should be considered in **community based conservation initiatives.** Conservation should not be limited to a formal institution's mandate but must take into account the wide range of farmers' needs for survival (Rural and Beltita, 1999). Ghate (1999), reported that establishing rewards for natural resources initiatives has created opportunities for **local communities to participate in ecological conservation programmes.** With the obvious effects of deforestation, people also looked for ways of reducing the pressure on the forests caused by the needs for firewood with alternative. This is also true of oil spillage, industries pollution, flooding and polythene problems on environment.

One way to maintain the complex interaction of genetically diverse traditional cultivated varieties with their associated peculiarities while reducing erosion is through the **"Community – based farmers insitu conservation"** like that of Ethiopia's community seed bank (Abebe, 1999). This is the conservation of locally adapted traditional varieties in community managed seed banks which will ensure the sustained provision of useful crop varieties for environmental protection especially by the children.

Studies in Uganda has shown that local trees and shrubs are well adapted to the soils and climate of the Kigezi (Andreas, 1999). This is because local species are always easy to propagate, grow fast and some how show a rapid rate of re-growth after being browsed or pruned. Some of these are useful in soil conservation and improvement, they provide firewood and medicine and have a wide range of other uses.

3.1 COMMUNITY BASED LINKAGE

Participatory approach to environmental protection will only be a success when the gender issues of relations governing access to and control over lands, labour, cash, farm inputs and equipment, the division of farm income, and organization of the labour process with its differential work loads for men and women are considered. Transporting harvest from the farm on head is difficult because the farms are far away and we should recognise the women's double burdens. "Women farm, they care for children, they market for the family,

cultivating by hand with a baby on their back, that is the problem" (Marjorie, 1990).

The husband is the boss and with the present Nigeria economic dispensation, greater number of men shunt for daily needs leaving their homes early in the morning and coming back very late. Since the farm family is made of the man, women and the children; these complexities of gender labour crisis create vacuum in agricultural sector which the children can effectively occupy and fill. Our general belief is that children will grow to youths who are acclaimed **"leaders of tomorrow".**

The aim of training young children is to improve their lives in ways they themselves determine to be important; and in ways they themselves can sustain especially through the young farmers clubs, young foresters, the boys scouts, girls guide etc who actively participate in agriculture. This approach is based on the premise that the young children must participate in and determine what is best for themselves, their families and communities. The relevance of any local project can only be judged locally if the youth are not involved.

One of the most famous theorists of youth organization in agricultural development is the late E. F. Schumacher. In his book Small is beautiful, he states that the young children are the primary and ultimate source of wealth whatsoever. If they are left out, if they are pushed around by self styled experts and high handed planners, then nothing can ever yield a real sustainable result. We can achieve this premium by **educating, organizing, and disciplining** the young **children.** Without these three, their potentials will remain latent and untapped.

3.2 THE ROLE OF (YOUNG) CHILDREN IN ENVIRONMENTAL PROTECTION:

They are part of a process which recognizes that the needs of a community can only be expressed by that community, thus identifying their changing needs as their circumstances change. This drive helps them to acquire skill, knowledge and resources to better enable them make decision regarding their future. They can share their skills so that others can emulate them because they are energetic, dynamic, innovative, enthusiastic and always willing to try new ideas. This will have a **multiplier effect** and impact **on their farm families.**

3.2.1 CHILDREN AND YOUTH IN SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL PROTECTION

Youth make up nearly one-third of the world's population, and they need a voice in determining their own future. Their active role in the protection of the environment and involvement in decisions on environment and development is critical to the long-term success in all agric programmes.

Development plans should guarantee young people a secure future, including a healthy environment, improved living standards, education and jobs.

Education levels should be increased so that, by the year 2010, more than half the young men and women in every country will have a chance of

secondary schooling or vocational training education. Students should be taught about the environment and sustainable development throughout their schooling.

Governments should consult and let youth participation in decisions that affect the environment. Youth should also be represented at international meetings, and participation in decision – making at the United Nations in collaboration with UNICEF.

Children make up nearly half the population in many developing countries. In both developing and industrialized countries, children are highly vulnerable to the effects of environmental degradation (UNICEF, 1991).

Countries should combat human rights abuses against youth, especially young women and girls, adequately fed, educated and protected from pollution and toxic substance, development strategies should deal with the entitlement of young people to natural resources and their protection because children make up nearly half the population in many developing countries.

Children have the greatest stake in the preservation of the environment and its judicious management for sustainable development as their survival and development depend on it. With their relatively low use of capital resources and high reliance on social mobilization, Community Participation and appropriate technology, the COBFIEC approach is designed to engender Child-related goals in the year 2000 and beyond since it is highly Compatible with and supportive of environmental protection. Thus, this will improve social services, better use of natural resources and, ultimately break the vicious cycle of poverty and environmental degradation (Michael, 1993; UNICEF,1991).

When young children are effective in agricultural programme, it will strengthen a community's desire to tale charge of such **Agro-forestry** programme – "THE COMMUNITY BASED FARMERS' ENVIRONMENT CONSERVATION" **[COBFIEC].** This "can do" attitude, when re-enforced by successes tend to become self-perpetuating. In the long run, this will be the single most important contribution of any children organization in agriculture especially in the South – Eastern States of Nigeria.

4.0 RECOMMENDATION:-

1. The **"COBFIEC"** is recommended for environmental protection among the primary schools children in Enugu and other South Eastern States.
2. **COBFIEC** a participatory approach model when adapted should identify oil spillage and other environmental cases for
   a. NGO action and prevention in conjunction with the oil companies and NNPC.
   b. This is to divulge/relive government of active participation and allow it concentrate on policy guide lines.
3. The local government areas and states should as a matter of urgency re-active their tree-seedling and nurseries for integration into the **COBFIEC.**

4. Commercial banks, NGOs and **COBFIEC** should form linkages with the Nigerian National Council on environmental protection, which was inaugurated on 18/5/2000.
5. Schools of agriculture should be established in Enugu State to train youths and children in natural conservation practices.

5.0 CONCLUSION

The **COBFIEC** participatory approach will succeed in **environmental protection** because, the young **children** live amongst the people with whom they can work; they are willing to train and function in different culture, and they know their local languages and they play important role in effective agric development especially with minimal supervision from their school teachers. Moving into a new conservation culture, learning a new technique, language and even trying out one's own skill in practicing **Agro-forestry** demonstration for the first time can make the work of children organization jump into their assigned **environmental protection project.**

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CHILDREN PARTICIPATION IN AGRICULTURAL – ENVIRONMENT – POVERTY NEXUS: RECENT EVIDENCE FROM OYO STATE, NIGERIA.

BY

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ABSTRACT:

In developing countries such as Nigeria, there is increasing concern over three vexing problems of agriculture stagnation, severe environmental degradation and worsening rural poverty. The apparent failure of past efforts to reverse these trends has implied the compelling need to take a fresh look at farm children participation in these inter linked issues. Rural livelihood systems are essentially agricultural, and agriculture is the main link between people and their environment. In order to safeguard the dynamic equilibrium between agricultural – environment – poverty nexus, a major element is farm children participation in agriculture and the environment. According to Seragel din, (1996) through their agriculture activities, farmers and their children seek to husband the available soil, water and biological resources in order to "harvest" a livelihood and alleviate poverty for themselves. So, farm children participation in agriculture and the environment ultimately impacts on rural poverty.

The objectives of this paper is to provide insight into farm children participation in agriculture – environment – poverty nexus using a case study in Oyo State, Nigeria. The major finding in this study is that crop production practices even among children have environmental consequences on soil erosion, forest preservation and water quality. Nature of environmental problems arising from overall participation of farm children in agriculture in the state include, erosion, overgrazing, pollution, fire outbreak, flooding and deforestation, among others. A major recommendation in the paper is the need for sustainable poverty reducing activities that is environmentally friendly and that is for all age groups. In order to safeguard agriculture – environment – poverty dynamic equilibrium, children farmers participation in agricultural production will require some regulations by setting environmental standards and guidelines for their operations. Furthermore, Environmental Impact Assessment (EIA) will have to be treated as part of the agricultural project planning cycle. There is the urgent need to strengthen the environmental concern in agricultural extension package for farm children.

1.0 INTRODUCTION:

The interest in the dynamic relations between agriculture, environment and poverty arises from the clear indication that as we look to the future, the need to continue increasing food production, while at the same time minimizing environmental damages, conserving the natural resource base and reducing poverty, hunger and malnutrition may pose an enormous challenge. Already,

the urgency to stem down persistence of hunger, malnutrition, seemingly intractable low agricultural productivity and worsening environmental problems associated with agriculture which pose serious threat on future levels of agricultural productivity as well as the health and well-being of rural people have been expressed on a continuos basis (Adeyeye, 1985, 199, and Turner, 1993). In developing Countries such as Nigeria, there is increasing concern over three vexing problems of agricultural stagnation, severe environmental degradation and worsening rural poverty. The apparent failure of past efforts to reverse these trends has implied the compelling need to take a fresh look at farm children participation in these inter linked issues. This is particularly imperative because it is increasingly becoming appreciated that rural children are active farmers and that rural livelihood system are essentially agricultural and agriculture is the main link between people and their environment. According to Serageldion (1996) through their agriculture activities, farmers and their children seek to husband the available soil, water and biological resources in order to "harvest" a livelihood and alleviate poverty for themselves. So, farm children participation in agriculture and the environment ultimately impacts on rural poverty. In view of the above and in order to safeguard the dynamic relationship between agriculture, environment and poverty, the objectives of this paper is to provide insight into farm children participation in agriculture – environment – poverty nexus using a case study in Oyo state, Nigeria. To achieve this the paper has been structured into sections. Section two is concerned with theoretical issues and concepts of interest to the paper while section three examined agricultural production practices that impinge on the environment and poverty level. Section four and five present respectively effects of agricultural production practices on the environment and areas of concern in agriculture – environment – poverty nexus. The paper ends with policy recommendations and concluding remarks.

2.0 THEORETICAL CONSIDERATION

2.1 Concepts:

Three concepts are key in this paper. They are agriculture, environment and poverty.

Agriculture simple put is a production/business activity in which inputs (such as land, labour, seeds, fertilizer credits etc) are used to produce crops, livestock and fishery output.

Environment: is a wide concept consisting of man and natural resources external to it. Elements of environmental problems include wildlife and biological diversity, solid waste, deforestation, soil erosion, desertification, pollution etc. Major problems associated with environmental protection and natural resources conservation can be ascribed to policy and market failures.

Poverty: A concise and universally accepted definition of poverty is elusive largely because it effects many aspects of human conditions, including physical, moral and psychological. Different criteria have, therefore, been used to conceptualize poverty. Most

analysis follow the conventional view of poverty as a result of insufficient income for securing basic goods and services. The poor have also been conceptualized as the proportion of the population that is unable to meet basic nutrition needs.

(Demery et al 1996). Others view poverty, in part, as a function of education, health, life expectancy, child mortality etc, Black-wood et al (1994), identified the poor, using the criteria of the levels of consumption and expenditure.

Furthermore, Sen (1983), related poverty to 'entitlements' which are taken to be the various bundles of goods and services over which one has command, taking into cognizance the means by which such goods are acquired (e.g Money, Coupons etc) and the availability of the needed goods. Yet, other experts see poverty in very broad terms, such as being unable to meet "basic needs" – physical (food, care, education, shelter etc. And non-physical participation, identity etc) requirements of a "meaningful life" World bank (1996).

2.2 Existing state environmental consideration in agriculture in Nigeria with particular references to Oyo State.

There are clear indications in the literature that in spite of the desirability of factoring in environmental concern in agriculture in Oyo state and Nigeria in general, agricultural projects be they at farm level or otherwise are hard to analyze in the Environmental Impact Assessment (EIA) mode, being dispersed, often incremental and repetitive. This is in contrast to the one-off construction and operation of a factory. In clear terms, however, agricultural development Oyo state should necessarily incorporate ecological and socio-economic system analysis with the broad process of altering farming systems such that agricultural production is not marginalized or optimally operated by all stakeholders, adults and youths now at the expense of the future.

For sustainability of the ecosystem in Oyo state, agricultural production and farming system should be such that production options are selected on the basis of land capability, avoidable or potential water resources and the essential best sustainability parameters, given ecological and socio-economic constraints. Furthermore, there is growing understanding that the relevance of EIA starts from the frequent belief that the agronomists are aware of the ecological limits to agriculture in the different ecological zones which over the years have been dismissed. That indeed, research efforts did not always reveal constructive solutions to typical problems or operational models for sustainable agricultural production.

In agricultural production there are three broad areas of environmental concern when analyzing agriculture – environment – poverty 'nexus. These are: human environment, physical born/direct disease, chemical, nutrition, resettlement, changes in economic in particular use of energy, land use, recreation, transportation etc. In the

area of physical environment, variables of interest are sedimentation, quality and quantity of water, soil change, deforestation, quality and quantity of ground water, and quantity and chemical changes. Biological environment consists of aquatic and terrestrial with emphasizes on fisheries, flood and fawns, mangrove and wetlands. These elements of the environment do impact on agricultural production activities such as crop production, cattle raising, fishing, forestry, agro-industry development and vice versa.

There are a number of reasons why assessment of environmental impact in agriculture is considered desirable. In agriculture the relentless pursuit for self-sufficiency and self-reliance in food production on sustainable basis seems to be a sure panacea to alleviation and avoidance of environmental poverty. Also, environmental degradation and sustainable agricultural productivity and production simply cannot subsist together. Integration of issues of the environment in agricultural production is a major instrument for making agricultural production environmentally sound and, therefore, in itself long-term sustainable.

Generally, the ultimate objective of application of EIA in agriculture is for the development of appropriate production technologies and the minimization of their environmental impacts. Summarizing its experiences in the application of EIA in agriculture, FOA (1984), noted that most work have been in the preparation of series of guidelines and technical into the environmental consequences of agriculture projects. Generally, EIA application in agriculture largely is aimed at developing means of identifying projects that are potentially damaging to the environment. Second, guidelines need to be established for each agricultural project to screen them for their environmental soundness. Third, application of EIA in agriculture more than anything else has sensitized planners working on projects formulation to the need not to neglect any aspects of the environment in packaging projects. Lastly, for meaningful control of the synergistic dynamic relationship production activities achieve simultaneously the twin objectives of agricultural sustainability and poverty alleviation.

3.0 AGRICULTURAL PRODUCTION PRACTICES THAT IMPINGE ON ENVIRONMENTAL AND RURAL POVERTY LEVEL

Over ninety percent of agricultural products found in Nigerian markets today are produced by the small scale farmers and their children. A proper understanding of agricultural production practices and ways by which farming activities are carried out by these farmers of all age groups is necessary in order to enhance effective planning for the improvement of the farm productivity in line with their aspirations and demands, their technological know how as well as maintaining the dynamic relationship between agriculture, environment and poverty.

A variety of food crops are grown in the state. Table 1 shows areas where major agricultural crops are grown in Oyo State. In Ibadan/Ibarapa zone notable cash crops grown are cocoa, kolanut and oil palm. Major food crops grown are maize, yam, rice, cassava, melon, beans, cassava, lillet, melon and guinea corn are important crops. Main crops cultivated in descending order of importance in Oyo State are Cassava (27%), Yam (27%) Maize (26%) Cowpea (8%) Vegetables (5%), groundnut (3%), guinea corn (3%). While output from these crops translated to income and enhanced potential for poverty alleviation and avoidance: the environmental consequences of specific practices that are involved in the agricultural production are the main issues. Field experiences in this study showed that farmers' children that participate in farming are in three broad groups: those assisting their parents (54%) those who engage in farming on their own right (29%) and those who farm without the consent of their parents (17%). While the first two categories enjoyed some parental control in farming, the last group certainly impacts more negatively on the environment and weaken the delicate balance of agriculture – environment – poverty nexus.

TABLE 1:

	L. G. A/Zone	Major Cash Crops	Major Food Crops
i.	Ibadan and Ibarapa	Cocoa, Kola-nut, Palm- Oil	Maize, Yam, Rice, Cassava, Melon and Plantain
ii.	Oyo	Cocoa, in small quantity	Yam, Maize, Beans, Cassava, Millet, Melon and Guineacorn

Indigenous Production Practices By Farmers who are of Soil and Water Conservation Consequences

Traditional agricultural practices of farmers generally have conservative effects on the soil, and water conservation. They are consciously or unconsciously practiced by farmers of all age groups in the study areas and include;

Land Clearing: Simple tools like matchets and cutlass are used for land clearing. The farmers in Oyo State underbrush the native forest by cutting down shrubs, herbs and climbers, and ensure that the soil is left undisturbed. Tillage practices of planning on flat land, with only root and tubers on ridges by the farmers minimally disturb fragile soil. The hollow spaces are first soiled with water during the first few rains, thereby preventing increased runoff and reducing erosion. Furthermore, the crop residue from the yam vines and the left over stakes are left carelessly in the field especially by the children. This practices reduces the speed of runoff water.

Mulching: This is farm practice by Oyo state farmers and of their children. Mulching improves the chemical, physical and biological properties of the soil. It reduces erosion by protecting the soil against rain drop impact, and impedes the flow of runoff, thus reducing solid loss. Perhaps the greatest abuse of children here is the excess application of Mulch (27%).

Weeding: In weeding, hoes and cutlass are largely used by farmers. Hoeing is kept to the bearest minimum. The experience during this study is that even during hoeing operation the farmers of all ages shake the soils off the weeds and return them into the furrow at times turning the dead weed upside down. 32% of the farmers where children are actively involved suffered from erratic weeding.

Broadcasting: Planting methods of broadcasting of seeds and maintaining of numerous crops by farmers in Oyo state cover the land very fast and reduce the impact of rain splash on the soil.

Farmers' Cropping Techniques.

Land Preparation: There are two systems of land preparation among farmers of all age groups in Oyo state. First, forest land is cleared by slashing and burning of bush and shrubs and cutting trees, sometimes followed by destumping. Land clearing usually takes place during the early dry season (November to January). All operations are performed manually. After the lands are cleared, farmers make ridges or mounds using hand hoe. The field may be prepared as mounds, flat filled or zero tilled depending on soil type and drainage. The size of the mounds and the placement of crops on them is influenced by drainage. For instances, in areas with water logging, bigger mounds are made. Maize and legumes are planted on the side while yam or cocoyam or cassava is planted on top by the farmers in the state. In the following years, land preparation done by the farmer consists of ridging or heaping using hand labour. The old mounds are rebuilt or moved around. Ridges and mounds vary in size.

Mechanical – Land clearing involves the use of machines such as tractors and bulldozers.

Generally, this method does the greatest harm to the soil particularly if it is done over a long distance and without regard to the slope or undulating nature of the terrain. Generally, involvement of children in mechanical farming seems to be restricted to post mechanical activities of soil dressing and removal of stumps etc.

Farmers in the savanna part of the state usually prepare their land by slashing or burning grasses and shrubs before tilling the land manually. Farmers who have access to tractors prefer to have their land ploughed with the first rains. After the land is cleared and tilled or

ploughed by tractor, farmers prepare ridges or mounds. Participation of children and women in removing shrubs, broken sticks and final cleaning up of weeds was particularly note worthy in the study.

Planting is also done manually by farmers in Oyo state except on large-scale farms. Here, women and children participate heavily. Planting of early season crops normally starts after the first or second rain in march and can extend until May particularly for cassava. The second season planting takes place in August – September. Cutlass and hoe are the two basic hand tools for planting. The cutlass is used to make hole for planting maize and cassava. The hoe is used to dig and cover the soil for planting yam.

Crop Densities

The plant spacing and population of crops in mixed cropping plots on a typical farm plot in Oyo state shows that maize is planted at 90 – 110cm between rows and 50 – 90cm between plants in the row. Within 2-3 plants per stand this gives a population of 26,000 – 32,000 plants/ha. Cassava is planted at a lower plant population, 8,500 – 12,000 plants/ha.

Traditional cropping systems practiced in Oyo State by farmers are extremely complex resulting from the combination of root crops, tree crops, cereals, vegetables and other crops that are grown in combination on a normal subsistence farm. Multiple cropping is the predominant cropping system in Oyo State for both major staples and cash crops. According to a farmer during the field survey multiple cropping is an old technique of intensive farming that has persisted as a method of maximizing land productivity. The farmer maintained that the multi-canopy structure arising from multiple cropping provides continuos vegetative cover throughout the year, thereby protecting the soil against impact and reducing runoff and soil erosion. Somehow, children on the farm are aware of the merits of this cultural practice. They however tend to over do it with common crop mixture being about 3 on the average. Most of the children studied (65%) demonstrated total lack of benefit of organic matter accumulation on farm. To Agboola (1998), organic matter accumulation as a result of forest fallow increases with year and helps to restore farm nutrients, output and income.

Table 2: Effect of age of forest fallow on organic matter accumulation in Oyo State.

Soil Layer	1 yr	2 yrs	3 yrs	7 yrs	9 yrs	13 yrs
Top-soil (0.15cm)	1.02	1.00	2.21	3.41	5.42	5.78
Sub-soil (15-30cm)	0.09	1.06	1.06	1. 56.	1.91	1.90

Source: Agbola (1998).

Furthermore, problems confronting farmers in their farm operations are summarized in table 3. In declining order of importance they are lack of money, scarcity of labour, shortage of inputs, diseases, irregular or late rains, declining price of crops inadequate infrastructure and poor storage facilities. Understanding the intensity of these problems is important in promoting sustainable agriculture. This is largely because the environmental resources utilization behaviour of the farmer is determined by the intensity of these problems in their domain.

Table 3: Perceived Advantages derived from using plant residues on farms Oyo State by age groups.

	Advantages	% Farmers Indicating	Ranking	5 of Children Farmers	Ranking
1	Soil erosion control	6.00	7	10.00	4
2	Reduce water runoff	20.76	1	16.72	1
3	Nutrient Conservation	13.13	2	16.72	2
4	Maintenance of soil Organic matter	13.13	3	16.72	3
5	Improve soil activity	10.20	6	9.21	5
6	Reduce environmental impact	13.13	4	8.12	6
7	Weed suppression	13.13	5	5.12	7

Source: Field Survey Data, 1999.

Table 4: Perceived Problems Confronting Farms in Oyo state by age groups.

	Problems	% Farmers Indicating	Ranking	5 of Children Farmers	Ranking
1	Lack of Money	32.62	1	25.2	2
2	Declining price of crops	2.54	7	3.2	10
3	Rising cost of inputs	4.24	51	6.2	-
4	Scarcity of labour Diseases	30.10	2	28.5	1
5	Irregular or late rains	5.10	43	5.5	8
6	Shortage of inputs	4.23	6	3.5	9
7	Inadequate infrastructure	20.34	3	12.2	56
8	Shortage facilities	0.85	8	10.5	6
9	Scarcity of water	0.85	9	15.6	3
10		-	-	16.8	4

Source: Field Survey Data, 1999.

Livestock: Livestock raising is rampant in the State. Over the years, the Savannah region of the state has been known to be a very fertile area for profitable livestock development. Both the private and public engage in poultry.

The importance of poultry in household food security was emphasized by all the farmers studied. Fishing is also a major farm activity in the State. It is done by farmers of all ages at private level in constructing ponds, streams and rivers. There are also varying scales of fishing activities, large, medium and small scale. A major constraint reported by fishermen encountered in the study is increase in price of fish inputs especially since introduction of the Structural Adjustment Programme (SAP).

4.0 EFFECTS OF AGRICULTURAL PRODUCTION PRACTICES ON THE ENVIRONMENT

The balance between agricultural productivity and environmental sustainability is crucial in maintaining a nice agricultural environment and poverty dynamic and the search for agricultural development that meets the needs of the present without compromising future requirements. This section of the paper therefore examines the wide range of effects of agricultural production practices on the environment in Oyo State, Nigeria. It is important to stress that it has been difficult to separate environmental consequences that can be ascribed only to children from those of other members of the farming households. It is however believed that the roles of farm children largely tend to accentuate environmental problems and critically disturb the dynamics between agriculture – environment and poverty. This is largely because of non-adherance of children to proper farm cultural practices. Farm children not only farm on their parents' farm but majority own their own farms. What has therefore been done in this section is to present the case from the childrens' perspective.

4.1 Crop Production and the Environment.

State of crop production in relation to the environment is critical in guaranteeing food security, farmers yield, income and determining rural poverty now and in the future. There is also the need to gain insight into parameters of development that are foregone due to inadequate concern for the environment by all age groups in the farm.

A characteristic of crop production in Oyo State and as reflected in all the villages studied is that it is mostly rainfed agriculture. The relevant question here is, in Oyo State, which type of crop/seed varieties, tools and agro-chemical application will enable significant food production increases to be achieved on a sustainable basis in the word of World Food Program 1991?

In this study there are clear indications that children crop production practices in Oyo state have environmental consequences especially on soil erosion, forest preservation and water quality. Nature of environmental problems arising from overall agricultural production practices according to the children interviewed in Oyo State are summarized in table 5. In descending order erosion (45%), over grazing (17%), pollution (17%), fire outbreak (13%), flooding (12%), and deforestation (6%) represent environmental problems. Table 6 shows

that in critical areas of soil erosion, forest preservation and water quality, crop production practices have adverse effect on soil erosion most ranging from moderate/low effect to very high effect. Crop production practices also have effects on forest preservation and water quality in that order of magnitude as can be inferred from table 6.

Table 5: Nature of Environmental Problems

Nature of problem		%
Flooding		12(5)
Deforestation		6(7)
Erosion		9(6)
Overgrazing		17(2)
Fire-out break		13(4)
Pollution		17(3)
Soil degradation		35(1)
Total		100

Source: Field Survey, 1999.

Table 6: Possible Effects of Agricultural production Practices on the Environment in Oyo State.

Agricultural Activity	Element of the Environment	Effect					
		Low		High		Very High	
			%		%		%
1. Crop Production	Soil Erosion		6		24		14
	Forest Preservation		14		64		86
	Water Quality		50		12		-
			100		100		100
2. Livestock	Soil Erosion		50		16		-
	Forest Preservation		25		45		34
	Water Quality		25		39		66
			100		100		100
3. Fishing	Soil Erosion		33		50		-
	Forest Preservation		33		50		-
	Water Quality		34		-		100
			100		100		100

Source: Field, Survey 1999.

Perhaps an important observation on the field which farm children attested to is that generally farmers do not have access to sufficient quantity of inputs, such as seed, fertilizer and agro-chemicals while agriculture in Oyo State is still at its infancy with the hoe and cutlass type. Farmers are therefore largely

proned to degrade land, water and forest resources in crop production practices. There are misuse of fertilizer by men, women and children leading to ground and surface water contamination. Where fertilizer is used. it is averagely low (about 10kg/ha) implying that nutrient uptake by plant is higher than nutrients returned to the soil in the state, a major challenge to future sustainability of agricultural production. Furthermore, misuse of agro-chemical ultimately results in increasing insect and plant resistance to insecticides and herbicides. Use of agro-chemicals especially pesticides also has negative effect on human health. In the course of the field survey in this study, a farm child narrated his experience with pesticide use thus: "perhaps the most striking consequences of confirmed pesticide use is its capacity to create rather than control environmental problems with serious insect pests". For a number of reasons the natural enemies of insect pests, that is the predators, parasites and pathogens that limit their numbers naturally, are often more suitable to pesticides than the pests themselves.

Other environmental problems facilitated by agricultural production of farm children as are health related, direct disease transmission, vector borne diseases, limiting livestock raising, poor air quality, limiting of fishing activities, production of injurious chemical from plants, loss of fuel wood and destruction farm land. Social effects of agricultural production practices include change in land acquisition and disposal, change in occupational opportunities, influx of casual labourers enhanced condition for traders and artisans as well as influx of non-indigenes.

Farm children covered in this study practice agroforestry as a crop production practice either consciously or otherwise. Indeed, this was noticed in all the villages studied. Essentially, agroforestry involves the integration of trees/shrubs and sometimes animal husbandry in the farming system. It combines animal crop with herbaceous perennials or trees on the same farm. Environmental consequences of agroforestry consist of leguminous species which function to: increase soil matter, soil structural stability, water holding capacity, reduced erosion by increasing soil cover through leaf litter.

Livestock and the Environment: Sheep, goat, pigs, cattle as well as fowls are raised by farm children in Oyo State. Effects of livestock rearing on the environment seem to be more on forest preservation and water quality and less on soil erosion. Pig manure has a similar key role in maintaining soil fertility. Unguided grazing of animals especially cattle however continues to lead to loss of forest and crops. It is also a major source of rural conflict between arable and livestock farmers in the Savannah part of the State. Associated environmental problems are loss of crops, life and heightened migration. Effect of fishing on the environment include reduction in fish catch per effort, lowered water quality, flooding and soil erosion. A major environmental effect of agricultural production in Oyo State activities among farm children is its impact of farmer" health. Health related problems of agricultural production processes are infection (45%), pain (30%), tiredness (28%) and skin rashes.

Table 7: Type of Agricultural Production Practices that Affect the Environment in Oyo State.

	Environmental Factors	Type of Agricultural Production Practices		
				%
1.	Soil Erosion	1. Bush Burning 2. Cutting of Trees 3. Tilling of Soil 4. Others		18% 29(2) 42(1) 11(4)
	Total			100
2.	Forest Preservation	1. Bush Burning 2. Cutting of Trees 3. Tilling of Soil 4. Others		23(2) 47(1) 22(3) 8(4)
	Total			100
3.	Water Quality	1. Bush Burning 2. Cutting of Trees 3. Tilling of Soil 4. Others		23(2) 15(4) 23(3) 39(1)
	Total			100

Source: Field Survey, 1999

Table 8: Types of environmental Problems Facilitated by Agricultural Production Practices of farm children.

	Types of Environmental Problems		
			%
1.	Health		18(1)
2.	Vector borne diseases		4(9)
3.	Direct disease transmission		14(2)
4.	Production of Injurious Chemical		10(8)
5.	Loss of fuel wood		10(7)
6.	Destruction of farm land		10(6)
7.	Poor air quality		11(4)
8.	Limited fishing activities		11(5)
9.	Limited livestock raising		12(3)
	Total		100

Source: Field Survey, 1999.

( ) Figures in bracket are the rankings.

Among farmers in Oyo State and consequently their children, the scale of farm mechanization is low as majority rely on the hoe and cutlass technology. In the Savannah parts of the State however, some farmers who have access to tractor and its implements mechanize their farms. All the farm children interviewed believed that farm mechanization has negative impact on the environment. According to a farm child "farm mechanization speeds removal of top soil,

unnecessarily compact soil and speeds deforestation". Asked how he balances up the environmental consequences of farm mechanization on his farm, he said: I have a pool of compost which I usually spread on newly cleared land before ploughing is done. In this way I am guaranteed soil quality for my crops", he stressed. In Oyo State and Nigeria in general, the agricultural system is characterized by marked inefficiency in terms of market imperfection and inadequate storage, processing, and preservation facilities. (Adeyeye, 1986). Therefore, agricultural surplus and scarcity exist within the same cropping season. The environmental problem created by this include pile-up of solid waste materials, pollution, wastage of agricultural resources and loss of income. The problems of inefficient marketing and; poor storage and preservation techniques occur in urban, semi-urban and rural agricultural system in Oyo State. It is, therefore, not uncommon to notice that in cities such as Ibadan, height of solid waste management problem coincides with peak of agricultural production. A visit to Oje Market in Ibadan as soon as early maize comes from the farms readily confirms this.

Furthermore, because of poor storage facilities, food crops deteriorate but not without their environmental consequences such as air and water pollution as well as release of vector-borne diseases. A farm child in the course of the survey narrated how he watched his tomatoes wasting away as he could neither get ready market for them and nor money to transport them to urban markets.

Cassava processing continues to depict the effect of crude processing technique of agricultural produce on the environment. Farm children participate fully in cassava processing. Environmental problems resulting from crude cassava processing include worsening solid waste management problem, release of toxic materials into air and water pollution, a factor that has led to death of livestock especially sheep and goats. In the course of this survey, numerous visits were made to cassava processing sites such as Ojoo Barrack and near Green Spring in Ibadan. The women interviewed confirmed that children are active participants while some children are cassava processors in their own right. They also complained of skin rashes and enhanced occurrence of fever due to poor protection from touch of pulp cassava and heat during processing.

5.0 AREAS OF CONCERN IN AGRICULTURE-ENVIRONMENT POVERTY NEXUS.

Rural livelihood systems are essentially agricultural and agriculture is the main link between people (including their poverty level) and their environment. Some control will therefore be required to maintain the delicate balance between the three vexing problems of agricultural stagnation, severe environmental degradation and worsening rural poverty. In order to approximately position the control post, attempt has been made to characterize agricultural production process requiring standardization (as part of environmental impact assessment (EIA) in Oyo State Nigeria. So, a listing of agricultural activities that impact on the environment agriculture will be made.

As can be summarized from various observations and findings, agriculture (with special reference to children in agriculture) and the rural economy in Oyo State is characterized by being at its infancy, sub-optimal resources utilization, large dose of traditional and modern farm practices. Small-scale farmers who cultivate the land and produce more than 9 percent of marketed agriculture produce are typically poor. Therefore, in this study, there is strong apprehension that agricultural production as presently practiced is neither environmentally friendly nor sustainable. So, meeting the future objectives of the agricultural sector in the state in both near and distant future is laiden with doubt except some standards and guidelines are developed that will regulate farm operation now and in the future. In preparation for this obvious necessity, presented below are the list of agriculture practices among farmers in the State that impact on the environment.

List of environmental Impact of Agricultural Production Practices in Oyo State.

A. Human Environment:

1. **Health related:** Notable ones are: vector borne diseases, direct disease transmission e.g. skin rashes; and improvement/impaired nutrition.
2. **Socio-Economic:** These are impaired human activities, forced resettlements, migration, changes in economy in particular crop yield decline and use of energy (e.g. loss of fuel wood). In addition, there could also be sharp modification in land use pattern e.g. change in forest situation from forest to Savannah. Also, agriculture production can lead to impaired, recreation, transportation and communication (as exemplified by road blocks, telephone wire obstruction as a result of felling of trees during land clearing).

B. **Physical Environment:** Notable ones in Oyo State are sedimentation, change in water flow quantity, soil change, deforestation, and modification in groundwater quality and quantity. Others are river channel changes/blockage.

C. **Physical environment:** These are largely aquatic and terrestrial components of the environment. These in Oyo state take the form of reduced/lowered fish catch rate as well as flora and fauna status.

Table 9: Summary of Agricultural Production Practices, the Direction and Strength of their Impact on the Environment.

	Agricultural Activities	Direction of Impact on the Environment	Magnitude of the impact
1.	Tractor ploughing and Harrowing Compound farming	- - +	Strong Strong Week
2.	Bush falling	+	Weak
3.	Manual land clearing	+	Weak
4.	Chemical land clearing	+	Strong
5.	Controlled and burning	-	Weak
6.	Slashing and burning of bush	-	Strong
7.	Ridging	+	Strong
8.	Mono-cropping	-	Strong
9.	Multiple cropping	+	Strong
10.	Seed broadcasting	+	Weak
11.	Mulching	+	Strong
12.	Flat planting	+	Weak
13.	Agroforesty	+	Strong
14.	Agro-chemicals application pollution	-	Strong
15.	Irrigation	+	Weak
16.	Timber lumbering	-	Strong
17.	Search for fuel wood	-	Strong
18.	Animal grazing	-	Strong
19.	Livestock rearing	-	Weak
20.	Fishing activities	+	Weak
21.	Crop storage	+	Weak
22.	Crop processing	-	Weak
23.	Marketing imperfection	-	Weak

6.0 RECOMMENDATION AND CONCLUDING REMARKS

Attempt has been made in this paper to characterize children participation in agriculture environment – poverty nexus with empirical evidence from Oyo State. The major finding in this study is that crop production practices even among children have environmental consequences on soil erosion, forest preservation and water quality.

Nature of environmental problems arising from overall participation of farm children in agriculture in the state include, erosion, over grazing, pollution, fire outbreak, flooding and deforestation, among others. A major recommendation in the paper is the need for sustainable poverty reducing activities that is environmentally friendly and that is for all age groups. In order to safeguard agricultural-environment – poverty dynamic equilibrium, children farmer participation in agricultural production will require some regulations by

setting environmental standards and guidelines for their operations. Furthermore, Environmental Impact Assessment (EIA) will have to be treated as part of the agricultural project planning cycle. There is the urgent need to strengthen the environmental concern in agricultural extension package for farm children. Furthermore, moderating children participation in agriculture-environment-poverty nexus in Nigeria will benefit from broad actions and policies articulated below:

From the empirical, field experience and survey of literature, in this study, there are indications that development of environmental standards and guidelines in agricultural production is very necessary to preserve the three-nexing problems of concern in this paper. However, in thinking about the way out, it should be recognized that environment cannot be protected or conserved without finding acceptable means of livelihood for the people who use them. This is particularly true in fragile, rainfed areas of Oyo State, Nigeria, where poverty is a major force driving the degradation of many agricultural resources. We, therefore, propose EIA in agricultural production based on sustainable poverty – reducing agricultural intensification for Oyo State of Nigeria.

We also want to note that future food needs of people of all ages will be difficult in Oyo State and Nigeria in particular if there is a revert to low-input low-yield agricultural technologies. Indeed, continued increases in yield will be critical with limited possibilities for reducing dependence on water and fertilizer.

Furthermore, policy interventions that seek to overcome environmental problems in agriculture need to be based on a proper understanding of why farmers including children degrade natural resources. Why, for example, do farmers often seem to overgraze range land, deplete soil nutrients and organic matter, and overuse irrigation water, pesticides, and nitrogen when these actions cause health problems and reduce future incomes for themselves, their children, and the communities in which they live? Farmers of all ages degrade resources where there are good economic and social reasons for doing so. (When the benefits they obtain exceed the perceived cost that they, as individuals, must bear). If the management of natural resources under agricultural production that meet the needs of today and the future is to be in place, these economic and social incentives will need to be changed in appropriate ways.

According to Lurz (1993) several factors impinge on the incentive for managing the environment. They include: technology designs, poverty, property rights, externalities, costs of interventions and access to information about the condition of resources. Focusing on these factors provides a useful way of discussing the kind of changes needed to move towards environmentally sustainable agricultural development and upgrading the dynamic relationship between agriculture, environment and poverty.

We like to stress that conserving or improving natural resources often requires collective action by groups of users. Perhaps more compelling to safeguard the dynamic relationship between agriculture-environment and poverty is to make EIA part of the agricultural project planning cycle.

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CHILDREN IN AGRICULTURE: A REVIEW ON PESTICIDES AND SAFETY RISKS

BY
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ABSTRACT

Children can be found working in farms across countries of the world. While many children are traditionally employed in family enterprises, children also work in large-scale commercial plantations, as migrant farm workers, usually alongside the parents. Children can be found mixing, loading and applying pesticides, fertilizers and herbicides. Pesticides are of diverse chemical structures and composition, some are highly toxic and potentially carcinogenic. Usually, children often perform the tasks of pesticides application without any training or protective clothing and equipment.

Also, improper pesticides storage and disposal of empty containers often lead to intoxication and death, when children play with such containers. Exposure to pesticides pose considerably higher risks to children than adults as their development organ systems are more vulnerable than those of adults with the same level of exposure. Previous studies have linked pesticide exposure to an increased risk of cancer, neuropathy, neurobehavioural effects and immune system abnormalities. Such exposure can have other long-term adverse effects on children.

This paper thus highlights the various exposure routes to pesticide poisoning, the risks involved and the necessary preventive measures that can be taken to safe-guard our youths from occupational health hazards on firms.

INTRODUCTION

Farming is one of the oldest and most important occupation in existence. Unfortunately, it is also one of the most dangerous. And in Nigeia like most developing countries, there is lack of awareness of the need to protect the health and safety of farm workers. As a result, hundreds of innocent children are injured or killed in farms and ranches each year. These deaths and injuries should not be accepted as part of farm-life and it is important that farm related childhood injuries, health risks and fatalities should be prevented.

The objective of this write-up is to increase public awareness and understanding on the protection of farm children's health and well being with emphasis on the safe application of chemical pesticides.

Children at Work:

For several years, child labour has been viewed from mainly sociological, political and economic perspectives. However, very little information is available on the actual conditions under which farm-children work and about their health implication (ILO, 1988). Most children work in all societies in one way or another. And this work can be an essential part of children's education and a means of transmitting farm skills from parents to offsprings. However, the most powerful force driving rural children into hazardous farm work is the exploitation of poverty. And rural children as part of the agricultural processes are not treated as economic goods rather than society's future. In most cases, children are employed as unpaid labourers where only the head of the family is the employee but is paid according to the amount of fruits or vegetables that are turned in at the end of the day. And with more hands to help, the family makes more money.

Farm-related Injuries and the Working Children:

In the poor rural families, many of their children are ignorantly exposed to serious hazards. These may stem from the nature of the work involved or from poor working conditions. The most extensive literature concerning work-related injuries and intoxication of children is from agricultural occupations (IPCS, 1986).

Children are engaged in diverse agricultural tasks according to their age group. The main hazards which can be considered are machinery, biological and chemical exposures (Forasticri, 1987). In a mechanized agricultural system children are found working around corn loaders, grain augers, power-take offs and other large farm machinery. In the United States, 30% of the farm boys drive tractors from the age of nine and this can provoke serious injuries if the children are not well supervised.

In the developing countries, farm children can cut hay, cane and weeds by hand tools; herd and milk cows and goats, carry and lift heavy baskets and bags containing crops. Heavy lifting, carrying and prolonged stooping and bending affects the mesceelo-skeletal development of children.

Also, children suffer from more than adults do when exposed to agro-chemicals because they have little or no knowledge of preventive measures and because their nervous system is still in development and these children perform their tasks without any training or protective clothing. Therefore, children are frequently exposed to pesticide poisoning through their skin and respiratory routes. Children are also prone when they play with empty pesticide containers as they often stay with their parents on farms even if they are not working.

It is therefore important that research studies are carried out on the type of injuries, the risks and the necessary preventive measures to avoid pesticides poisoning in children.

CONCLUSION

The need for the promotion of occupational health safety in Agriculture cannot be over-emphasized. There should be increased public awareness and understanding of the hazards to children on farms. Also, children on farms should be provided with educational opportunities and resources to make the farm a safe place.

The most common cause of pesticides poisoning is through the skin and it is advisable that if children have to apply pesticides, they have to wear proper protective clothing with respirators, water-proof hat, goggles and boots.

Children should also be supervised by adults when they have to handle farm equipment and pesticides. In addition, children should be aware of early signs of pesticide poisoning and the necessary preventive measures. It is therefore important that the Children-in-Agricultural Programmes should include (among other things) research studies on the type of injuries to children on farms and the necessary preventive measures.

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EXTENSION ADMINISTRATIVE ORGANIZATION FOR CHILDREN – IN – AGRICULTURE PROGRAMME (C.I.A.P) IN NIGERIA.

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ABSTRACT

Young primary and secondary schools leavers who have been unable to further their educational careers often return to their villages with a sense of frustration and disappointment. This phenomenon necessitates that a well – supported out of school programme in agriculture should be designed for children of primary and secondary age. Such a programme should emphasize scientific knowledge application to agricultural production and encourage group and individual agricultural project undertaking among participants.

It is recommended that the Agricultural Development Programmes (A.D.Ps) in various states should form the administrative framework for the implementation of the Children-in-Agriculture Programme in Nigeria. This is due to the organizational superiority of the ADP over other recognized institutions for agricultural technology transfer. In addition to its grassroots orientation, the ADP has formal linkages with various agro-allied agencies through its components and sub-programmes. The Children – In – Agriculture Programme is to be organized at headquarters, zonal and block (local government) levels within the state ADPs.

INTRODUCTION:

The widespread popularity of formal education in Nigerian society has its own problems. It is unfortunate that primary and secondary school leavers who have been unable to further their educational career often return to their villages filled with disappointment and a sense of frustration. This is particularly the case when they are unable to secure any meaningful life trade. The reasons for the abrupt termination of their educational career could either be that they failed requisite examinations for higher institutions or that their parents are unable to meet up with the enhanced school fees. In either case they suddenly realize that their dreams of obtaining worthwhile employment in urban surroundings have disintegrated and are faced with the prospect of having to spend the rest of their lives toiling as poverty – stricken farmers.

There is, therefore, a need to design an out-of-school programme for children of primary and secondary school age on application of new methods and knowledge in agriculture that can increase returns obtainable from farming. Such a programme should encourage young people to undertake group agricultural projects that will be of profit to them as well as a demonstration of improved methods to the community. Recommended projects include seedling propagation, vegetable gardening/production, cassava processing, horticulture,

small-scale livestock and poultry keeping. Fortunately, young people are more receptive and adaptable than older people, which is an added reason why every effort should be made to develop their interest in modern agriculture. The Children-in-Agriculture programme should be made to emphasize that urban population is dependent on the farming community for its food and that farmers are, therefore, the most important people in the world.

The Children-in-Agriculture programme should aim at developing career interest in agriculture among the young ones through group and individual projects with technical and financial assistance from the government. Support should equally be sought from foreign agencies and NGOs. The overall value of the programme should include the development of technical and management skills in specific projects, the inculcation of spirit of cooperation and citizenship as well as a willingness to work for the betterment of the community.

2.0 EXTENSION ADMINISTRATIVE ORGANIZATION:

Among the three institutions of technological transfer in agriculture – The Ministry of Agriculture, Local Government Department of Agriculture and the Agricultural Development Programme (ADP), studies have proved that the ADP is both structurally and administratively superior to the former two. ADP is, therefore, recommended as the most suitable extension framework for effective implementation of Children-in-Agriculture Programme (Children – In – Agriculture Programme) in Nigeria. In a study on Institutional Framework for Transfer of Agricultural Technology, Obibuaku and Madukwe (1990) observed that in addition to structural and other defects, the Ministry of Agriculture seems to have lost the drive to pursue its assigned extension functions. They also opined that the Local Government is originally the weakest of the three institutions. In contrast to others, they observed that the ADP is structurally and administratively well aligned for effective prosecution of extension work. One of the most impressive aspects of the ADP is its grassroots orientation. Moreover, the ADP has formal linkage with various agro-allied agencies through its components and sub-programme. Apart from the Extension sub-programme that is responsible for diffusion of improved agricultural practices to farmers, the Rural Institutions Development sub-programme (RID) maintains formal linkage between ADP clientele group and farm input and credit institutions. The technical services sub-programme, on the other hand, maintains institutional linkage with universities and research stations.

It is recommended that the organizational structure of the Children-in-Agriculture programme in the Agricultural Development Programmes (ADPs) should be as described hereunder.

2.1 Headquarters (ADP Hqrs):

Children – In – Agriculture Programme should be a component in the Extension Sub-programme of the Agricultural Development Programmes. The Head of Children – In – Agriculture Programme should occupy the position of Deputy Director of Extension.

4.0 Zones (ADP zonal offices):

It is recommended that a Zonal Coordinator of Children – In – Agriculture Programme should be appointed to coordinate Children – In – Agriculture Programme activities and projects at zonal level.

4.1 Blocks/Local Governments:

The frontline staff should be Children – In – Agriculture Agents. They should provide technical and organizational assistance to Children – In – Agriculture Programme participants. Children – In – Agriculture Programme agents organize participants' projects and other activities in communities within their blocks. Blocks operate along local government geographical boundaries.

3.0 **LINKAGES:**

implementation of Children – In – Agriculture Programme, there is obvious need to establish two important linkages, namely agricultural/development institutional linkages and formal educational linkages. These linkages are necessary in order to avoid isolating the programme from the real facts of the local situation such as agricultural activities of the people, their custom, settlement pattern and organizations and agencies operating within the area. This will aid in ensuring healthy and cordial relationship among Children – In – Agriculture Programme operators and other existing social systems.

3.1 **Agriculture/Development Institutional Linkages:**

The Children – In – Agriculture Programme component should maintain mutual linkages with other components and sub-programmes in the ADP. This ensures close liaison between the Children – In – Agriculture Programme and other agricultural institutions through other sub-programmes and components of the ADP. Extension model forthe Children – In – Agriculture Programme may be faulty if it is concerned with the process of education and training and paying insufficient attention to the creation of favourable conditions (example, credit, supplies, markets and prices) necessary to encourage Children – In – Agriculture Programme participants reap the full benefit of the programme.

3.2 **Formal Educational Linkages:**

Educational systems in developing countries typically neglect agriculture at all levels. For instance, primary school curricula are urban-oriented even in rural areas. School gardens designed to give students experience with simple farm technology are often so poorly managed that they reinforce negative attitudes towards agriculture as a low status occupation. In some instances, working in the school garden has been used as a form of punishment (Zuvekas,

1979). Since many students especially those who do not go beyond primary level will end up working in agriculture, the failure to acquaint them with better techniques of farming represents a lost opportunity to make a productive investment on human capital.

It is, therefore, opined that a formal linkage should be established between formal leducational institutions and the C.I.A.P.

Linkage should be aimed at reinforcing agricultural teaching in schools, especially in practical work and demonstration in standard farm management and practices. Agricultural science teachers should attend FNT's and other relevant workshops and conferences to keep them abreast of developments in modern agricultural technology and practices. Agricultural sciences curriculum in primary and secondary schools should be reviewed to make them relevant to today's realities of making agriclture a way of earning a comfortable living for those who could not go beyond these levels of education.

This linkage is equally important since agricultural science is a compulsory subject in the primary and secondary levels, to ensure that government intention of giving every Nigerian child a good knowledge in agriculture is fully met.

CONCLUSION:

There is indication that the present trends in formal educational institution cannot achieve the desired result of attracting the interest of the youth to agriculture as a respectable means of earning a living. Inspite of the favourable government policies on agricultural education in primary and secondary levels (making the agricultural science compulsory subject) students and pupils still look down on agriculture as a career. This situation really calls for alternative measure and hence the imperative of C.I.A.P., the ADP system has been identified as the institution that provides the required administrative framework for C.I.A.P. programme implementation. It is therefore recommended that C.I.A.P. should be made a component in the Extension sub-programme of ADPs and headed by the DDOE.

To enhance C.I.A.P. performance and effectiveness, there is need for the programme to establish operational linkages with other governmental and non-governmental organizations. If these measures are taken, C.I.A.P. will go a long way to restore the glorious position of agriculture and ensure sustainable agricultural development in Nigeria.

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SUSTAINING THE INTEREST OF CHILDREN-IN AGRICULTURE THROUGH THE USE OF EFFECTIVE COMMUNICATION STRATEGY IN EBONYI STATE

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ABSTRACT

The need to achieve sustainable self-sufficiency in food and agricultural production and a total eradication of hunger and poverty by the next millennium has become a matter of global challenge, particularly in the face of the growing world population. School farms that were made to be demonstration farms for students have now been converted to punishment centres where late comers, truants and violators of school rules and regulations are given portions to work on. The main objective of this study therefore is to identify how the interest of school children in agriculture could be aroused and sustained by the use of effective communication systems.

The study was undertaken in Ebonyi State where the inhabitants including youths are predominantly farmers and from where there is the expectation that future farmers would emerge due to the availability of the factors of production. A total of two hundred senior secondary school students were chosen from the twenty secondary schools sampled from the thirteen local government areas in the State. Questionnaires were used to elicit information from the respondents. The data collected were analyzed using descriptive statistics and likert scale.

The results of the study revealed that the students are both males (66%) and females (34%). The result also showed that majority (65%) of the students fell within the age bracket of 15-18 years, again, majority of the respondents' parents were farmers. The students showed moderate interest in agriculture and offer agriculture in school as a subject but are not interested as much in taking agriculture as a profession after their schooling though they revealed that if agriculture is mechanized, improved agricultural inputs made available and most importantly if good and effective communication systems such as demonstration and audio-visual system are used to teach them agriculture, their interest will be improved and sustained.

INTRODUCTION

The need to achieve sustainable self-sufficiency in food and agricultural production and a total eradication of hunger and poverty by the next millennium has become a matter of global challenge, particularly in the face of the growing world population. For instance, in the sub-Sahara African (including Nigeria) it has been estimated that even if annual population growth rate were to stabilize at

25 percent, the demand for agricultural products in the year 2025 would be three-fold greater than it was in 1990 (Nigerian Agriculture, 1999).

This is an enormous challenge, not only a task before the government, but also for the generality of the people. Indeed, FAO recognizes the salient fact that under a conducive atmosphere coupled with the required incentives, the youth of the world in their vibrance, brain and brawn have immeasurable potentials to meet the challenge of the world's future needs in food and agricultural production.

Intensified agricultural education using effective communication strategy at all levels should be inculcated in the youth, giving them the necessary support and encouragement to arouse and sustain their interests in the farming business. The hope for the future of agriculture in Nigeria lies in developing and sustaining the interest of our youths in taking up agriculture as a future career. This is better done at the adolescent stage when youths form and develop attitudes, interest and personality. Once the right and favourable attitude and interest are developed, it will carry then a long way in their life career.

The Federal government of Nigeria has embarked on relevant steps at exploring the potentials of the Nigerian youth in food and agriculture. As a matter of fact, the efforts to mobilize the youth and the elites in the society towards the development of a renewed interest in agriculture and agricultural investments have been inconsistent over the years. The young farmers' club in the nation's schools has become moribund and need to be resuscitated. To leave agriculture in the hands of the illiterate and old people alone cannot solve the problem of starvation and economic redundancy in the country.

School farms across the country are made to be seen as punishment centres where late comers and truants are given portions to clear. Such farms are supposed to be demonstration farms if properly used but they are abused and are seen as places meant for the violators of school rules and regulations. This practice undoubtedly, kills the interest of the young ones who would have succeeded the aging farmers. Therefore, the need to re-focus on agriculture by sustaining the interest of the youths in agriculture through the use of effective communication strategy has become more urgent now than ever before.

Rogers, (1973) defined communication as the process by which an idea is transferred from the source to a receiver with the intent to change his/her behaviour. This definition is very pertinent for the purpose and the use of communication in enhancing and sustaining the interest of youths in agriculture.

Okereke, (1983) further stressed that effective communication is one which results in intended behaviour of the receiver, and gave three main types of communication effects as follows:

(i) Changes in receiver's knowledge.
(ii) Changes in receiver's attitude, e.g. interest in agricultural activities.
(iii) Changes in receiver's overt behavour, e.g. continuing with agriculture as a profession.

Uzoigwe, (1995) opined that communication systems such as demonstration and use of audio-visuals are effective ways of communicating

agricultural innovations to small-scale farmers. The roles played by the use of effective communication systems in enhancing and sustaining the interest of youths in agriculture cannot be over-emphasized.

THE OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

(a) To identify those socio-economic characteristics that affect the interest of the children-in-agriculture.

(b) To determine the level of the children's interest in taking up farming as a profession.

(c) To determine the effectiveness of the communication methods used in teaching the children agricultural activity in their various schools.

(d) To identify the type of communication method that is more suitable and to be used in order to enhance the interest of the children-in-agriculture.

METHODOLOGY

This study was undertaken in Ebonyi State of Nigeria. Ebonyi State is located on logitude 8^{O} 20'E and latitude 6^{0} 30'N. It is bounded on the North byBenue State, East by Abia State, West by Enugu State, and South by Cross River State. It is found on the guinea savana low land of Nigeria. The people of Ebonyi State are predominantly small-holder farmers with men, women and youths participating actively in farming activities. The major agricultural produce in the State are Yam, Rice, Cassava, Maize, Cocoyam and assorted Vegetables. They also keep cattle, sheep, goat, and poultry.

Ebonyi State consists of thirteen local government areas with numerous secondary schools from which the sample was drawn. A multi-stage sampling technique was used to select a total of two hundred student respondents from twenty sampled secondary schools. Questionnaire was used to elicit relevant information from the students.

The data were analyzed with descriptive statistics and likert scale.

Communication Methods Used in Schools

To determine the effectiveness of the communication strategies used, a 4 point likert scale was used as follows:

Very Effective (VE)	=	4
Effective (E)	=	3
Ineffective (I)	=	2
Very Ineffective (VI)	=	1
Total (I)	=	10

In order to determine the cut-off point the mean of the values assigned to the scale items was found using the formular:

$$\overline{X} = \frac{x}{n} \quad \text{ie} \quad \overline{x} = \frac{10}{4} \quad 2.50$$

A class interval of 0.05 was added to obtain the upper-limit of the mean, ie. 2.5 + 0.05 = 2.55.

Any mean up to 2.55 or above was regarded, as effective while any mean below 2.55 is ineffective.

The level of interest of agriculture was also sought by using a 5-point scale:

Very interested	-	5		
Interested	-	4	=	$\frac{15}{5}$ = 3.00
Undecided	-	3		
Fairly interested	-	2		
Not interested	-	1		

The cut-off point was regarded to be 3.05. Any mean score above 3.05 was regard to be highly interested while any mean below it was not interested.

RESULTS AND DISCUSSION

(a) - Socio-economic Characteristic of the Students:

Table 1 (see appendix 1) shows the distribution of the respondents according to their age, sex, and parents' occupation. The table reveals that 66 percent of the students were males, while 34 percent were females. In this part of the country, agriculture is predominantly regarded as males' activity and this is reflected in this study. Perhaps, the drudgery which still characterizes agriculture could be a disincentive to the girls who are generally considered to be the weaker sex. Efforts should be geared up towards making the subject adaptive and attractive to the young girls who, no doubt, have enormous role to play in food production when they grow up.

Table 1 also show that majority of the students (65%) fall within the age bracket of 15-18 years some (26%) were between 19-21 years, while few (09%) were between 22-24 years.

The age-bracket of 16-19 years are very crucial in human development because this is the age when some measures of independence is conceded to the child and they begin to chart a course for themselves. In effect, efforts should be made to ensure that the students who opt for agriculture as a subject have the right orientation and enabling environment to sustain their interest in the profession in future.

Majority (69%) of the students interviewed indicated that their fathers were farmers. The remaining parents were either traders (22%) or civil servants (09%). The mothers' occupation showed many (42%) as traders few (04%) as civil servants and the remaining majority (54%) as farmers. This agrees with the earlier claim that the people in the study area are predominantly farmers. It is therefore, expected that students whose parents are farmers would have some agricultural background and interest which should be sustained by the use of effective communication

strategies among other things to sustain their interest in agriculture for them to be able to take over from their aging parent farmers.

(b) Interest of Students towards Agriculture as a Profession:

Measurement of students' attitude (interest) towards agriculture as a profession is very crucial at this point. This is because it is necessary to determine whether the students have interest towards farming at all before identifying how to sustain the interest.

Table 2 (see appendix 2) shows that when the students were asked whether they liked agriculture (farming) majority (90%) claimed they like it while (10%) did not like it. Incidentally, all the respondents offer agriculture as a subject but only 77 percent of the students accepted to take it as a profession while the remaining 23 percent did not accept to take to agriculture as a profession when they finish their academic attainment in school.

The students' level of interest in agriculture was further sought for using a 5 point likert scale with 3.05 as cut-off point. (Very interested = 5), Interested = 4, Undecided = 3, Fairly Interested = 2 and Not Interested = 1). Any mean score above 3.05 indicates interested. The analysis revealed that though the students indicated interest in agriculture, their level of interest is not as high as to make them pick it up as a profession after their school career, (Table 2b).

Table 3 (appendix 3) shows the analysis of the problems they encounter in farm work that lower their interest in agriculture. The students indicated the followings as the major problems militating against their interest in farming.

(1) Tediousness of the farm work probably as a result of lack of improved technology and most importantly, Lack of good teaching methods during practical agriculture (such as demonstration method, field trip, agricultural show etc).

Table 3 also shows where the students suggested that if good teaching methods were used to teach them, using improved varieties and implements, their interest would be enhanced. They also suggested that agricultural science students should be given scholarships.

CONCLUSION AND IMPLICATION

The use of effective communication strategy to impart agricultural knowledge to the school children is very important. The strategy enhances the children's level of awareness and understanding of the issues associated with agriculture.

This will equally enable the children to channel their creative energies positively towards agriculture. Majority of the students offer agriculture as a subject. Many of them are young and are in the position to be motivated to take up agriculture as a profession by enhancing their interest in the subject matter through the use of appropriate teaching methods. At present, the story is different in secondary schools as indicated in the study. Agriculture is still largely taught as a theoretical subject. Students describe their training as that of mere observations and lecture rather than demonstration. This was discovered to result from lack of practical equipment and their operating cost may be generally high. Agriculture is a practical course and is not supposed to be taught only in the classroom. There are supposed to be demonstration classes, field trips, the use of audio-visuals, attendance at Agriculture shows etc.

These communication strategies invariably will enhance and sustain the interest of Agricultural Science students in embarking on agricultural activities beyond their school period.

It is therefore very imperative, that students should be practically involved in agricultural activities during their school careers.

Practical involvement as indicated by the study area include exposing them to field strips, agric. shows, the use of Audio-visuals to teach them and finally, making available improved varieties and implements which will be used in agricultural demonstration. No doubt, when effective communication methods are employed in teaching agricultural science in schools, students that have just cursory interests in agriculture should have the opportunity of improving on that condition while those that already have some measure of positive inclinations should be encouraged to deepen their interests and in fact, sustain them. This is a very important way of ensuring qualitative agriculture labour, which is very crucial to agricultural development, and by extension, total economic development.

APPENDICES

Table 1

Appendix 1

Socio-economic characteristics of the respondents

SEX	NO		PECENTAGE
Male	132		66
Female	68		34
	200		100%
Age (Years)			
15-18	130		65
19-21	52		26
22-24	18		9
Total	200		100%
Occupation of Parents			
Trading	Father	44	22
	Mother	84	42
C/Servant	Father	18	09
	Mother	08	04
Farming	Father	138	69
	Mother	108	54
Total		200	100

Appendix 2

Table 2 (a) Interest of Students towards Agriculture

	Yes		No	
	Yes	%	No	%
Do you like farming	180	90	20	10
Do you offer Agric in School	200	100	00	00
Would you take agric as a profession	154	77	46	23

Level of Interest of Students in agriculture:

Table 2b – Distribution of Students by their level of interest in agriculture:

Level of Interest	Mean Score	Decision
Interested in agriculture as to take it up as a profession	3.01	Not Interested

Appendix 3

Table 3 – Factors that inhibit interest of respondents in agriculture:

Factors	No	%
Poor technology	200	100
Tediousness of the work	200	100
Lack of good teaching method (Communication strategy)	200	100
Poor standard of living of their parents	190	95

Factors that would enhance the interest of the respondents in agriculture:

Factors	No	%
Improved technology	180	90
Farm mechanization	140	70
Availability of improved variety	190	95
Improved teaching methods	200	100
Award of scholarship to agric students	140	70

Table 4

Distribution of respondent by their percentage on the effectiveness of the communication system:

Communication System	Means Score	Decision
Lecture Method	2.42	Not effective
Demonstration	3.93	Effective
Field-trip	3.87	Effective
Television	3.85	Effective
Radio	2.12	Not effective
Role playing	3.11	Effective
Agric. Show	3.52	Effective
Excursion's	3.70	Effective
Magazines	2.31	Not effective
Handouts	2.27	Not effective

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ATTITUDE OF RURAL CHILDREN IN AGRICULTURE: A CASE OF IKWUANO L.G.A. OF ABIA STATE

BY

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ABSTRACT

Agriculture was introduced into the primary and post primary school curriculum with the objective of stimulating interest, developing and acquiring basic skills and knowledge in agriculture (FME, S&T 1985). The main objective of this study was to find out the attitude of children in Agriculture. One hundred and twenty schools and non-school children were drawn from six schools through random sampling technique and non-school by purposive sampling technique in Ikwuano LGA of Abia State. Data were collected by use of structured interview schedules and analyzed by means of simple descriptive statistics. Major findings were that children are interested and participate significantly in agriculture. Weekends and evening periods are the most time they work. All the schools engage in farming and the children do not benefit from proceeds from school farms. It was recommended that Extension programme should integrate children. Components of Agricultural education curriculum should include classroom and laboratory instruction, supervised occupational experience and leadership development through youth organization such as CIAP club among others.

INTRODUCTION:

Agriculture has contributed greatly to the general economic stability of Nigeria and various governments have continued to encourage agriculture through various programmes. Currently, about 70% of the Nigeria workforce are employed in agriculture (Njoku 1999). Nigerian agricultural structure is composed of the small holder farms and the middle scale farms. From the structure, it is evident that the family small scale farm which employs over 82% of all agricultural workforce and produced about 85% of Nigeria food supply is the backbone of Nigeria agriculture. Out-migration of young and often literate pupils has been a problem affecting this structure. As a result, elderly men and women, as well as children have become the dominant agricultural workforce (Njoku 1999).

The dominance of elderly men and women in agricultural production in Nigeria constrains agricultural output and productivity in a variety of ways. Coupled with age, elderly men and women are also constrained by low literacy levels. Old age and low literacy levels lead to lack of enterpreneurship. Old age and illiteracy imply low level of investment and inability to utilize or apply the

result of science and technology to agriculture. Because women maybe in their child bearing and rearing period and may also engage in other household non-agricultural task, social religions and cultural activities, their predominance in agricultural production in addition reduces the number of man hours available to agriculture. According to Torimiro (1998) cited in Akubuilo (1999) there is no specific programme for rural children participating in farming activities.

In the light of the foregoing, the need for children participation in agriculture cannot be overemphasized. Children in agriculture can overcome the constraints due to old age and illiteracy child bearing and rearing. Children with higher literacy levels can bring the entrepreneurial spirit into agriculture. Entrepreneurship implies risk bearing and a desire, willingness and ability to take necessary measures to improve output and productivity. This implies a positive attitude towards the adoption and use of new agricultural technologies, such as high yielding, disease resistant crop varieties and breeds of livestock. Children in agriculture can be the springboards needed for vertical integration in the agricultural sector.

This paper sets out to find out the attitude/participation of children in agriculture in Ikwuano L.G.A. of Abia State.

2. METHODOLOGY:

The study was conducted in Ikwuano Local Government Area of Abia State. The choice of the area was primarily based on its relatively rural set up and the active participation of the people in Agriculture and secondly its proximity to the researcher's residence.

RESULTS AND DISCUSSION:

1.1 Personal Characteristics of Responents:

One basic assumption of this study is that some children characteristics do have some influence on the attitude of the children in agriculture. Entries in Table 1 show that majority (47%) of the children were between the ages of 12 and 15 years. 36% were 8 to 12 while 17% were 16 to 18 years. About 43.3% of the respondents were in JSS 1-3, 29.2% in primary 3 to 6, 16.7% non-school and 10.8% were in SS 1-3. About 54.2% were females while 45.8% were males. This implies that majority of the farm work force were in the age bracket of 13 to 15 years and are in JSS 1 to 3 and are mostly females.

1.2 Attitude/Participation/Interest in Agriculture:

Almost all the respondents (88%) showed positive interest in agriculture. According to table 2, 79.1% of the children engage in farm work both at school and home and 20.8% do not due to the fact that their parents are civil servants who have no farmland. Among those who participate in agriculture 46.6% go for farming mostly in the evenings, 26.6% in the morning and 26.6% both morning and evening about 70% of them work on weekend and holidays while 30% work on other days. In terms of farm labour (jobs) 58.3% do engage to supplement the family income (Torimiro (1997) cited in Akubuilo (1999) and pay their school

fees for those training themselves also 57.5% go for farm labour exchange among friends and families. Some of the non-school children own their plots of land and area of involvement of the children include production (land clearing, harvesting, processing, marketing and storage of farm products and the main crop they produced include cassava, yam, maize, cocoa, kolanut, oil palm, citrus crops and breeds of animals. Despite the fact that all the school children participate in school farming, they do not benefit from the proceeds 98% of them confessed. The implication of these findings is that children have a positive attitude towards farming. They only need to be motivated.

RECOMMENDATIONS:

- CIAP should be integrated into the ADP/extension system at state levels.
- Practical agriculture should be made compulsory in all primary and post-primary institutions in Nigeria.
- Components of effective agricultural education curriculum should include classroom and laboratory instructions, supervised occupational experience (SOE) and leadership development through youth organization.

  These three must be harmonized for a well-rounded agricultural education programme (Olaitan and Uwadiae, 1993).

  The drudgery in agriculture need to be reduced through mechanization of the very tedious aspects of agriculture (e.g. land clearing).
- Rural life should be made more exciting through provision of social amenities. Programmes should also be designed to accommodate the army of non-school children in the rural areas who have the intention of migrating into the urban cities.

CONCLUSION:

The need to revitalize agriculture in Nigeria is critical to national stability and development. In future, agriculture will continue to be a major contributor to national economy (Njoku, 1999). The dominance of elderly men and women in agricultural production in Nigeria militated against agricultural output and productivity in a variety of ways. Therefore, effort should be geared towards integrating school and non-school children in our rural areas into extension provision. Any effort consciously made to sensitize Nigerian children and enkindle in them love for agriculture will be a worthy investment in the future of the nation.

Nigeria has potentials for human and material development. What remains is for us to properly coordinate and channel our efforts in order to improve the socio-economic conditions of the rural poor.

Table 1:
Personal characteristics of respondents:

Age	Frequency	Percentage
8-12	44	36
13-15	56	47
16-18	20	17
Total	120	100

Sex	Frequency	Percentage
Male	55	45.8
Female	65	54.2
Total	120	100

Level	Frequency	Percentage
Primary 3-6	35	29.2
JSS 1-3	52	43.3
SS 1-3	13	10.8
Non-School	20	16.8
Total	120	100

SOURCE: Survey Data.

Table 2
Attitude/Interest/Participation of Respondents in Agriculture:

Interested	Frequency	Percentage
Yes	106	88.3
No	14	11.7
Total	120	100

Participation	Frequency	Percentage
Yes	95	79.1
No	25	41.6
Total	120	100

Going for hired labour	Frequency	Percentage
Yes	70	58.3
No	50	41.6
Total	120	100

Exchange of labour	Frequency	Percentage
Yes	69	57.5
No	51	42.5
Total	120	100

Time/period of farming	Frequency	Percentage
Morning	32	26.7

Evening	56	46.7
Both	32	26.6
Total	120	100

Days for work	Frequency	Percentage
Weekend/Holidays	84	70
Other days	24	30
Total	120	100

SOURCE: Survey Data

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RE-APPEARANCE OF GUINEA WORM IN OGUN STATE: A SERIOUS CONCERN FOR THE DEVELOPMENT OF CHILDREN-IN-AGRICULTURE PROGRAMME

BY

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ABSTRACT

In 1986 when the Ogun State Agricultural Development Programme (OGADEP) was launched, the epidemiological map of Ogun State revealed the presence of guinea worm (Dracunculiasis) in many rural areas.
This was confirmed when agricultural extensioners got to the field and found that many farmers (male, female, young and old) were infected with guinea worm mostly on their legs and rendered their locomotion and ability to farm impossible. When extensioners were preaching improved agricultural technologies to the farmers, the farmers were looking for how they would be cured of guinea worm. This posed the farmers' immediate need at variance with the extensioners' objective. The World Bank (WB) with 66% contribution to OGADEP between February 4, 1986 and June 30, 1995 included the provision of alternate water source for the affected communities.

A four-year (1991 – 1994) programme was put in place by UNICEF and WHO to support WB effort at eradicating guinea worm in Ogun State. Between 1995-1999 no Ogun State farmer was reported to be suffering from guinea worm and this gave extensioners the impression of total eradication. However, by March, 2000, OGADEP Extensioners have observed the second coming of guinea worm infecting our farmers in some villages.

The implication of this development is that more and more farmers may become incapacitated by guinea worm infection year-in-year-out to the detriment of Children-In-Agriculture in Ogun State.

The objective of this paper is three-fold:

- to identify affected communities for urgent attention by Local Government Areas, Ogun State Government, Federal Government, the World Bank, UNICEF and WHO to come to the aid of the farmers.
- to re-educate the populace on using a participatory approach, the causes of guinea worm, control and prevention.
- to alert other 36 states of the Federation of possible simultaneous infestation.

INTRODUCTION

Guinea worm (Dracunculiasis) is an age-long debilitating and incapacitating water disease. It is transmitted by drinking contaminated water.

Silverfine, E, Brieger, W, Churchill, A. (1991) noted that guinea worm disease is the only water-based disease that can be entirely prevented through education and improvement of drinking water supplies. Guinea worms enter the human body when people drink water containing copepods, barely visible shrimplike crustaceans, infected with guinea worm larvae.

When the copepods, also known as "water fleas" are killed by gastric juices in the stomach, Guinea worm larvae are released. The larvae move to the small intestine, penetrate the intestinal wall, and migrate to the abdominal muscles where they begin maturing in connective tissue. Male and female worms mate about three months after ingestion. After eight months the adult female worm which grows to 30-90cm long by less than 5/16 cm, usually moves to the lower limbs.

Within an average of one year (9-14 months) after a person is infected, the Guinea worm is ready to emerge and emit larvae. The worm migrates to the tissues just under the skin and secretes a toxic substance that produces a painful blister. Infected people frequently try to relieve the burning sensation caused by the blister by immersing it in water.

Contact with water causes the worm's uterus to rupture and stimulates the worm to expel larvae into the water. The process is repeated intermittently over several weeks.

According to Silverfine, et al (1991), each female worm releases about one million microscopic first-stage larvae into the water.

The larvae can remain active for up to five days in standing water, where they die unless they are ingested by copepodsa. Inside a copepod, the larvae develop into their infective third stage in 10-14 days.

First-stage larvae swallowed directly by humans do not develop further and are probably killed immediately by gastric juices.

Seasonality is an important part of the epidemiology of guinea worm disease.

Transmission occurs only under certain climatic conditions and varies according to the local rainfall pattern.

In very dry areas such as the Sahel of West Africa, transmission generally is limited to the few months during the rainy season when surface sources of drinking water become available. Because of guinea worm disease's year-long incubation, infections become apparent during the same period a year later.

In Ogun State, guinea worm is most evident and is transmitted during the dry season when surface water sources are shallow. This period coincides with the time our farmers prepare their land for the early planting season. Children involvement in land preparation is also prominent since most schools will be on break at this time.

Now that dry season farming is being encouraged and getting popular, these farmers run the risk of getting incapacitated at this time of high peak of farming and non-farming activities.

Guinea worm infection which is apparent during the dry season runs into early planting period where farmers who are late to get their infection may not

be able to plant if they have prepared their land. Those farmers who have escaped earlier infection in the early part of the dry season, and who have managed to prepare their lands and plant their crops may not be able to weed their farms when infected by guinea worm later.

OGADEP extensioners had this experience at her inception in 1986 when many farmers were incapacitated by guinea worm infection at the time extensioners were aggressively ready to disseminate new and proven agricultural technologies to the farmers. The farmers' saying then was "We need your help on relief from guinea worm infection before we can adopt your agricultural technologies."

HISTORICAL BACKGROUND OF DRACUNCULIASIS IN OGUN STATE

Dracunculiasis has afflicted Ogun State farmers, their wives and children involved in Agriculture for centuries. For a long time, it was seen as part of the lives of the farmers who live in rural areas.

Onabamiro (1950-1956) conducted preliminary work on Dracunculiasis in Ogun State which was then a part of Western Region of Nigeria.

In January 198, an outbreak of Dracunculiasis was reported in Yobo village in the then Ifo/Ota LGA. Yet in March 1981, was another reported outbreak from Ajambata and Pelu villages, both in the Obafemi-Awode LGA. The outbreak was put under control by the Ogun State Ministry of Health who swiftly drafted health workers to treat infected farmers, treat the water sources and educate the populace.

Ogun State data in conjunction with those from other states provided useful information presented at an International Workshop on Dracunculiasis held in Washington D.C. by March, 1982.

Reports of guinea worm affliction also came from Apoje, Ifelodun, Ilaro and Idarapo to the Ministry of Health at this time.

By March, 1985, the first National Conference on Dracunculiasis was held at Ilorin, Kwara State where Ogun State Experience was presented. The aftermath of the conference was the launching of an awareness campaign on Guinea Worm/Schistosomiasis by the Ogun State Health Planning Unit.

By 1986 when the Ogun State Agricultural Development Programme extensioners got to rural areas to assist farmers at improving their productivity and income in farming and non-farming activities, many farmers (male, female, young and old) were infected with dracunculiasis mostly on the lower parts of their legs. The infection rendered the farmers' locomotion and ability to farm or engage in any productive activity impossible.

The World Bank with 66% contribution to OGADEP between February 4, 1986 and June 30, 1995, suggested the inclusion of Mini-water Scheme to OGADEP activities for the provision of alternate water sources for the affected communities.

To date, fifty five (55) hand dug wells have been completed by OGADEP to provide alternate water supply to farmers in fifty five small villages. See Table 1.

Similarly, twenty three (23) bore holes have also been completed by OGADEP to provide alternate water supply to farmers in twenty three large rural communities. Table II.

By October 1987, Ogun State had started negotiations with the Africa Health Consultancy Services on eradication of Dracunculiasis. Ogun State benefitted from USAID-funded Water for Sanitation and Health Project (WASH) to pretest guinea worm module in Nigeria in 1987 where Obafemi-Owode Local Government was chosen as a pretest area.

By February, 1988 the Ogun State Guinea Worm Task Force was formed in response to a letter from Prof. O. Kale. The Ogun State Agricultural Development Programme (OGADEP) the agency responsible for the dissemination of agricultural technologies to farmers and Children-In-Agriculture was represented by Mr. A.T. Fasasi on the Task Force.

In March 1988, the Ogun State Guinea Worm Task Force carried out a passive search of guinea worm.

The Ogun State Hon. Commissioner for Health presented the report from the search to the Minister for Health on the visit of Ex-president of USA – Jimmy Carter to Nigeria.

By June 1988, the Ogun State Coordinator for guinea worm Eradication Programme, Dr. O. Ogunnowo was nominated by the Hon. Minister for Health as a member of the National Task force on Guinea worm Eradication. Ogun State had been acknowledged as being in the forefront of the National Crusade in the Eradication of Guinea worm. This premised the visitation of the founder of Global 2000 Incorporated Ex-President Jimmy Carter of U.S.A. who visited Ogun State in 1989 and 1991 respectively on guinea worm eradication efforts.

The global initiative on the eradication of guinea worm disease is the baby of Global 2000 Incorporated.

GLOBAL TARGET SET

A number of unmet targets have been set in the past. The targets were set on the premise that:

- humans are the only reservoir of infection.
- transmission is usually focal and seasonal.

Silverfine, et al (1991) noted that in 1980 several agencies, including the United Nations Development Programme (UNDP), the World Health Organization (WHO), and the World Bank, declared 1981 – 1990 the "International Drinking Water Supply and Sanitation Decade". A major goal was the provision of safe drinking water to all countries. When this target failed a new target was set by the World Health Organization (WHO) to eradicate Guinea worm disease by the end of 1995.

Between 1995 and 1999, no Ogun State farmer was reported to be suffering from guinea worm by OGADEP Extensioners. This gave us the impression that the WHO target of guinea worm eradication by the end of 1995 had been met. However, by March 2000, at the 14th OGADEP Pre-season training session, extensioners have observed the reappearance of guinea worm infecting our farmers from three of the four zones of our coverage.

The implication of this development is that more and more farmers may become incapacitated by guinea worm infection year in year out to the detriment of Children-In-Agriculture Programme in Ogun State.

FARMERS' PERCEPTION ON CAUSES OF GUINEA WORM

There are numerous farmers' views about guinea worm. However, the views may be changing little by little with the level of education of our farmers.

While some farmers believe that guinea worm is an age-long diesease and that nothing can be done to prevent it, some others believe that by eating certain food item eg "afon" you can prevent it. These farmers have examples of families that are not afflicted because they eat a lot of the Meal.

Some farmers believe that guinea worm is inherited from parents.

There is also the belief that guinea worm is not a water-borne disease since there are examples of those very old men and women who drink water all their lives from the same stream or pond where infected ones drink from and never get infected.

Some belief that the smell of the odour of an infected person may cause others to have guinea worm.

There is also the belief by some farmers that an enemy can invoke guinea worm to afflict them.

Some farmers believe that guinea worm infection may be through a curse placed on the water source.

Guinea worm infection is as a result of discharge of impure blood is also the thought of some farmers.

Methodology for Identification of Infected Communities:

List of Completed hand dug wells, the communities they serve and their Local Government Areas were obtained. See Table 1.

Similarly, another list of completed Mini-Water Schemes, the communities they serve, the Local Government Area they belong and the State of the Scheme (Remarks on whether completed or uncompleted were obtained. See Table II. A form was designed to identify each of the 20 LGAs in Ogun State, OGADEP zones, blocks, circles and villages and the presence of dracunculiasis. See Table III.

Results:

Abeokuta zone under where Odeda L.G.A. falls tops the list of dracunculiasis endemic communities in the state. Some endemic communities identified in Ewekoro L.G.A. fall within Abeokuta Zone.

Ikenne Zone under where Obafemi-Owode LGA falls came second on the list of dracunculiasis endemic communities in Ogun State.

Ijebu Ode Zone had only one Community-Tigbori where dracunculiasis infection was identified as at March, 2000.

Tigbori is a village along Sagamu – Benin express way, off about a kilometer before Ogbere Junction and 2 KM off the express way.

Ilaro Zone had no community infected with dracunculiasis as at March 2000. This result is in conformity with the Third Nigerian Guinea Worm Active Case Search Report On Ogun State between 1989-1990. The findings show that the highly endemic communities between 1989-1990 retained their epidemiological status as at March, 2000.

RECOMMENDATION:

Farmer

Because the effect of eradicators' effort does not manifest in two to three years, it is advisable to persistently educate the farmers and their family members on how to eradicate guinea worm using any/all of these methods:

- Continuous filteration of drinking water.
- Children-In-Agriculture should be trained to be role model by protecting themselves against dracunculiasis infection.
- Guinea worm infected persons must keep off the pond/stream.
- Drink Water from protected source only.
- Regular and continuous active case search and report for the eradication exercise should continue not only in Ogun State but in Nigeria as a whole.
- Children-In-Agriculture Programme should get involved with dracunculiasis education in their communities.
- The Local, State and Federal Government of Nigeria and various International Agencies should evolve a more participatory approach to dracunculiasis eradication, not only in Ogun State but in Nigeria and the World at large.

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Table 1

S/N	Name of Communty	L.G.A.
1.	Ajengule Farm Settlement	Obafemi/Owode
2.	Igbin Village	
3.	Saare Village	
4.	Ijeere Wasimi	
5.	Lapoyo	
6.	Ogunniyi	
7.	Agbedejobi	
8.	Pakuro	
9.	Amusan	
10.	Kara-Aragba	
11.	Sefu-Sote	
12.	Ogunrun-Ori	
13.	Aiyegunle	
14.	Yakoyo	
15.	Asore	
16.	Ilewo	Abeokuta North
17.	Fapote	
18.	Abule-Oje	
19.	Imoro	Ijebu – Ode
20.	Senewa	
21.		Ijebu – Ode
22.	Oko-Moyin	
23	Odosimadegun	
	*Jiboh	
24.	Ago-Iwoye F/Settlement	Ijebu-Ode North
	Ajebandele Church	
25.	Liyangi	
26.	Obepi	
27.		Ijebu-East
28.	Mafowoku	
29.	Tigbori	
30.	*Tojelana	
31.	Igbo-Iwaju	Remo
32.	Odebo	Odeda

33. Odebo 34. Alagba 35. Ijeun Alagbon 36. Abondo 37. Oshun	Odeda
38. Onireke 39. Ijeun-Lemo 40. Somide Elesin 41. Ipaorogbo	Odeda
42. Ojoo 43. Olose 44. Alapandi 45. Akinbo	Ifo
46. Ojete	Egbado-South
47. Sawonjo Farm Settlement 48. Iwale-Ode Ogunyomi	Egbado North
49. Ibiade Farm Settlement Ibiade Block Extension 50. Office	Ogun Waterside
51. Soyoye 52. OGADEP Headquarters 53. Akala	Abeokuta South
54. Arigo 55. *Aromokala	Ado-Odo/Otta

*These are fitted with hand rollers.

Table II

LIST OF COMPLETED MINI WATER SCHEMES

No.	Name	L.G.A.	Remarks
1.	Agoro	Ado-Odo/Ota	Completed
2.	Idanyi Isaga	"	"
3.	Ado-Odo Farm Settlement	"	"
4.	Coker Farm Settlement	Ifo	"
5.	Ijumo	"	"
6.	Tibo	Abeokuta North	"
7.	Kesan Orile	"	"
8.	Iwoye	Egbado North	"
9.	Agbawo	"	"
10.	Erinpa	"	"
11.	Ijaka-Isale	"	"
12.	Eta-Egbe	Egbado South	"
13.	Itobi	"	"
14.	Olowo	Odeda	"
15.	Oguntolu	"	"
16.	Ogunbayo	"	"
17.	Ehin-Ogbe	Sagamu	"
18.	Ikenne Farm/Setlement	Ikenne	"
19.	Odolewu	Ijebu-Ode	"
20.	Idanre	Ijebu-East	"
21.	Imuwen	"	"
22.	Tiranga	"	"
23.	Agodo	Water-side	"

Block	Zone	Circle	Local Govt.	Village	River/ Stream	Availability Of Dug well
Obafemi	Ikenne	Obafemi	Obafemi	Ogunniyi		Available
"	"	"	Owode	Ogunseye	Yes	None
"	"	Ajebo	"	Olibori	"	"
	"	Ogunmakin	"	Adeniyi	"	"
		"	"	Alapako Oke Odo	"	"

Table III

Block	Zone	Circle	Local Govt.	Village	River/ Stream	Availability Of Dug well
Obafemi	Ikenne	Obafemi	Obafemi Owode	Ogunniyi		Available
"	"	"		Ogunseye	Yes	None
"	"	Ajebo	"	Olibori	"	"
"	"	Ogunmakin	"	Adeniyi	"	"
		"	"	Alapako Oke Odo	"	"
		"				

DOES BETTER NUTRITION RAISE HEALTH AND FARM PRODUCTIVITY AMONG CHILDREN IN NIGERIA?

BY

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ABSTRACT:

The potential biological relationship that relates current and past nutrition intakes to health and labour effort per unit time or efficiency units of labour among all age groups including children has attracted the interest of economists and nutritionists for some time. The major motivation for this nutrition-productivity hypothesis anchor on the popular belief that the relationship between nutrient intake and labour productivity, age notwithstanding; remains the primary motivation for the efficiency wage hypothesis especially as it applies to developing countries such as Nigeria. Household level data on children are used to test whether higher calorie intake enhances children farm labour productivity. This is the strength behind the efficiency wage hypothesis that has remained up till date weakly supported by empirical fact. A farm production function is estimated, accounting for the simultaneity in input and calorie choice. Data collected and analyzed include prices, household demographic characteristics and farm assets.

A major result in this paper is the highly significant effect of calorie intake on labour productivity among children, a validation of the nutrition-productivity hypothesis. There are clear indications that even among farm children, marginal effect on productivity declines sharply as calorie consumption rises but remains positive at moderately high levels of intake.

1.0 INTRODUCTION

A long considered issue by economists is the potential biological relationship that relates current and past nutrition intakes to health and labour effort per unit of time or efficiency units of labour among all age groups including children. At the heart of the overall interest in how labour markets might adapt to nutrition, - health-productivity relationship is the efficiency wages hypothesis. However, in the literature there appears to be lack of consensus as to whether investments in improved health programmes in traditional agriculture have any appreciable economic benefits. For instance, Nurkse (1957) and Lewis (1955), have argued that improved health programmes and the decline in death rates in less developed countries like China, India, Egypt and Kenya create overcrowding on the land which reduces marginal productivity of farm labour to zero or even a negative value. Barlow (1967), observed that suppression of Malaria in Ceylon and improved health programmes in poor areas have positive effects on agricultural production. Ram and Schultz (1979), suggest that improved health in low-income countries has resulted in an increase in life span which implies more productive years of

participation in the labour force. They contended that those who say that marginal productivity of farm labour irrespective of age groups declines as the labour force grows relative to capital misconstrued the concept of capital by limiting it to material capital ignoring the accumulation of stock of human capital. According to the World Health Organization (WHO, 1990), being healthy connotes a state of complete physical, mental and social well-being in addition to absence of disease. After a cross countries comprehensive review of children and economic development in developed and developing countries, Zerfas (1991) concluded that with prevailence of malnutrition among pre-school-age children, economic growth alone would be very slow to eliminate in developing countries. He warned that because of prevailence of poor social services such as hospitals in rural areas in developing countries and because of Calorie dominated diet in these countries, pre-school –age children are at the risk of malnutrition and low productivity.

The apparent chronological disagreement among economics notwithstanding, nutrition of poor populations of all ages is of substantial interest because of the widespread and plausible presumption that better nutrition improves the welfare of individuals in such populations. As pointed out by Behrman et al (1988[c] and Adeyeye 1989 and 1999) understanding the influence of nutrition on performance is critical in designing policies and programmes to alleviate hunger and malnutrition and overall sustainable development. Thus, the broad objectives of this paper is a re-affirmation of nutrition–health-farm productivity relationship. To achieve this, the paper has been structured into sections. Sections two presents theoretical consideration and the literature review. In sections three and four, scope and methodology as well as discussion are respectively featured. The paper ends with a concluding remark.

2.0 THEORETICAL CONSIDERATION AND LITERATURE REVIEW

The Theoretical Linkages Between Nutrition, Health and Labour Productivity.

All living being have a stock of health which can be sustained or improved through investments in health (preventive or curative) and quality of nutrition. The stock of health of an individual (farm children for example), can grow and depreciate within the life span of such an individual. When an individual is young, he possesses a sizeable stock of capital but this diminishes with age. Depreciation of health capital can occur as a result of two factors namely; biological decay due to aging the epidemiological strain, which is a compound effect of sickness and environmental pollutants. It is believed that every individual has some amount of pathogens such as bacteria, germs, viruses and parasitic plus pollutants like smoke and dust in the body (Ngambeki, 1980). Since this paper examines the extent to which nutrition and health affect farm children's labour productivity it becomes relevant to take a critical look at the farmers work, three levels of assessment can be made. First, is the availability of health capital itself to the farmer or his state of being healthy; second, is the

farmers' demand for health time for farming activities; and third is the farmers' actual physical work output as compared to his expected or potential capability of work output.

A farmer old or young needs to be healthy throughout the farming season if certain key farming activities are not to be missed. For instance, if a farmer is sick during the planting or harvesting season and he has no helper, the farmer and his entire family will be deprived of food and income. Both nutrition and sickness affect the farmers' health in divergent ways. Better quality nutrition improves a farmers' health and increases his ability to work. Frequent sickness on the other hand, depreciates health capital and debilitates farmer's physical performance. In the study on which this paper is based, the a priori expectation is that farm children with better diet are healthier, and more productivity than their sick counterparts.

Apart from growth that normally occurs in an individual, health capital stock of an individual should maintain some level of resistance to disease. If the co-efficient of pathogenic organisms in the body of an individual is B and that of growth and body resistance to disease is X, then the co-efficient X should be maintained at its highest level by the quality of nutrition and physical exercise while the co-efficient, B, is expected to be kept at its minimum bu investments in preventive and curative. The ratio B/X can be taken to represent the malaise syndrome ratio or the probability of becoming ill at any given time. The tendency is for this ratio to be falling during the early years and rising during the old age since X is rising faster during the rapid growth period and tends to stagnate during the latter years. (Adeyeye, 1989).

If the rate of biological decay is denoted by a, then the natural depreciation of health capital stock at period i can be expressed as a function of age thus:

$$a_1 = g_1 (f(t)$$

where f is equal to B/x which is the probability of becoming ill at period i: and t is the individual's age in years. Since the dose of pathogens and pollutants in the individuals' body is ecpected to be low during the early years, the g_1 (F(t)) is falling during this period. It also means that the individuals size of health capital at period i is the gross health capital H minus depreciation.

It can therefore be seen that as a result of infection from some pathogen in the environment or other causes of sickness, a person's health capital stock is affected. The effect is, usually in two ways. First, strain is exerted on the body tissues which tends to reduce physical vitality until the person has fully recovered to linger on even long after the period of sickness. For instances, parasitic infection and deleterious environment which is rampant in the rural areas tend to have cumulative effect in the body which causes ill –health, frequent sickness and makes health capital stock to deteriorate faster in all age groups. Any sickness, whether light or severe has some impact on the rate of depreciation of health capital stock.

Furthermore, age, habitat, physical activity, body weight and environment conditions affect a person's dietary requirements. Climatic conditions like humidity and stresses of ordinary life exert extra demands on a

person's nutritional requirements. For instances, under extremely hot conditions, the rate of nitrogen in sweat tends to rise.

Chadwick (1965), is the first writer to associate disease and other health factor to economic, social and demographic variables. He found that poor environmental sanitation like defective drainage, inadequate water supply and over-crowded housing were highly related to incidence of disease, high morbidity rates and short life expectancy among the labouring population of great Britain.

Igben and Atimo (1983), studied the satisfaction of "Basic Needs in Nigeria: the Food and Nutritional Dimension". Although Nigerians do not consume enough energy and protein, the shortfall is marginal. Level of income, the taste pattern of the consumer, the availability of food item, the usefulness of the food item to the body requirements, the state of health of the members of the entire family, culture and the degree of perishability of the food commodity are factors that play important roles in the determination of what food item to consume and the quality.

Adeyeye, (1989 and 1997) concluded that health and nutrition of farmers though often largely omitted in socio-economic studies are critical for farm performance.

2.1 NATURE AND CONSEQUENCES OF MALNUTRITION

In a nutrition health and farm productivity study, insight into nature, and possible consequence of malnutrition is very important. In an entire population "malnutrition" can include obesity and diet-related risks of cardiovascular disease, diabetes, or other health problems, but for young children, only two conditions matter. One is being too small according to some physical criterion, defined by a reference population of healthy, well-nourished children (Zerfas 1991). Malnutrition is associated with inadequate intake or utilization of macro-nutrients, hence it is referred to as protein-calorie or protein-energy malnutrition.

Protein-calorie malnutrition is defined by low weight for age (underweight), low weight for height (wasting), or low height for age (stunting). Stunting indicates failure to grow normally over extended period, and it is often considered a sign of chronic malnutrition, such as routine failure to eat enough. Wasting is often described as acute malnutrition, because it tends to result from actual loss of weight. There is no natural limit below which one can be sure a child is malnourished; any cutoff point is arbitrary. It is becoming standard practice to define moderate malnutrition by values lying between two and three standard deviations below the means, and severe malnutrition by values more than three standard deviations below the means, with both the mean and the deviation defined by the reference population.

How to combat malnutrition depends on its causes, which fall into three broad classes: poverty, illness, and ignorance. For poverty to be the only cause of malnutrition, it is not enough for the two phenomena to be closely associated. It is also necessary that increases in income be translated into increases in food consumption and reduction in the prevalence of malnutrition: removing causes

should remove the effect. The close association of poverty and malnutrition (World Bank 1979; Gray 1982) has sometimes led to the erroneous conclusion that illness and ignorance are minor contributors and that the only intervention necessary is to give poor families more money. This conclusion ignores a second findings of these same studies, which is a very low tendency to spend additional income on food, particularly on calories. The third intervention is to change what people know or believe to educate them about nutrition, child care, and health. Malnutrition may cause no apparent problem because the body compensates for inadequate nutrient intake by growing more slowly or by reducing its physical activity. A child who is anemic or calorie-deficient will be lethargic and will develop and learn more slowly, perhaps retaining a permanent deficit. Malnourished children are also subject to more frequent and more severe infections (Frisancho 1979).

2.2 ON NUTRITION, HEALTH AND FARM PRODUCTIVITY.

Understanding the determinants of nutrient intake and the influence of nutrition or rural performance agricultural labour productivity of all ages inclusive is critical in designing policies to alleviate hunger, malnutrition and overall poverty. In the literature, a set of studies have analyzed the relations between nutrition and health, labour, productivity and fertility and the relations between price, income, woman's schooling and nutrition intake. Several puzzles have arisen from the relationships that exist between these variables. While these relationships are matters of empirical questions, there are indications that the extent to which the causal relationships between the variables can be generalized is exceedingly limited. Since generalization is an empirical question, they indicate the need for further exploration of several issues on nutrients impacts and determinants using data from other societies. The conclusion is that if weight-for-height is a good indicator of short-run nutritional status, as is widely claimed in the nutrition literature, these estimates indicate a strong impact of short-run nutritional status on labour productivity. He also vowed that it many not be surprising that the co-efficient estimates of calorie is not significant. This is because Sukhatme (1982) has pointed out that current calorie intake may be a poor proxy for energy available for work effort or activities other than basal metabolism.

Agriculture Labour Productivity:

Determination of the impact of nutrition on agriculture productivity has constantly been faced with the problem of controlling for the possible simultaneous impact of labour productivity on nutrition through income. Deolalikar (1988) estimated a Cobb – Douglas farm production function for the rural South Indian sample with Calories, weight-for-weight, for labour, hired labour, bullock power, fertilizer and cropped area. Deolalikar (1988) used weight-for-height because it presumably, reflects past nutrient intakes, which should be considered in measuring the impact of nutrition on productivity. He found out that the height is significantly positive and substantial.

There is little point in studying income and prices and their effects on nutrients intake unless nutrients intake is desirable in itself or is related to health, labour productivity, fertility, or other attributes of interest. Thus, in this section, we summarize the results of studies that examine the relation between nutrients intake and health, agricultural labour productivity and wages. Several studies have estimated health production functions with current nutrient input for boys, girls, men and women in rural South India and for children and women in Nicaragua in Behrman and Deolanikar (1988) and Wolfe and Behrman (1983). These estimates generally do not indicate a significant impact of the current nutrients intake on the health indicators. This surprising results may be accounted for by the following results (1) increased nutrients intakes partly go to increase productivity rather than to improve indicators of health, but such nutrient use is not well controlled in the health – productivity function estimates (2). As pointed out by Payne (1987), within limits, human metabolism adjust in response to nutrient intake with little impact on health indicators.

However, various estimates of intra-household allocation indicates if anything, nutrient allocation that reinforce (particularly in the lean season) rather than compensate for unobserved individual robustness of health – nutrients indicators (see Behrman 1988). So in the literature, what is very common is a puzzle regarding the lack of a statistically significant impact of nutrition on health. In the demand equation for nutrients, major determinants are prices, income and predetermined assets, the most emphasized of which is women's schooling.

In sum, there are ample indications in the literature that several insights and some puzzle regarding the effects of nutrition in poor populations and the determinants of nutrients intakes still need to be uncovered. Since the findings in the literature are largely derived from special micro data sets, there is a question of how much they can be generalized to other populations. Also, since generalization is an empirical question, they indicate the need for further exploration several issues using data for other societies hence, the need for the study that sought to investigate effects of nutrition on labour productivity even among children in rural Nigeria.

3.0 STUDY SCOPE AND METHODOLOGY

This section reports part of a broad research testing the efficacy of farm families cultivating and consuming Soyabean diets to demonstrate higher productivity than farm families not exposed to either the crop or its dietary options. Two rings of villages; Ijaiye-orile and Alabata in Akinyele Local Government Areas of Oyo State were the focus of study where forty-five and forty-six farm families were respectively closely studied and data obtained analyzed.

Data for the study were from a cross-section survey of households in these two rural communities taken during the 1998/1999 cropping year (May-April). Households were chosen using combination of purposive and random sampling method. The purposive sampling was used to get at Soyabean farmers while the random sampling was used to select households eventually studied.

The data set contains details on outputs, family and hired labour, capital stock, land use and households characteristics. It also provides estimates at the household level of food consumption from both market purchases and home production of different foods. The data set also has average price and wage data. The major weakness of the data is the absence of individual level (e.g. by age group) data on calorie intake and the absence of measures of nutritional outcomes. Two methods can be used to make one week family food consumption convertible to a form that will permit examination of how robust the nutrition-productivity is. At one extreme one could assume that food is shared equally among family members and divided household food availability by household size. This sounds unreasonable. Another assumption which was used in this study is that individual food consumption is proportional to approximate calorie "requirements" for a moderately active person of a given age and sex (Spur, 1983). According to Spur, (1983) this allows food distribution of adult male ; adult female and children in the proportion of 1:0.75:05 respectively. It is the application of this that has been used to generate calorie intake for the farm children.

Farm out put, Q, is hypothesized to be a function of effective hours of family (L^f_*) and hired (L^h_*) labour, variable nonlabour inputs (v), fixed capital (K), and land cultivated (A):

$$Q = F(L^f_*, L^h_*, V, K, A). \quad (1)$$

Effect of labour, both family and hired, is a function of calorie intake (X^f_c, X^h_c) at the individual level and hours worked (L^f, L^h). Individual-level caloric intake in turn is a function of households food consumption a function that depends on intrahousehold distribution and biological food calorie conversion rates.

The agricultural production function estimated is a Cobb-Douglas function with effective family labour, effective hired labour, capital, and land as inputs. The production elasticities are allowed to vary linearly with the percentage of cultivated land that is devoted to Soyabean. This is an attempt to capture differences in land quality between Soyabean and non-soyanbean cultivators and may also capture some output composition effects. This specification gives rise to the estimated equation.

$$\begin{aligned} \text{Log } Q = \quad & B_1 + B_2 [\log L^f) + \log h (X^f_c)] \\ & + B_3 [\log L^h) \\ & + B_4 \log K) + B_5 (\log A) - E, \end{aligned}$$

Result of Multiple Regression Analysis

Table 1 shows the regression co-efficient and related statistics of multiple regression of agricultural production function and related statistics (Cobb-Douglas). The R_2 varies and are between 0.69 and 0.51 for these respective farm families. Generally, most variables are significant at varying levels. Family labour is particular significantly and more robust in the case of farm families that consume Soyabean and its products.

Table: Regression coefficients and Related Statistics of Multiple Regression Analysis of Agricultural Production Among Farmers – Cobb Douglas.

Category of Farmers	N	B_1	B_2	B_3	B_4	B_5	R^1	F-ratio
Farmers that consume Soyabean	46	6.028	:231 (3.051)[a]	:127 (2.710)[b]	:237 (1.428)[c]	:370 (1.-745)	:69	6.225
Farmers that do not consume Soyabean	45	2.310	:172 (1.021)	0.121 (1.321)[c]	:199 (2.110)[C]	:289 (0.210)	:51	2.251

* Only Calorie intake for the childen have been retained for analysis.

Note: ( ) = F-ratios
a = significant at 1 percent; b = significant at 5 percent and c = significant at 5 percent.

Farm Labour Use Efficiency Among The Farm Children

In production function analysis involving Cobb-Douglas, technical efficiency can be measured by examining the relationship between the achieved output level and the corresponding quantities of input used by farm children. It is conventional to measure production elasticity of an input as the expected percentage change in production in response to a percentage change in the input with other input levels held constant (Henderson 1958). These two measurements are taken as proxies for the technical efficiency indicator in this study.

What can be seen from the coefficients in table 1 is that those farm families that consume Soyabean products are more responsive than those farm families that do not consume Soyabean products. According to Henderson, (1958), the lower set of farmers are therefore more productive in the use of resources. As we have seen in this study, the responsiveness is particularly more robust for family labour with respective values of 0.231 for farm families that consume Soyabean and 0.172 for the farm families that do not.

5.0 CONCLUSION REMARKS

This paper has examined the possibility of improved nutrition to raise farm productivity among children using case study from Oyo State, Nigeria. The literature and empirical study in this paper tend to point to the efficacy of improved nutrition to enhance farm level productivity even among children. Improved nutrition policy and favourable environmental consideration that can enhance the prospect of the farmers to enhance their nutrition should be considered paramount.

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A SURVEY OF THE LEVEL OF UNDERSTANDING AND INVOLVEMENT IN NUTRITION AMONG YOUTHS IN THE RURAL AREAS.

BY

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ABSTRACT

Food scarcity is a major problem among the developing countries of the world including Nigeria. However, abundance of food, in itself does not always guarantee adequate nutrition. This is because individuals may take the wrong choices of food, food preparation and food preservation methods, due to ignorance and cultural practices. The aim of this survey is to determine the level of nutritional awareness and involvement among the youth (14 years – 18 years) in the rural area. This will help to evaluate the success of the various nutrition and health education programmes.

The results from the survey show that more than 60% of the children, especially the males, have very poor knowledge of nutrition. The schools have also failed to incoporate subjects that would give the students the required exposure in the area of health and nutrition. It was also shown that most of the parents, even though have had some formal education, were unable to teach the children some basic nutrition principles.

There is therefore the need to help these children through school programmes, extracurricular activities, and extension programmes that would give them introductory nutrition and health education. This will enable our future generation to wisely utilize the available food materials in the country and combat malnutrition.

INTRODUCTION:

Nutrition has been recognized as a vital index of the level of real economic development and welfare of any nation. It is obvious that food scarcity results in the various forms of malnutrition. However, abundance of food does not in itself guarantee adequate nutrition. This is because individuals may take the wrong choices of food and food preparation methods due to ignorance or cultural practices. This leads to malnutrition.

Malnutrition has been described as a pathological state resulting from the relative deficiency (under – nutrition) or excess (over-nutrition) of one or more essential nutrients. This condition lowers the person's or populations ability to contribute to a productive society and leads to increased susceptibility to disease. Under-nutrition is the most rampant form of malnutrition in the developing countries including Nigeria.

In 1990, Nigerian Demographic health survey (NDHS) provided information on the nutritional status of children under 5 years. It was shown that 43% were stuned, 36% were underweight and 9% showed symptons of wasting. The national prevalence of nutritional anemia among pre-school children was shown to be 75.6% and among women (15 – 45 years) was 62% (Atinmo, 1990).

Good nutrition is a fulfillment of human rights while malnutrition is a violation of human rights. (i.e. denial of the right to food). The right to food is defined as the right of a people to provide their own food with dignity and self-reliance.

It encompasses the right to eat according to one's cultural and social value, the right to safe food and to correct information about food contact, healthy food habits and life styles. (Atinmo, 1999)

WAYS OF COMBATING MALNUTRITION

Several strategies have been suggested as means of improving the nutrition status of Nigeria. These include, providing employment., higher wages, providing more food and improving food storage and distribution facilities as well as proper education. Other strategies for combating malnutrition as reported by Nnanyelugo (1999) are nutritional supplementation (with capsules and tablets), food fortification, dietary diversification and nutrition/health education programmes.

Nutrition education has been defined as that group of communication activities aimed at achieving a voluntary change in nutrition-related behaviours to improve the nutritional status of the population (Andreien, 1994). In most local communities, there are certain undesirable food habits and practices which are often based on insufficient knowledge, traditions, taboos, or poor understanding of the relationship between diet and health. These can adversely affect their nutritional status. But with proper nutrition education, the people can adopt a healthier diet and improve their nutritional well-being by voluntarily changing their food and nutrition attitudes, knowledge and practices.

NVOLVEMENT OF YOUTH IN NUTRITION EDUCATION

The events marking the world food day held in October 1999 at the headquarters of the Food and Agriculture Organization (FAO) in Rome was dedicated to the theme: "Youth Against Hunger". There are more and more young people within 15 – 24 years of age now numbering one billion in the world. In the address presented by the Director General of FAO, it was noted that with the number and energy of these young people, they could wield considerable power and make an enormous contribution towards improving the nutrition situation of developing countries. With better education and training, they could play a major part in building global food security. (CTA 1999).

The youths are the leaders of tomorrow. If there is going to be any improvement in the nutritional status of many in the country, then the youth should be involved. The aim of this survey therefore is to evaluate the level of nutrition awareness and involvement of young, rural dwellers in the area of food and nutrition. This will help to asses the effectiveness of the various

nutrition/health education programmes held by the government among the rural dwellers.

METHODOLOGY

The study was carried out in Obinze in Owerri West L. G. A. of Imo State, Nigeria. The population for this study comprises of all rural youths (14 - ,18 years) in Obinze.

The sample, made up of 136 respondents, were obtained from senior secondary school students residing and attending schools in the area.

The questionnaires were distributed among them and information was collected on aspects of household socio-economic characteristics, their attitudes, awareness and involvement in nutrition.

RESULTS AND DISCUSSION

Socioeconomic characteristics of the households:

Table 1: shows some of the socioeconomic characteristics of the homes of the children under the survey. The results show that 66% of the fathers were between 40 and 50 years of age while 70% of the mothers were below 45 years. A high percentage of the parents have secondary education. The most common occupation among the fathers were civil service (36%) followed by trading/business (35%). But the mothers were mainly traders (58%). About 50% of the households had more than 6 persons.

These characteristics reveal that the children come from household with low income, working and active parents, mostly middle – aged and size of households, are fairly large which generally imply consumption of a poor diet.

VIEWS OF THE RURAL YOUTH REGARDING NUTRITION

The results in this section are presented in table 2 to 5 and they show most of the prevalent views held by the young people. More than 50% of the children are of the view that the general population within the area under study, are well nourished. Only 32% indicated that there are cases of poor feeding and malnutrition. About 40% of the children believe that the major cause of malnutrition is due to ignorance and that the people concerned are those under 5 years of age, pregnant/nursing mothers. On suggestions for improvement, about 58% of the children were of the view that growing more food will remedy the situation.

These results reveal their poor attitude and lack of participation in things that concern food nutrition although data that reveal nutrient deficiencies in most rural communities abound, most of these young people still maintain the view that all are well nourished. Their responses did not show any concern or involvement is solving the problem of malnutrition. It is left for older people and the government.

EVALUATION OF THEIR KNOWLEDGE OF BASIC PRINCIPLES OF NUTRITION AND THEIR APPLICATIONS.

In this section, reported in table 6, their level of awareness of nutrition was tested. A large percentage of the children (90.4%) could mention the six

basic nutrients. Many however, did not know the functions of the nutrients especially the minerals and vitamins where up to 88% of them gave wrong answers. The sources of the nutrients especially fat, minerals and vitamins were also unknown to over 50% of the children.

About 45% of the children did not understand the signs of malnutrition or the causes of it. About 50% of the children still believe in such traditions/superstition as not giving meat and eggs to children with the belief that the fruits carry worms.

These results reveal that the rural youths are ignorant about matters that deal with food and nutrition even though they are students in senior secondary who claim to have studied subjects in Food and Nutrition. This shows that a large percent of the population in this area, (both adults and children) may be grossly ignorant about nutrition. They lack proper nutrition education and this leads to malnutrition and poor health.

The government's conventional approach towards nutrition education has achieved little in the rural communities. Such programmes is implemented in the health sector, especially in the primary health care. It only reaches those with nutrition related disorder (such as diabetes or hypertension) and pregnant/nursing mothers who receive nutrition messages as treatment (medicine) for curing nutrition problems. These people however lack social/cultural education financial and physical ability to change their situation and are unable to hand down the knowledge to the next generation. A more proper approach towards nutrition education is required, which will reach every member of the society (old and young) and help to eradication malnutrition.

CONCLUSION AND RECOMMENDATION

Nutrition education is not only concerned with imparting knowledge but also in finding practical ways to work with the individuals or groups in the community in a systematic manner that will stimulate their participation and commitment in the new ideas. Schools (primary and secondary) provide a special medium for nutrition education. At this time the minds are young and ready to learn.

The basic aim is to help children acquire nutrition knowledge and to develop and encourage desirable eating habits, and food choices. The children can also serve as effective intermediaries for message directed to their parents and by that help to change the eating habits of their families and when they themselves become parents in the future, they can impart good dietary habits to their children.

The youths provide a long-term perspective for change in social communication in nutrition. The message disseminated at social centres, dispensaries and elsewhere will find a fertile ground with the future adults, of the society. With this basic nutrition education, the rural community can make optimum use of available food materials even though the food may be scarce and costly.

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Lack of protein foods	34	25
Lack of energy foods	12	8.82
Ignorance	55	40.44
Food scarcity	34	25
Total	136	100

Table 4: Those concerned for solving the problem:

Options	Response	Percentage
0 – 4 years old	55	40.44
5 – 12 years old	8	5.8
13 – 20 years old	6	4.41
Pregnant/nursing mothers	50	36.76
Young men/women	3	2.2
Old men/women	14	10.9
Total	136	100

Table 5: Suggestions for solving the problem:

Options	Response	Percentage
Important more food	31	22.79
Grow more food	80	58.82
Improve nutrition education	16	11.76
Involvement of older people	0	-
Involvement of younger people	9	6.6
Total	136	100

EVALUATION OF THE KNOWLEDGE OF BASIC NUTRITION AMONG THE RURAL YOUTH

Table 6: Response to test questions:

Question	No. of correct Res.	%	No of incorrect Res.	(%)
Mention the classes of nutrients	123	90.4	13	9.6
Functions of Nutrients				
Protein	86	63.23	50	36.7
Carbohydrate	79	50.08	57	42
Fats/oil	45	33.08	91	66.91
Minerals	16	11.76	120	88.3
Vitamins	16	11.76	120	88.3
Source of the nutrients				
Protein	99	72.79	37	26.61
Carbohydrate	88	64.7	49	36.02
Fats/oil	75	55.14	59	43.38
Minerals	32	23.52	104	76.47
Vitamins	59	43.38	77	56.6
What is a balance diet?		50.73	67	49.36
Meaning of malnutrition		32.25	92	66.9
Whether children are supposed to eat meat and eggs	68	50	68	50
Whether children are supposed to eat fruits like pawpaw and banana.	69	50.7	67	49.3

IRRIGATION: AN ESSENTIAL ASPECT OF CHILDREN IN – AGRICULTURE PROGRAMME

BY

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ABSTRACT

This paper starts with a brief review of the aims of the Children –in – Agriculture programme which aims, among other things , at improving the socio-economic conditions of children who may decide to take to agriculture as an occupation. Irrigation enables a practicing farmer to produce crops all the year round especially during the dry season when certain crops especially vegetables, attract higher prices to the farmer.

The paper treats various aspects of irrigation in such a way that children can easily put them into use for maximum productivity of crops.

INTRODUCTION

The place of agriculture in the socio-economic development of developing nations cannot be overemphasized. There is an urgent need to address the issue of youth unemployment in Nigeria. It is postulated that with proper planning, millions of unemployed Nigerian youths can be gainfully employed in the agricultural sector. It is also pertinent to note that the majority of the present farming population in Nigeria are middle-aged and above and may not, in the near future, be physically and mentally capable of carrying out routine agricultural practices. With the young farmers clubs' virtually defunct in most states, the Children-in-Agriculture Programme (Children – In – Agriculture Programme (CIAP)) in Nigeria appears to be a viable alternative in the attempt to sustain the interest of our youths in agriculture.

According to Adedoyin and Torimiro (1999) Children – In – Agriculture Programme (CIAP) is a holistic human development initiative specifically focussed at building capacity in farm children/youths for favourable disposition and future profitable investment in agricultural occupation thereby ensuring continuity and sustainability of farming as a reputable profession. Children – In – Agriculture Programme (CIAP) aims, among other things, at organization training for farm-children/youth (in-school and out-of-school), farm families, and farm-communities on improved farm practices, poverty alleviation techniques, farm-family enhancement education, home food security strategies, income generating activities in rural environment, etc. This paper is of the view that crop productivity can be improved through the application of appropriate irrigation techniques.

IRRIGATION PRACTICES

Rain-fed agriculture embraces farming in some parts of Nigeria where rainfall is believed to be generally sufficient to permit sustained production of crops and pasture. The amount of water that the soil can store in a form available to plants can be treated as bank account, rainfall as input and evapo-transpiration as withdrawal. Where there is more rainfall than the soil can store, it is treated as excess and when evapo-transpiration exceeds rainfall for sufficient time to exhaust soil water, it is treated as a deficit or drought.

Water excesses often occur with sufficient frequency during the rainy season while droughts of sufficient duration to reduce crop yields usually occurs during the dry season.

Irrigation generally is defined as the application of water to soil for the purpose of supplying the moisture essential for plant growth. Irrigation is an age-old art. Historically, civilization has followed the development of irrigation. The aim of irrigation is to achieve a high standard of year round agriculture, irrespective of rainfall availability.

(3) Basin Irrigation

This is particularly effective in the case of fruit trees, which are planted recently. If the trees are widely spaced, a single furrow is excavated from the main water supply channels, which generally runs between the rows of trees, so that the water can be directed around the base of individual trees.

(4) Siphon Tubes

These are curved tubes made of plastic material which can be dipped into the main water supply channels. They are filled with water and then the lower end is quickly directed to the furrow in which the water level is slightly lower that it is in the main channel. The water will then continue to flow into the furrow for as long as the siphon tube remains filled with water.

(5) Hand Operated Pumps

On a garden scale these pumps are suitable. Many of them are of the reciprocating piston type and can be used from a well or bore-hole, while other may be referred to as diaphragms and semi-rotary pumps. Hand operated pumps can be conveniently used for lifting water to relatively short distance of up to 4cm since the weight of water in the section pipe limits operation at any greater height.

(6) Hydraulic Rams

These are suitable and can be used where the source of water is a perennial stream, which has a fall of more than 1m over a relatively short distance. They are capable of lifting water to a height of about 30m, using the force of the stream to obtain this lift.

(7) Motor Driven Pumps and Sprinklers

These types of pumps exist. They may be operated by small petrol or diesel motors. They are usually of the centrifugal type and are useful for pumping water for relatively long distance through irrigation pipes, usually to sprinklers, which distribute the water through rotating nozzles.

SOURCES OF IRRIGATION WATER

Basically rain water is the major sources of all water and that portion which is not used at the point where it falls, flows over the surface of the land or infiltrates into the ground to recharge the ground-water storage. Therefore, the rain which is not used become a potential source of either surface or underground water for irrigation and domestic purposes.

The success of every irrigation project rests largely on the adequacy and dependability of its water supply.

Children-in-Agricultural Programme should encourage the utilization of the sources of water from streams, rivers, bore-holes, shallow wells and rain water harvesting for irrigated agriculture.

As part of poverty alleviation, the Federal Government may be requested to strengthen Children-in-Agriculture Programme by using Primary and secondary Schools as pilot project farms for the youth. Local Governments through their respective supervisory councilors for Agriculture may on a temporary basis be used as facilitators.,

IRRIGATION OF SELECTED CROPS

We shall now consider a number of crops which Nigeria children can conveniently grow all the year round through irrigation. It is however necessary to highlight three major considerations which influence the time of irrigation and how much water should be applied. These include the water needs of the crop; availability of water with which to irrigate; and the capacity of the root-zone soil to store water.

(1) SPINACH (Amaranthus spp.)

African Spinach (green) can conveniently be grown by farm children for most periods of the year. The crop can yield a good amount of revenue especially in the dry season months. It is shallow rooted requiring a supply of available soil water throughout its growth. Ample moisture is most important near harvest to obtain maximum yield and quality. In arid or semi-arid regions, 15-30cm of water are applied to ensure ample available water throughout its growth (Beattie and Beattie, 1948). Maturity period for the crop is usually between 3-6 weeks.

(2) LETTUCE (Lactuca sativa)

Lettuce, the most important of the salad crops, is a shallow-rooted rapid-growing, cool-season crop requiring a nearly constant water supply from planting to harvest. According to Veihmeyer and Holland (1949), three irrigation periods may generally be considered the first to germinate the seed, the second at the time of thinning and the third 30 days after thinning. It is not advisable to apply water during maturation as this may cuase loose and open heads. Also a wet soil surface during the last week or two before harvest may induce rot and slime on the lower leaves. Good management includes the use of irrigation, either surface or sprinkler, to soften the crust until the crop emerges. The period to maturity for the crop is 6-12 weeks. The yield range is 10,000 – 12,000kg/ha.

(3) CABBAGE (Brassica capitata)

Cabbage is an exotic vegetable, perhaps only second to lettuce as an important salad crop. Cabbage should be irrigated to maintain available soil water above 50 percent in the upper 40cm of soil. Maximum growth of cabbage occurs when it is grown without interruption from planting to harvest (James and Drinkwater, 1959). Critical periods for irrigation are usually during the last 3-4 weeks of development (Vittum et al, 1963). Irrigation not only increases the hectarage yield of marketable cabbage but also increases the average weight per head (Nettles et al, 1952; Vittum and Peck, 1956). Cabbage can also be grown on slightly raised

beds with an irrigation furrow between the rows. The period to maturity for the crops is 10-20 weeks and the yield range is 12,500 – 37,500kg/ha.

(4) CARROTS (Daucus carota)

Carrots grow best in deep sandy or sandy loam soils. They require an abundantly supply of water evenly distributed throughout the growing season (Boswell, 1963; Pew, 1957). In the dry season, the first irrigation is applied to germinate the seed. The beds should be kept constantly wet until the seedlings have emerged. After the plants are well established, the irrigation schedule should be regulated to give maximum growth. The period to maturity is 10 – 12 weeks. The yield range is 17,000 – 25,000kg/ha.

(5) TOMATOES (Lycopersicon esculentum)

Tomatoes are long season, deep-rooted plants wth high requirements for water. For the benefits of irrigation to be maximized, there has to be good soil aeration and drainage, good variety of the crop, and good fertilizer application. According to Bishay (1982) maximum stress for water develops during the middle or late part of the growing reason when most of the fruit are ripening. Maturity period is 10 – 14 weeks. Estimated yield per hactare is 17,500 – 25,000kg/ha.

(6) OKRA, OKRO (Hibiscus esculentus)

This popular vegetable is grown either on flat land or on beds and thrives well at low elevations although some cultivars are sensitive to wet soils. It is conventional to grow both short and long duration types. Both varieties will ordinarily benefit from irrigation facilities, though the long duration type would normally require more irrigation. The period to maturity is 8.10weks. the yield average is 440kg/ha.

CONCLUSION

Developing irrigation programmes require the consideration of both the agricultural and engineering aspects and the subject matter of the curricula can be strengthened by coordinating the activities of engineers and agronomists in one stream.

This paper is of the view that farm children can put into practice simple irrigation practices in their respective farms. Nevertheless, we also envisage a situation where groups of farm children could pool their resources together to start large farms and enjoy the benefit of economies of scale.

Children-in-Agriculture Programme should encourage the mobilization of local resources for irrigation to ensure self-reliance in our youths.

RECOMMENDATION

The author is strongly recommending that Children – In – Agriculture Programme (CIAP) should request from the Federal Government of Nigeria through the Federal Ministry of Agriculture, the adoption of Children – in – Agriculture Programme as one of the poverty alleviation schemes. Modalities for its implementation can be worked out by the officials of Children – In – Agriculture Programme (CIAP).

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CHILDREN IN AGRICULTURAL PROGRAMME, EDUCATION AND TECHNICAL PROGRESS THROUGH REDUCTION OF POST HARVEST LOSS AND WASTAGE

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ABSTRACT:
The level of mobilization of Nigerian Children in organized agricultural programmes has not been very effective over the years. But the establishment of Children-in- Agriculture Programme is a positive step towards getting the children back to the farms.
This paper is of the view that inorder to maximize the gains of CIAP, children should be actively involved not only in pre-harvest food production but also in the reduction of post harvest loss and wastage. Recommendation were made on how to actively involve the Nigerian children in minimizing food loss and wastage through Children- in – Agricultural Programme (CIAP) and the benefits that await the nation as a result of children's participation.

INTRODUCTION:

The Primary purpose of agriculture is to produce food. Agriculture is Nigeria's largest industry in terms of land use and employment of population. It is the predominant provider of food, raw materials, source of foreign exchange earning and offers income to farmers. Agricultural development in Nigeria is affected by poor capital, culture values relating to land ownership and tenure, use of crude farming implements, underdevelopment rural farming communities and poor infrastructure among others.

Successive governments have tried to address the problems through various programmes such as Operation Feed the Nation (1979), River Basin and Rural Development Authority, Family Economic Advancement Programmes etc.

The aim of these programmes was to boost agricultural production and ensure food security. However, attainment of food security in the country is adversely affected by post harvest loss and wastage. It is a major factor of food shortage in the country.

Ironically, post harvest food loss and wastage have not received adequate attention as compared to pre harvest food production. According to Sowunmi (1982), increase in food production by increased yield per acre has always been a readily applied concept while reducing losses in order to increase food

supplies was a less obvious strategy. A conservative estimate put Nigeria food wastage to 20% of total food production in 1976, 40% in 1979, 45-50% by 1982. Etim (1982) believed that a reduction of about 5% post harvest loss of grains could result in a million tons additional food available. Odigbo (1986), put the losses as high as 50-60% in Nigeria. Okaka and Awan (1985) pointed out that food supply to the developing countries could be increased by as much as 10-20% by reducing post harvest loss and wastage. Obanu (1990), noted that post harvest food losses of major food commodities arose from poor handling, poor storage, mechanical damage and bruises during harvesting and transportation, over ripening, rodent, mould and bacterial infestation, insanitary habits, illiteracy, among others.

From the forgoing, therefore, there is need to urgently address the effects of post harvest loss and wastage on Nigeria agriculture. One of the ways of reducing post harvest food loss and wastage is through children – in – Agriculture Programme.

CHILDREN IN AGRICULTURE PROGRAMME (CIAP)

An important innovation in agricultural development in Nigeria was the establishment of CIAP in 1995. The purpose of CIAP is to keep, nurture and sustain the interest of youth in farming. In order to achieve this goal, education of the youths is indispensable. Sound agricultural education is needed to mobilize and motivate the youths. The content of such education should go beyond theoretical aspects to include practical, integrated and multidisciplinary approaches.

In addition, experienced, dedicated and motivated teachers are required to impart the necessary knowledge and skill to the children.

Commencing the CIAP from pre primary and primary level would create additional impact. Naturally, the children will pass the knowledge and skill acquired to their colleagues, parents and local farmers thereby enhancing increases in agricultural production and productivity. According to Shonekan (1997) – productivity is a function of technological/technical progress and education plays an important role. This paper therefore is of the view that CIAP should be involved in the reduction of post harvest loss and wastage in order to make the envisaged increase in food production meaningful.

ROLE OF CHILDREN IN AGRICULTURE (CIAP) IN THE REDUCTION OF POST HARVEST LOSS AND WASTAGE.

Through CIAP a wide segment of farming community would be sensitized on the causes of post harvest loss and wastage and also actively involved in the reduction of the problem through:

1. Proper handling of food, or produce, hygiene and literacy;
2. Upgrading of traditional preservation methods viz. salting, smoking, pickling, fermentation among others;
3. Simple low input technology for preservation, processing and packaging food that is within the reach of average farmer, and CIAP members;

4. Breaking of certain food taboos and habits that encourage post harvest food loss and wastage;
5. Upgrading local technology on food preservation, processing, storage, packaging and adaptation of imported technology to suit local conditions and economic strength of people;
6. Use of local crops for industrial production of food products and raw materials.

The role of CIAP in the reduction of Post harvest loss and wastage could be complemented by the government through:-

1. Establishment of small scale processing industries close to the farming communities;
2. Development of good central storage facilities for food products;
3. Funding research to improve food preparation and storage;
4. Provision of good roads and efficient transportation system; and
5. Development of rural communities.

CONCLUSION:

In order to benefit fully from CIAP, efforts should be made through qualitative and comprehensive agricultural education to actively involve the Nigerian child and indeed the masses in the reduction of post harvest loss and wastage.

Effective mobilization of the Nigerian child in the reduction of post harvest loss and wastage will lead to self reliance, sufficiency towards food production, food security and technical progress.

In summary, concerted effort is required to reduce post harvest loss and wastage through progressive agricultural programmes like Children – in - Agriculture Programme.

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CHILDREN'S KNOWLEDGE OF CROP PRODUCTION: A STUDY OF PEST AND DISEASE CONTROL PRACTICES IN SOYBEAN (GLYCINE MAX (L.) MERR.) IN GBOKO LOCAL GOVERNMENT AREA, BENUE STATE NIGERIA.

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ABSRACT

Benue State, the "food Basket" of Nigeria, is a special large-scale soybean producing area. Both men, women and children are involved in soybean production in the state. Children play active role in planting, fertilizer application, weeding, insect and disease control measures, harvesting and carrying of harvested soybean. The yield of soybean is however limited by many factors among which pests and diseases play an important role. Despite the useful contributions made by children-in-crop production, the benefits of agricultural extension hardly go to them. In order to fully understand the extension needs of children-in-soybean production, a study was carried out to assess their knowledge level on pest and disease control practices in soybean and to measure the level of participation in soybean production. Data were collected from a random sample of 72 children grouped into levels of high, average and low awareness of pest and disease control measures.

About 92% of the children indicated good level of knowledge on soybean pest and disease control practices. They performed about 47% of the required farm work. The study implied that three conditions must be met to achieve success in Children-in-Agriculture Programme. (i) frequent and consistent contact of children-farmers with agricultural extension agents, (ii) imparting of agricultural knowledge to the young farmers through practical field demonstrations, (iii) communication of agricultural innovation to the children using vernacular or the local language of the area. This approach plays a high role in transferring technical knowledge to children-in-soybean production in Benue State. Thus, any agricultural development plan that neglects the role and involvement of children-in-agriculture does a great injustice to the nation and has consequently left a potentially large human resource under-utilized.

INTRODUCTION

The Federal Government of Nigeria in 1990 designated Benue State as the "Food Basket" of the nation and the country's special soybean producing area. Both men, women and children are involved in soybean production in Benue State (MANR, 1996). However, the yield of soybean is limited by many factors among which pests and diseases play an important role. It is not enough

to know the names of pesticides and fungicides to be used for controlling pests and diseases but, also, there is need to know to what extent, at what time and which of the pesticides and fungicides should be applied to control various pests and diseases. Based on the large scale production of soybean in Benue State, it was decided to conduct this study with Children – In - crop production who play active roles in soybean cultivation in Gboko Local Government Area; the main soybean-growing area in Benus State.

The children are boys and girls between 15-18 years of age. Adult men and women involved in agriculture are classed as "Occupational" full-time soybean farmers, whereas, Children-in-Crop production are "participatory" part-time helpers in soybean farms in Benue State (Field Survey, 1999). A general notion posits that "Children" are (I) dependants (ii) not family heads; (iii) not responsible to provide the family means of survival/livelihood; (iv) not responsible for taking family or farm decisions; (v) are still under training and under supervision and, hence (vi) subject to men or women heads of the families as the case may be. However, children are key helpers in the farming system and in Benue State; they play active roles in planting, fertilizer application, weeding, insect and disease control measures, harvesting and packing as well as transporting soybean produce from farm centres to the market (Field survey, 1999). Despite the fact that children can play important roles in the process of agricultural development, the benefits of agricultural extension hardly go to them. If extension education is to be effective, it must serve all categories of farmers, including the children, who are by status symbol being ignored.

Even though children constitute a potential contributive group in agricultural development in Benue State, and other parts of the world (Moser, 1993; AVRDC, 1999), much of their contributions had not been sufficiently accounted for nor well documented. There is no doubt that a clearer picture of children's role in agriculture in Benue State will enable the government formulate appropriate agricultural development plans for children integration. The main purpose of this study was to present a standard method to evaluate children's knowledge of crop production and measure their knowledge level for selected pest and disease control lpractices in soybean crop in order to fully understand the extension needs and roles of children-in-soybean production in Benue State.

MATERIALS AND METHODS

The Study Area:

About 90% of Gboko Local Government Area (LGA) working population are directly employed in agriculture, mostly as small holder rural-based farmers; an occupation that embraces the whole family (men, women and children). The major food crops grown are maize, cassava, yam while the main cash crops include soybean and groundnuts.

Selection of Knowledge items:

Knowledge items are 60 questions, structured on soybean pest and disease control practices and they were collected from extension specialists,

plant pathologists, entomologists, and agronomists of University of Agriculture, Makurdi and also from contact farmers in Gboko LGA and Block Extension Agent (BEA's) of Benue State Agricultural and Rural Development Authority (BNARDA). The knowledge items function to differentiate between a well-informed soybean grower and a poorly-informed one. The selection of these knowledge items were purely objective and impersonal.

Knowledge item analysis:

Forty four (44) knowledge items were finally selected out of the initial 60 (Table 1) based on "item difficulty index" and "item discrimination index" (Jha and Singh, 1970) and biserial correlation (Guilford, 1965). The knowledge items were administered to 72 children-in soybean production area selected at random from 36 randomly selected villages in Gboko LGA of the state. Right answer to the knowledge item was given one mark while wrong answer was given zero mark. Total score indicated knowledge level of the children who responded. All data were analysed using percentages.

Measurement of Reliability of the Knowledge items:

Reliability was ascertained by the "Test – Retest Method". By this procedure, the 44 knowledge items were administered twice to a group of 24 soybean farmers at 14 days interval. These farmers were neither previously interviewed nor were they among the 72 respondents of the study. Their response provided two sets of knowledge scores. A highly significant ($P<0.01$) correlation ($r=0.90$) was obtained between the two sets of scores. This observation indicated that the selected knowledge items were dependable and stable for measuring children's knowledge level on pest and disease control practices in soybean crop.

RESULTS AND DISCUSSION

Knowledge levels categorized as "high" "average", and "low" were used as a basis to describe the children's understanding of pest and disease control practices in soybean. The knowledge levels correspond to total scores of range 44-31 (high), 30-18 (average) and 17-1 (low) for each of the 72 respondents based on 44 knowledge items (Table 1).

About 71% of the children-farmers exhibited a high level of knowledge on pest and disease control practices in soybean while about 21% of them showed average knowledge level with only 8% indicating a low knowledge level (Table 2). On the whole, about 92% of children-farmers had a relatively good knowledge sufficient enough for the complex application of all innovations pertaining to soybean productioin and improvements through adequate pest and disease control practices. This high innovation awareness clearly substantiates Benue State's position as large scale producer of soybean in consonance with her designation as the "Food Basket" of Nigeria. In terms of extension contacts, 100% of the children-in-soybean production revealed (Table 1) that: (I) they obtained technical information about pest and disease control practices in soybean from extension agents; (ii) they reported any pest and disease incidence

in soybean to the extension agents; (iii) their soybean farms were visited by the extension agents; (iv) they developed confidence and obtained benefits from the visits made to their farms by the extension agents; (v) they were motivated to embark on pest and disease control practices in soybean crop due to practical demonstrations on their farms by the extension agents; (vi) the extension agents used tiv language (vernacular, local language) as communication medium which they perfectly understood. The outcome of these favourable extension interactions between the children-farmers and extension workers was the children's understanding of pest and disease control practices in soybean crop in Gboko LGA – the major Benue State soybean producing zone. It should be realized that the children – farmers had absolute confidence in the extension demonstrations which influenced their high rate of adoption of pests and diseases control innovations. Thus, the youth-farmers are rightfully branded knowledgeable, accepting and utilizing recommended extension practices in pest and disease control in soybean. Indeed, Overholt et al (1984) stressed that the "Youth" is a factor that would tend to accelerate adoption of agricultural innovations. The progressive development of these children-in-soybean production is expected since the enlightenment efforts of BNARDA and Co-operative Extension Centre (CEC) of the University of Agriculture, Makurdi, together they provided appropriate extension services in Benue State.

The starting point for determining the level of participation of children-in-soybean production is the physical division of labour. Data in Table 3 show that the children were primarily responsible for planting (100%); harvesting (100%); manual weeding (80%); fungicide application (70.8%); produce packing and carrying (70.8%); insecticide application (75%); and fertilizer application (73.6%). The entries also show that the children often contributed reasonably to thinning (41.7%) and supplying (*40.3%). They contributed least in farm site selection (00.0%), land preparation (6.9%); threshing (6.9%); farm clearing (8.3%); herbicide application (13.9%) and seed treatment (15.3%). The low level of participation in the last eight operations indicates that they were traditionally adult-dominated farm operations. On the whole, children contributed 47% work force to soybean production (Table 3) in Gboko LGA, Benue State. It seems that children are under-utilized farm resource and the present study confirms that they can provide an economic contribution to agricultural development.

IMPLICATIONS AND CONCLUSION

The study characterized extension needs of the children who are participants in soybean production. The finding implies that field extension workers should spend the least time on non-extension duties and most of their working period to guide all categories of farmers through practical demonstration on the farm. Children are busy productive farm workers in soybean projects and their work should be assessed in financial terms so as to be fully appreciated and recognized both by the farm family heads and the government. It must be reiterated that any government that ignores children integration in any agricultural development plan does a great injustice to the nation and consequently has left untapped a potentially large human resource.

To conclude, effective dissemination of knowledge of agricultural practice is enhanced through practical demonstration on the farm. Children contribute largely to productive farm work. The government is urged to boost agricultural career development among children through financial, logistic and moral supports.

RECOMMENDATION

Assessing different groups of children can often be most successful in an informal atmosphere (Narayanasamy et. Al., 1996). According to Johnson, experts accept that children's needs are largely invisible in development planning, as many people believe they know what children want. In the light of the above, it is suggested that children should be involved in decision making and implementation of agricultural enterprises by their parents as well as governments and development agencies.

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Table 1: Instrument for Measuring Children's Knowledge of Pest and Disease Control Practices in Soybean Production

	KNOWLEDGE ITEMS	RESPONSE	PERCENTAGE OF RESPONSE
1.	Is there any incidence of pod-sucking Bug in soybean?	Yes/No	62.5
2.	Can you identify pod-sucking bug?	Yes/No	70.8
3.	Which pesticide is recommended for The control of pod-sucking bug?	Correct/ Incorrect	90.3
	Do the following pests damage Soybean Crop?		
4.	Leaf feeding insects	Yes/No	84.7
5.	Aphids	Yes/No	83.3
6.	Jassid		87.5
	Have you heard about the names of the Following pesticides?	Yes/No	
7.	Cymbush	Yes/No	76.4
8.	Roger	Yes/No	79.2
9.	Karate	Yes/No	70.8
10.	Agodrin	Yes/No	84.7
11.	Endosulfan	Yes/No	86.1
	Can leaf feeding insects be controlled by the following pesticides?		
12.	Cymbush	Yes/No	73.6
13.	Vetox – 85		
14.	Vetox – 86		
	Can the following pesticides control Flower thrips?	Yes/No	8.3
15.	Endosulfan	Yes/No	45.9
16.	Perfekthion	Yes/No	52.8
17.	Monocrotophos	Yes/No	55.6
18.	Dimethoate	Yes/No	86.1
19.	Cypermethrin	Yes/No	91.7
20.	Can the same pesticide be applied to Control Pod-sucking bug?	Yes/No	30.6
21.	Do you know that leaf feeding beetles are more active in the vegetative growth phase of soybean crop?	Yes/No	73.6
22.	Which is the most serious pest of soybean Crop?	Correct/ Incorrect	100
23.	Which resistant variety is recommended for this pest?	Correct/ Incorrect	100
24.	Is the disease of "Leaf Spot" seen in Soybean?	Yes/No	83.3
25.	Which fungicide should be used to Control "Leaf Spot" disease in soybean?	Correct/ Incorrect	100

	Have you heard about the names of the following fungicides?		
26.	Fernasan D.	Yes/No	100
27.	Benlate	Yes/No	100
28.	Thiram	Yes/No	75.0
29.	Dithane M45	Yes/No	97.2
30.	Aldrex-T	Yes/No	100
31.	What is the advantage of seed treatment of Soybean before planting?	Correct/ Incorrect	70.8
32.	Which fungicide would you use for seed treatment for soybean?	Correct/ Incorrect	100
33.	What quantity of the fungicide will be Required for treating I kg seed of soybean?	Correct/ Incorrect.	100
34.	Which is the most serious disease for Soybean crop?	Correct/ Incorrect	75.0
35.	Can the intensity of this disease occurrence Be minimized by crop rotation?	Yes/No	27.8
36.	Can ploughing infected crop residue Control this disease incidence for soybean Crop?	Yes/No	18.1
37.	Can the use of recommended varieties Minimize this disease incidence for Soybean crop?	Yes/No	91.7
38.	Is planting disease-free seeds a control Measure for "Leaf Spot" disease?	Yes/No	44.5
39.	Do you obtain information about pest and Disease control practices in soybean from Extension agents	Yes/No	100
40.	Have you reported any pest or disease Incidence in soybean to extension agents Within the last 12 months?	Yes/No	100
41.	Have extension agents visited you in the Soybean farm within the last 12 months	Yes/No	100
42.	Do you have confidence in/realize benefit From the visits made to your farm by Extension agents?	Yes/No	100
43.	Do practical demonstrations on the farm By extension agents motivate you to Embark on pest and disease control in Soybean crop?	Yes/No	100
44.	Did the extension agent use vernacular (local) Language as the medium of communication?	Yes/No	100

TABLE 2: CHILDREN-FARMERS' KNOWLEDGE LEVEL ON PEST AND DISEASE CONTROL PRACTICES IN SOYBEAN CROOP IN GBOKO LOCAL GOVERNMENT AREA, BENUE STATE, NIGERIA.

Knowledge Level	Children-farmers	
	Number	Percentage
High	51	70.83
Average	15	20.83
Low	06	08.33
Total	72.00	100.00

Table 3: Soybean Crop Production Activities Performed by Children-farmers in Gboko Local Government Area, Benue State, Nigeria (₦72)

Type of Activity	Percentage of Contribution		
	YES	NO	TOTAL
1. Farm site selection	00.0	100.0	100.0
2. Farm clearing	8.3	91.7	100.0
3. Land preparation	6.9	93.1	100.0
4. Seed treatment	15.3	84.7	100.0
5. Planting or sowing (according to recommended procedures) 100.00	100.0	00.0	
6. Thinning	41.7	58.3	100.0
7. Supplying or Gas filling	40.3	59.7	100.0
8. Fertilizer application	73.6	26.4	100.0
9. Herbicide application	13.9	86.1	100.0
10. Fungicide application	70.8	29.2	100.0
11. Insecticide application	75.0	25.0	100.0
12. Manual weeding	80.6	19.4	100.0
13. Harvesting	100.0	00.0	100.0
14. Threshing	6.9	93.1	100.0
15. Produce packing and carrying	70.8	29.2	100.0
TOTAL	**704.1**	**795.9**	**1500.0**
Level of Participation of Children-Farmer	46.94	53.06	100

Source: Field survey, 1999.

STUDENTS' PARTICIPATION IN SCHOOL FARMING ACTIVITIES (SFA) IN IKORODU AREA OF LAGOS STATE, NIGERIA

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ABSTRACT

Agricultural self-reliance can be achieved through revitalizing the desire of youths for farming and regenerating the interest of the adolescent in farm work.

The study was conducted to determine the level of participation of secondary school students in farming activities. ONE HUNDRED Senior Secondary Students were sampled and the data analyzed with descriptive statistics.

Sixty (60%) percent had the required knowledge and mastery of the subject matter to succeed in Agricultural Science. Consequently, sixty-three (63%) percent were motivated to offer the course by their teachers while others were influenced by their parents, friends and farmers around. Nevertheless, sixty-two (62%) percent have their own farms at home, only twenty-eight (28%) percent were interested in taking up farming as a career.

Agricultural Science teachers should show more dedication to the practical agriculture to motivate students and develop their interest in agricultural profession as a career.

INTRODUCTION:

Nigeria is classed with vast land resources, about 71.2 million hectares of cultivable land out of which only 6.34 million hectares were cultivated (Shiamoya, 1985). This means that less than nine (9%) percent of the total agricultural land was cultivated.

More human resources need in be mobilized to addition to the existing 15million farms to make effective use of these vast land resources in order to attain self-sufficiency in food production.

In recognizing the population of the Nigerian youths and the role they can play in agricultural development, Akpan (1985) asserts that the neglect of the contribution of the youths in Nigeria will amount to ignoring 80% of the human resources while he contends that if our present leaders in agriculture can put down their manuscript briefly and help to organize a truly Nigerian youth movement, the long term solution to the country's food shortage would have been found. It was against this background that the school-to-land programme was launched in 1984 by the federal military government for the mobilization of young school leavers and a necessary appendage was the school agricultural

programme started by the various state governments through the state Ministry of Agriculture and National Resources with these objectives:

(i) To make the youths appreciate the dignity of labour.
(ii) To enable the school children contributes to food production.
(iii) To develop the interest of youths in modern techniques of agriculture.
(iv) To enable the youths appreciate the problems of the Nigerian farmers.
(v) To foster a desire in the children to improve agriculture in Nigeria.
(vi) Lastly, to enhance rural development.

The youths played a very dynamic role in agricultural production as a major source of farm labour attributable to the farm families before the introduction of free primary education in 1955. Through their exposure to farming, majority of the youths had taken up farming as full time profession. With the introduction of free primary education, many parents sent their wards to the primary school. They finished and went to bigger towns and cities to attend secondary and tertiary institution. Their long sojourn in schools resulted into shortage of farm labour, scarcity of food and general decline in agricultural production.

On the completion of their studies, they drifted away from the farms as they found it difficult to return to the farms because they no longer saw agriculture as a profession that fits into their educational qualification but profession for their illiterate parents, a dirty job destined for the poor. This fueled their negative attitude towards agriculture as a course of study not to talk of taking it up as a profession.

Attitudes formed by an individual about an idea is a learnt thing which can be positive or negative and can be changed through knowledge, further learning, and participation in the activities over time.

METHODOLOGY:

The area of study was Ikorodu Local Government Area, one of the five of Lagos State that were created under the 1976 Local Government Reform. It is situated in the Northern part of the state bordered by Ogun State, in the south by the Lagoon, in the West by Shomolu and Kosofe Local Government Areas. The Local Government Area had about twenty-five secondary schools from which ten schools were randomly sampled. The local government area was zoned into five and two schools randomly selected from each zone. These zones are Odegunyan, Ikorodu, Bayeku/Orefa, Igbogbo and Ijede/Igbokuta. From each school ten agricultural science students were randomly sampled from the senior secondary class three (SS III). Questionnaire was used to collect information from the students. The data were analyzed with descriptive statistics.

RESULTS AND DISCUSSION:

The respondents were sixty eight (68%) percent male to thirty two (32%) percent female. They were averagely eighteen (18) years old though their ages ranged from sixteen (16) to twenty-four (24) years. Their parents' occupation was mostly farming with few artisans. Most of the schools did not have enough

agricultural teachers. Few (10%) schools did not have land for agricultural practicals. Also, some (30%) schools did not have the young farmers club.

Knowledge and Skill gained by students:

None of the schools had enough agricultural teachers to go round the students' classes. The highest number of teachers in any of the (20%) schools was four which is grossly inadequate for any school having six classes to teach from JS I – III, and SS I while some (10%) schools have just one teacher for six classes. The average was two and half (2.5) teachers.

The period of practical classes in each school ranged from none in some (10%) school to once monthly 40% twice in 10% of schools. Four and eight times monthly in twenty (20%) percent of schools for each. The average was three times in each month for all the schools. These practical periods were grossly inadequate for meaningful skills to be imparted to the students for them to gain the confidence of wanting to start a farm after their course of study.

On the knowledge and skill gained from the school farming activities, the students did not acquire enough skill to be able to start a farm of their own after schooling. Nevertheless, they had enough knowledge to be able to pass their examination on the average though some (15%) rated themselves below average in knowledge, while some (25%) students rated themselves about average in knowledge. Forty-eight (48%) percent as adequate while only twelve (12%) percent rated themselves as very adequate.

Participation of Students:

Ninety (90%) percent of the students have school farms and participated in practical agriculture in their schools. They operated mostly mixed cropping according to sixty (60%) of the students. Some twenty percent (20%) percent operated mixed farming while few (10%) schools operated mono-cropping system. Though only thirty four (34%) percent of the students were farmers children, sixty two (62%) percent of the students have personal farms of their own at home. Twenty-three (23%) percent visited their private farms once a week. Thirteen (13%) percent visited theirs twice weekly while twenty six (26%) percent visited their farm daily to carry out one operation or the other. They engaged in all the cultural operations ranging from land clearing to harvesting. Fifty five (55%) percent of them worked on inherited land by their fathers while seven (7%) percent claimed that the land was bought.

Stimulation of students interest in Agriculture:

The students parents occupation ranged from farming by thirty four (34%) percent, teaching by thirteen (13%) percent, trading by nineteen (19%) percent, civil service by fourteen (14%) percent and artisan by twenty (20%) percent. Nevertheless, twenty eight (28%) percent of the students were stimulated to offer agriculture by their parents that means not all the farmers would want their children to be farmers. This is in line with Paul (1991) that children were advised by their parents that the only source of livelihood was

education which they were being equipped with since there was no more land to be inherited.

Sixty-three (63%) percent of the students were influenced to offer agricultural science. This must have been due to the students personal likeness in the teacher himself and probably not in the subject nor the profession. Six (6%) percent of the student s were influenced by their friends to offer the course. This can be regarded as just peer influence for they are likely to be among those that confessed that they have no knowledge to be able to succeed in the subject nevertheless they still offer it. Three (3%) percent were influenced by farmers around. Two group would have been properly motivated even to taking farming up as a profession for they have been influenced by either the products or the success of these farmers in their vicinity as they see them day in day out washing their activities daily.

Career Aspiration of Students:

Twenty-eight (28%) percent of the students were prepared to take up farming as a career in future. Sixteen (16%) percent prefer civil service while forty one (41%) percent wished to further their studies and the remaining fifteen (15%) percent did not respond.

CONCLUSION:

The students participation in school farming activities had not in any way influenced their interest to take up farming as a professional career moreso when some schools do not have agricultural land for their practical. The teachers were not enough in those schools while the practical classes were not effectively handled to stimulate students adequately enough.

The government should provide the school with more agricultural science teachers preferably university graduates who will be more dedicated and experienced in practical aspect of agricultural science.

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THE ROLE OF CHILDREN'S AGRICULTURAL EDUCATION AND TRAINING IN SOIL FERTILITY MANAGEMENT AND CONSERVATION IN SOUTHEASTERN NIGERIA

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ABSTRACT

Children's agricultural education and training provide a range of educational activities with the primary aim of achieving human resource development throughout the rural economies of almost all nations. This paper x-rays the role of children's agricultural education and training in soil fertility. It also examines the key factors militating against children's education and training in the natural resource conservation sector which include: lack of clear policy framework on children's agricultural education and training, poor curriculum development, lack of consistent practical on-farm training for children, poor co-ordination between agencies involved in this sector and absence of the right learning environment for children. The paper suggests that improved policy framework drawn by all stakeholders in this sector, use of participatory technology development, complete overhaul of training approaches and curricula to create new attitudes, skills and awareness, broadening the children's agricultural education concepts, creating the right learning environment for children and bridging the gap in collaboration between institutions involved will be the panacea to improved children's agricultural education and training in the soil fertility management and conservation sector.
Keywords: Children, agricultural education and training, soil fertility management and conservation.

INTRODUCTION

The lives and livelihoods of poor people everywhere depend on their ability to secure adequate food, water and sources of energy. Much of the food, water and energy sources are derived from the land. Land as a factor of production is easily destroyed and cannot be created by man. Because of this intrinsic quality of land, it follows therefore, that proper use of land resources is imperative if man must subsist on this factor of production since careless use of land affects land qualities and consequently its productivity (Anikwe, 2000). According to FAO (1990) Land is much more than the solid surface of the earth. It includes the soil and the rock beneath, the atmosphere with its climates, the cyclic inter change of water between the sky, the ground, the rivers and the sea,

and the whole mantle of living things, both plants and animals. All of this is subject to the aims, abilities and stupidities of the human population. And a single change in any aspect of the land can precipitate a change in many others. Thus, we have to think about rational use of land to avoid unfavourable complexities of irrational land use.

The scale of land degradation problem in Africa may be subject to debate (CTA, 1993) but there is no doubting that land degradation is one of the most serious threats to food production over much of Africa. In extreme case concludes CTA (1993), Land may be so badly degraded that it is abandoned by farmers but it is the gradual degradation of soil fertility that menaces farmers throughout the continent which is more sinister and widespread.

The role of youths (including children) in agricultural production in Sub-Saharan Africa cannot be neglected. Omoregbee (1995) elucidated that agricultural components of development in Africa has often focused attention on the adults and has failed to address (any or sufficiently) agricultural educational efforts at young men and women effectively. Yet, children are often involved to a large extent in different aspects of agricultural production in small holder farms scattered throughout the continent. Indeed, more than 80% of school age children in Southern Nigeria living with or without their parents in rural areas are involved in one or more aspects of food production. Since agricultural education and training provides a range of educational activities with the primary aim of achieving human resource development throughout the rural economies of almost all nations (Wallace and Wilson, 1997), it follows that proper and timely education and training of children in basic agricultural skills particularly in soil fertility management and conservation maybe the panacea to solving soil degradation problems in Southern Nigeria.

IMPORTANCE OF TRAINING AND EDUCATING CHILDREN IN SOIL FERTILITY MANAGEMENT AND CONSERVATION:

School age children are responsive to events in their environment. Agricultural education and training covers the learning needs of all parts of environmental conservation including forestry, fisheries, wildlife and land use management. Teaching children basic skills in land use, soil fertility and conservation is vital since they are involved in the farming process. Presently, only very small number of children are involved in agricultural development initiatives. Schools in Southern Nigeria at various times, introduced young farmers clubs, school-to-land programmes etc and agriculture has been introduced into the school curricula, but these are insufficient. In the Universities and Colleges of Agriculture, students' enrollments are very low. All these raise the question of whether young people see agriculture as a serious subject. Children's agricultural education and training is usually funded by public agencies of the various ministries, concerned with agriculture, environment and education. However, in recent times, increased interests in youth education have been developed by private sector training stakeholders including non-governmental organizations, parastatals, agribusiness community and professionals like the Children-In-Agriculture Programme (CIAP). These

agricultural education and training organizations especially formal organizations like primary, secondary and universities, colleges and other institutes are key instruments in propagating support services for the agricultural conservation sector.

Agricultural education and training audiences include professionals and sub-professionals who service the rural sector through research, extension, agricultural teaching, NGO management etc; rural producers and their household member, adults in the "off-Farm" sector who support primary education (Wallace and Wilson, 1997). The target audience are young people receiving vocational education in the agricultural production and environmental conservation sector through vocational education in high schools, youth training centres, national youth services and apprenticeships; also involved are children in primary and secondary schools who learn agriculture for prevocational preparation. For example, Omoregbee (1995) postulates that Young Farmers Club (YFC) members can play an important role in channeling new ideas into development programmes particularly where many rural adults are illiterate. In this situation, parents and other relatives rely on their young people as a channel of communication. This is because it has been observed that farmers tend to trust messages on agricultural innovations from their children more than from official extension agents. He concludes that well organized YFC's provide excellent opportunities for conducting "method-and-result demonstrations", either on school ground or on farms of pupil's parents. In such cases there can be rapid adoption of new techniques or varieties by farmers. CTA (1993) elucidated that land cannot be restored in any significant quantity without involvement of farmers (including children farmers) so there is a need to motivate and train farmers – women, children and men. Because most African rural farmers are illiterate, their school age children can be taught basic skills in agricultural and environmental conservation which they easily relate to their parents in their home and farm. For example, children are mostly involved in disposal of household wastes. If they are taught how to sort these wastes and dispose them properly instead of pouring the wastes into drains which later cause flooding, it will be easy for the children to implement. These wastes can be dumped directly in the farm in the off-farm season or dumped in compost pits for use later as organic fertilizers.

FACTORS MILITATING AGAINST CHILDREN'S AGRICULTURAL EDUCATION AND TRAINING:

There are some key factors that work against children's agricultural education and training. One of these is lack of a clear policy framework on agricultural education of children. Institutions involved in children's training do not have articulate programmes for imparting basic knowledge about soil fertility and conservation. According to Segerros and Cheatle (1993), much good work has been done on soil fertility and conservation. We have a basket of technical practices that are known to be effective in controlling soil and water erosion. In most cases we know what to do, and the next step is how to put it into operation in farmers field.

Different agencies involved in soil fertility and conservation have varied curricula for children's agricultural education and training. There is no consistent practical on-farm training for children involved in these programmes. Soil conservation teachers concentrate on theoretical training about erosion control. They teach children how to design mechanical erosion measures rather than using vegetative methods to achieve the same goal. Practical training on how to use simplistic approaches to control erosion like use of brush wood dams, log wood dams and vegetated water ways are de-emphasized, rather emphasis are placed on technical packages that require theodolites and lasers which are often not available.

Most institutions involved in agricultural education and training of children are not in direct contact with their clientele (the children). Often, most children in rural areas have no opportunity of getting formal education, therefore, they miss the opportunity of receiving agricultural education and training provided by the institution through formal collaboration.

PANACEA FOR IMPROVED CHILDREN'S EDUCATION AND TRAINING:

There is a need for improved policy framework for children's agricultural education and training so that rural and urban farmers will benefit from good land husbandry initiatives. The policy framework should be drawn by a collective effort of all stakeholders in natural resource conservation. Most importantly, emphasis should be placed on the use of participatory technology development (PTD) since children are always excited to learn by doing.

There is also a need to overhaul and modify the training approaches and curricula to create new attitudes, skills and awareness with farmers. According to Segeros and Cheatle (1993) children of today are future land managers and if school children are trained and informed about proper land management techniques, the prospect for increases in sustainable production will look brighter in the future. School teachers require training in sustainable land husbandry. Part of their job will also be to bring land husbandry into the school curriculum through creation of specialist subjects and the strengthening of existing subjects with materials about conservation.

The broadening of children's agricultural education and training concepts will increase its effectiveness. This according to Wallace and Wilson (1997) can be done by introducing people-oriented approaches both within training organizations and in outreach programmes; training staff in participatory approaches and allowing time for this complex process. It is important to provide training managers with improved skills in implementation, monitoring and evaluation, and in communication with trainees and rural client groups; and creating a "critical mass" of change-oriented staff that can contribute to sustainable innovation.

Finally, it is useful to create good learning environment for children to enable them appreciate the technological packages they are meant to imbibe. This can be done using new approaches especially those that have to do with indigenous knowledge systems, local values; linking the academia and the

farmers more closely. Children's agricultural education and training have the capacity of improving soil fertility management and conservation if well articulated and implemented. This can be achieved through the use of new training approaches, formulation of the right training curriculum and bridging of the gaps in collaboration between institutions involved in children's agricultural education and training.

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STIMULATING AND SUSTAINING INTEREST IN AGRICULTURE THROUGH ACQUISITION OF CHEMICAL KNOWLEDGE

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ABSTRACT
The Children-In-Agriculture Programme (CIAP) seeks to create an atmosphere that will facilitate the keeping, nurturing and sustaining the interest of farm-children/youths in farming activities. This paper discusses some ways by which children's interest in agriculture can be stimulated and sustained through acquisition of chemical knowledge. The chemistry teacher and his teaching strategies are important factors in determining how far children's interest in chemistry and by implication agriculture can be fostered through meaningful and purposeful teaching and learning of chemical concepts and principles. It is suggested that through the complimentary efforts of both the chemistry and agriculture teachers, chemical concepts and principles applicable to agriculture can be firmly rooted in a lively and stimulating curiosity.

INTRODUCTION:

The focus of Children-In-Agriculture Programme (CIAP) is "to create an atmosphere that will facilitate the keeping, nurturing and sustaining the interest of farm-children/youths in farming activities." The achievement of this laudable goal is onerous and demands stimulating and sustaining of children's interest in agriculture. The task of stimulating and sustaining this interest in agriculture throws a great challenge not only to the teachers of agriculture but those of related sciences who are also stake-holders in the propagation of scientific literacy. Akubuilo (1989) recognizing the diverse nature of agriculture and the role other sciences can play in the effective teaching and learning of the subject has this to say:

> Agriculture is a discipline made up of many parts... Agricultural science contains elements of many of the basic pure and applied sciences, for example, botany, zoology, chemistry, genetics, entomology, physiology, bacteriology, geography, economics and physics. This interrelationship between agriculture and other sciences must be recognized if effective teaching/learning is to take place. Agriculture should, therefore, not be taught in isolation.

It is this recognition of the interrelationship between agriculture and other sciences such as chemistry, that calls to question the role chemistry teachers can play in stimulating and sustaining children's interest in agriculture.

SOME AREAS OF AGRICULTURE WHERE CHEMICAL KNOWLEDGE IS NEEDED:

Chemical concepts and principles encountered in the study of agriculture are legion. For example, chemical concepts and principles are essential for a better understanding of soil science, pest control, plant and animal nutrition. Soil science studies the physical, chemical and biological properties of the soil in relation to plant growth. In soil science, we also study soil formation, which involves physical and chemical weathering of rocks. Chemical weathering changes the chemical structure of rocks. Some chemical concepts that are important in the study of chemical weathering include hydration, oxidation, hydrolysis and carbonation. Other chemical concepts are colloids; ion-exchanges; acidity, alkalinity and liming.

Plant nutrients include macro and micro nutrients which play important roles in plant nutrition. The macro elements are N, P.K, Ca, Mg, while the micro elements are Zn, Fe, Mo, Mn, B and Cu. Inorganic and organic manures and fertilizers are used to improve soil fertility and enhance plant yields. These equally can be taught under agricultural chemistry and have implications for the chemistry teacher. Animal nutrients such as carbohydrates, proteins, fats and vitamins involve chemical principles and are useful concepts in the study of agriculture.

ROLE OF THE CHEMISTRY TEACHER IN STIMULATING AND SUSTAINING INTEREST IN AGRICULTURE:

It has been recognized that the use of chemicals and chemical concepts for agricultural purposes is one of the major applications of chemistry. Following from this, the chemistry teacher has an important role to play in imparting chemical knowledge not only to children who hope to be graduates in chemistry but also those who would make use of such knowledge in other fields of human endeavour such as agriculture. If children are to be interested in farming activities, the knowledge they receive in other science areas related to agriculture must be meaningful and stimulating.

The teacher and his methods are important factors to be considered in the creation of a favourable atmosphere for the stimulation and sustenance of children's interest in farming activities through acquisition of chemical knowledge.

The Teacher: Stimulating and sustaining interest in chemistry and by implication agriculture requires a lot of skill, considerable knowledge and dedication on the part of the chemistry teacher. There seems to be a general agreement among science educators that it is the teacher who counts more than the method in any teaching-learning situation. It is he who gives meaning to the syllabus. He can make or mar it.

An effective chemistry teacher should constantly relate his teaching to the children's previous knowledge. He should make his teaching as meaningful as possible, for according to Ausbel (1960), meaningful learning only occurs when there is a definite relationship between what the pupil already knows and what he is taught. Similarly, Okwu (1982), suggested that to ensure continued interest in chemistry, chemistry instruction should relate basic chemical principles to everyday experiences of the students. In teaching an agricultural chemistry topic such as nitrogen fertilizers, a wise chemistry teacher should draw from what the children already know about manures as plant nutrients and their roles in plant nutrition. This will not only make the lesson meaningful but also relevant. Most importantly, it is the duty of the chemistry teacher to identify those underlying chemical concepts and principles relevant to the practice of agriculture and relate them to his teaching.

The Teacher's Methods: For effective chemistry teaching and learning, the teacher may wish to explore any or a mixture of some teaching strategies.
The Activity Mode: Aniodoh (1984) observed that chemistry is an experimental and activity-oriented subject and recommends it as a way of developing or stimulating children's interest in understanding the subject. The activity-oriented strategy involves the child directly and is designed to create a high level of interest in learning that will become personalized and individualized for the learner. In the activity mode, the teacher's role, according to Jarolimek and Clifford (1981), is that of setting the stage and providing the environment within which children can engage in learning activities in terms of their own interests, needs, capabilities, personalities and motivations.

The teacher and his class can pay a visit to the school farm or garden, collect pest crops such as grasshoppers, aphids, weevils, cotton stainers, etc and discuss the role of pesticides (chemicals) on pest control. Another visit to a village farm may involve the study of the role of herbicides (chemicals) in weed control. The study of some common nutrient deficiency symptoms, for example, chlorosis, sickle leaves, stunting, apical necrosis involve chemistry related concepts and are better studied outside the four walls of a science laboratory. They are better studied in situ. The teaching of the periodic table of elements should be related to the macro and micro elements and their roles in plant nutrition. Similarly, the teaching of carbohydrates, proteins, fats and vitamins (animal nutrition) should be related to the food children eat in their homes.

In the activity mode, the resourceful teacher provides a carefully selected assortment of learning materials for pupils to handle, manipulate, experiment with and puzzle over. His role should be that of a catalyst to stimulate and sustain children's learning.

TEACHER'S USE OF MOTIVATIONAL TECHNIQUES:

The role of motivation in enhancing learning is well recognized by educational experts. Curzon (1976) believes that the teacher has the task of creating a learning environment, which relates the learners' activity to his needs

and aspirations, so that his competence is developed and strengthened, and his sense of self-improvement heightened. It may be necessary to use a combination of teaching strategies to achieve this. Another important task of the teacher is his ability to arouse, regulate and sustain the children's enthusiasm for learning, that is, the harnessing of his power of motivation in the service of the lesson. An effective teacher should realize that children need occasional praises and encouragements and should reflect this in his teaching. For sustenance of interest in chemistry, therefore, the teacher should make efforts to ensure that the fatigue which accompanies boredom and which destroys motivation ought to be avoided by a planned variety of teaching and learning activities.

Cooperation Among Teachers: Conscious cooperation between the teachers of various subjects for example, chemistry and agriculture will help to bridge the gaps which separate them, reduce uneconomic use of time and also utilize the interest which is aroused when one teacher refers to the knowledge which the pupil has associated with the work of another teacher. Akubuilo (1989) seems to support this view. According to him, if effective teaching/learning is to take place, agriculture should not be taught in isolation. Cooperation among teachers runs on the same principle with team teaching which recognizes the fact that the combined resources of all working in harmony are far greater than the total of each individual component. Through the complementary efforts of both the chemistry and agriculture teachers, chemical concepts and principles applicable to agriculture can be firmly rooted in a lively and stimulating curiosity.

SUMMARY AND CONCLUSION:

Children-In-Agriculture Programme has as its goal the creation of an atmosphere that will facilitate the keeping, nurturing and sustaining the interest of farm-children/youths in farming activities. Such enabling environment can be created if the teacher recognizes that since agriculture is interrelated with other sciences it cannot be taught in isolation. Science teachers need to complement their efforts in order to create a favourable atmosphere for effective teaching and learning of science. For stimulation and sustenance of children's interest in agriculture through acquisition of chemical knowledge, chemistry must be taught meaningfully and purposefully. Meaningful and purposeful chemistry teaching must recognize the children's interests and needs in order to channel them into the learning experience so as to make learning purposeful, stimulating and rewarding for the children.

The teacher and his methods are also important factors in providing a favourable atmosphere for children's participation in farming activities. A great deal of knowledge, skill and dedication are needed by the teacher if he is to stimulate and sustain children's interests in chemistry and related occupations such as agriculture. The teacher's use of a variety of teaching and motivational techniques can go a long way in winning children/youths to agriculture. The chemistry teacher should always identify chemical concepts and principles relevant to agriculture and other occupations and relate them as appropriate in his teaching.

In conclusion, if farm-children/youths are taught chemical concepts and principles meaningfully and purposefully, an enabling atmosphere would have been created to foster the stimulation and sustenance of their interest to participate in farming activities.

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CHILDREN-IN-AGRICULTURE PROGRAMME: A STRATEGY FOR POVERTY ALLEVIATION

BY

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ABSTRACT

The role of children in agriculture is as old as the farming profession itself. One of the major limitations to increased agricultural production in Nigeria is the high cost of labour required to carry out important timely operations in the farm. Child labour is generally cheap and available especially during the holidays.

A survey recently conducted showed that as much as 25 percent of our children population are engaged in agriculture. The same survey showed that as much as ₦2,000 per farming season can be earned by a boy child while about ₦1,500 can be earned by a girl child engaged in farming in a given farming season.

Existing knowledge about children in agriculture in the country needs to be updated and harmonized into a comprehensive database to facilitate the realization of children in agriculture programme.

A well planned and executed children-in-agriculture programme will substantially result in increased revenue to the family and reduced rural-urban migration in Nigeria.

INTRODUCTION

It was Aristotle who said "if you want to discuss with me define your terms". In keeping with this great philosopher's line of thought, we have to present a common concept for the key points in this paper. Among the key points are:

(i) Poverty and Poverty Alleviation.
(ii) Who is a child?
(iii) What is Children in Agriculture?

Poverty is a state of not being able to obtain in reasonable amounts the basic necessaries of life. The concept is also a relative one because poverty line varies from country to country and even from community to community.

Poverty Alleviation is any contribution or input by an individual, group or Government which raises the poverty line of an individual, family or a given community. A child chronologically is a young person from birth to the age of full physical development.

In some countries like Nigeria, a boy-child or girl-child is one who is dependent on the parents for his or her livelihood and who is generally less than 18 years old.

Children-in-Agriculture can be described as the many ways in which children's ability, potentials and interests are harnessed in fruitful agriculture ventures of agri-business.

Children-in-Agriculture programme is justifiable and worthwhile. Uzoigwe (1997) observed that many Nigerians have relatively more knowledge in farming than in other enterprises, and because we have not sufficiently taken off in modern agriculture, the teaching of modern agriculture to our children will have quicker up-take and appreciation of the advantages of the application of science and technology in agriculture.

OBJECTIVES:

In the planning of the teaching programme in agriculture, Ukwueze (1993) suggested the following points as the objectives, which must be clearly stated:

(i) Help people make a beginning and advancement in agriculture;
(ii) Demonstrate clearly that agriculture is a means of earning money;
(iii) Teach people how to produce farm commodities efficiently;
(iv) Teach people how to market farm produce advantageously;
(v) Teach people how to conserve the soil and other natural resources;
(vi) Direct people on how to manage an agri-business;
(vii) Advise people on how to maintain a favourable and healthy environment.

Successive Governments of this country have through time attempted different agricultural programmes in a bid to provide enough food and fibre with a view to achieving food security and thereby help to alleviate poverty nation-wide.

Babayemi (1987) listed some of the programmes as follows: 'Back to land' of the early sixties, "Land Army" of the Nigerian Civil War days, the "Operation Feed the Nation" (1976-1979), the "Green Revolution" programme of the Federal Government of Nigeria (1980-1983) and "Food for all programme."

Ukwueze (1999) listed 25 crop based agricultural programmes e.g. Farm settlement schemes, fertilizer sales and distribution programmes, school – to – land programme, River Basins and Rural development authorities, seed multiplication programme, etc in addition to the one's earlier recorded by Babayemi (1987) and concluded that poor implementation, misappropriation of funds, poor supervision, inadequate funding, frequent programme and policy changes were major factors responsible for the failure of such programmes.

Problems:

The programmes failed to achieve the desired goals because of frequent changes in policy and non-sustainability. These programmes did not help the farmers who had inadequate preparations for modern agriculture in areas of optimum production and utilization of farm products. Livestock, for instance, is

of the native and unimproved stock. Their management is of free range systems. The overall effect of this subsistence farming is that production is diminishing as the size of farms is neither increasing nor are the small holdings stable enough to give increased production.

Many farmers are unhappy about this situation and the youths finding no happiness in the plight of their parents who are farmers, do not want to take to farming as a business or profession. Parents in turn do not want their children to study and graduate in agriculture even at the University level.

Most of the farmers are old and weak, resulting in low labour output and efficiency. The youths who should take over from their parents are dissuaded from taking up agriculture, with the result that sustainability was no longer guaranteed.

The Government and people of this country are at fault. Both seem to place more emphasis on wealth from oil resources at the utter neglect of agriculture. Farmers' effort on their farms is not rewarded sufficiently by the low prices and low yields and poor quality of crops and livestock. The price offered for the farmers produce is low vis-a-vis his labour.

SOLUTION:

Children-in-Agriculture can be a strategic instrument for poverty alleviation for it is among the children that farmers of tomorrow will emerge. In order to create interest and motivate would-be farmers, definite strategies must be put at work. For example, there should be liberal Education in agriculture at all levels of education. Even though government made agriculture compulsory in primary and secondary schools, the strategies and facilities for teaching it are not sufficiently encouraging. Most of the schools do not have school farm which is very important for the teaching of agriculture to our youths.

The school farm is the field laboratory and the environment where real farm situations and the dynamics of practical agriculture are experienced by the students, (Ayichi, D. 1986). Involved in the practicals are agronomic and livestock activities which will differ from school to school and from place to place depending on their areas of comparative advantages.

Children should be given positive re-orientation in agriculture. Oluwasanmi (1981) lamented the poor image of agriculture as a career among children and some parents. They regard agriculture as a career fit only for failures and illiterate members of the society. This attitude has resulted in the inability to meet the labour and other human resources requirements for a realistic agricultural development.

Children should be given adequate science oriented agricultural education (both formal and informal education) to prepare them for agricultural development and high production efficiency. The problem of obtaining good agricultural teachers at the local level exists. It is common to find among the school staff, agricultural teachers of urban background, with little practical feel for agriculture knowledge who may not have a clear appreciation of the dynamic aspects of a developing rural agricultural economy.

In the short-run, it is necessary to provide a means of training the teachers and the children in agriculture within the formal educational structure. Since facilities may be limiting, training may not be undertaken on a large scale. Such training will also not be popular or useful unless it is based on a genuinely advanced technology typical of colleges or schools of agriculture.

Ukwueze (2000) advocated for the establishment of a College of Agriculture in Enugu State to help in the training of junior and intermediate human resources personnel very much needed for sustainable agricultural development in the State.

Agusiobo (1987) and Watson (1961) in separate works condemned the use of school farms as punishment grounds, and the mismanagement of school farms by poorly trained teachers as some of the reasons why agriculture has a poor image among school children. They suggested that when agricultural programme becomes rewarding to children and enough out-door or out of school activities are introduced to the children, the image of agriculture will change for the better among the children.

INCOME YIELDING ACTIVITIES FOR CHILDREN:

The role of children in Agriculture is well known, but like that of women, their labour cost is not usually quantified and recorded. Their labour cost is however saved by the farmer, enabling him to use the unpaid money for other farm operations or for the procurement of input. In order to give a proper account and record of the contribution of children's effort in poverty alleviation their roles must be properly identified and their contribution in kind or cash must also be properly quantified.

Ukwueze and Uzoigwe (1989) conducted a study in some Local Government Areas, and showed that as much as two thousand Naira (N2,000) can be earned by a child for planting cassava or scaring birds in paddy fields, especially during holidays.

Children may be involved individually or in groups or clubs, example, Young Farmers' Club (YFC) and Children Age Grades in carrying out projects that will save cost and provide extra food or cash income for the immediate family; such projects may be identified as ownership projects. Ownership project is a business venture for capacity building and interest development among children and other beginners in agriculture. It is a money-making venture and aims at profit maximization. Some phases in agriculture where a boy or a girl has interest is selected for him or her to undertake profitable activities in such areas. The child has full or part responsibility in the project depending on whether it is full or part ownership project.

These days when many children attend school from their homes, the project method has everything to recommend it. The project method usually called "Home Project Method" has the following advantages:

i. The childlren can be assisted by their parents and supervised by the Village Extension Agents (VEA), Block Extension Supervisors (BES) and Zonal Extension Agents (ZEA).

ii. The children may benefit from the infrastructures already available in their homes.

The following farm improvement projects are available for children to undertake and make profit in kind or cash for the family:

i. Improving home ground, lawns and gardens
ii. Improving farm structures or repairing them
iii. Improving farmland, example, carrying out soil conservation measures and other soil improvement measures.
iv. Compost making.
v. Constructing and repairing farm tools and equipment.
vi. Maintaining farm machines
vii. Improving the livestock herd
viii. Producing hybrid seeds and seedlings, and improved livestock for sale to other farmers. Such seedlings include improved oil palm seedlings, cocoa and rubber seedlings, etc.

The children can undertake other supplementary jobs, which also provide experience for the children. Such supplementary jobs are:

i. Chick sexing in a hatchery.
ii. Debeaking of poultry
iii. Castration of farm animals.
iv. Egg candling.
v. Culling of birds.
vi. Tapping of rubber.
vii. Tapping of palm-wine.
viii. Harvesting of oil palm-fruits.
ix. Fencing.
x. Brooms and basket making.

Clearly, poverty alleviation through Children-in-Agriculture has many reasons to support it. Some of the reasons are:

1. That for quick changes and adoption of new techniques in agriculture, the children are a better group to work with;
2. That for sustainability, the young ones can help to achieve it if they are actively and properly involved in the programme;
3. That the young ones have the ability to learn fast, are less conservative, and more flexible. They can adapt to the ever-changing situations of our time.

Since the youths will eventually become adults and must take up adult responsibilities in every sphere of life, their training when young can influence their future.

Finally, the present Federal Government under President Olusegun Obasanjo is called upon to make adequate provision for Children-in-Agriculture in his current poverty alleviation programme as this will definitely improve the living standard of the people.

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URBAN FARMING IN SELECTED AREAS OF LAGOS STATE: THE PLACE OF YOUTH TOWARDS INCREASED FOOD PRODUCTION.

BY

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ABSTRACT:

The dependence of the ever-growing urban population on rural populace for food production will continue to create the problem of food shortage among many other problems in most urban cities of the developing countries.
To stem this problem, urban agriculture, an industry that produces, processes, and markets food largely in response to the daily demand of consumers within the cities, was developed.

In line with the above, this study was conducted with the objective of describing the sampled farmers involved in urban farming in the study area.
Purposive sampling technique was used in administering questionnaires on 120 respondents from 4 Local Government Areas. Frequency distribution, percentage and Chi-square were the statistical tools employed to analyze collected data.
The study reveals that most urban farmers were between the ages of 41 and 50 years. It was also observed that majority of the farmers are men. Most urban farm families are large having more than 5 children. Urban farming was also seen as a part-time job and a way of augmenting the family income.
Urban farming is a profitable business that provides employment and makes fresh food available. The difference between income from the farm and that obtained from other businesses was insignificant. Also, the size of farm does not depend on the level of income from other businesses.
The level of youth participation is very minimal because less than 1% of the respondents can be classified as youths. Government assistance in areas of farm input, extension education and finance; the use of city organic waste as manure; creation of awareness about urban agriculture; involvement of NGOs and research institutes are some of the ways that could be employed to arouse and sustain youth interest and participation in urban agriculture.

INTRODUCTION:

Food, which is the major source of energy and nutrients for man, is a product of agriculture. However, agriculture is considered a rural activity and urban agriculture is often perceived as temporary and inappropriate.

In contrast, urban agriculture is a significant economic activity, central to the lives of tens of millions of people throughout the world. It is a rapidly growing industry that is increasingly essential to the economic, environmental and health implications of farm. (UNDP, 1990).

Urban agriculture has been defined as an industry that procedures, processes and markets food and largely in response to the daily demand of consumers within a town, a city or metropolis, on land and water dispersed throughout the urban and semi-urban areas, applying intensive production methods, using and raising resources and urban waste, to yield a diversity of crops and livestock (UNDP,1996).

Urban agriculture is closely linked to several urban ecological, social and economic systems. It provides economic benefits for urban farmers and their communities and cities. It enhances the living environment and can improve efficiency in urban management. If properly practiced, it contributes to better public health and further social participation in community. It can play an important role in reducing some kinds of hazards and in aiding the survivors of others.

Based on these, there is a great need for authority in the urban cities to create awareness for urban agriculture and encourage the existing urban farmers in the areas of input, storage facilities and advisory services.

The improvement on urban agriculture will not only help the low income earners but will also facilitate more employment opportunity. The nutritional standard of urban families is also expected to be improved through improvement in urban agriculture. The Urban Agriculture Network (1996) explained the contributions of urban agriculture with the diagram below:

Well-being	Environment
-Improved food security	-Conservation of resources
-Improved nutrition	-Disaster Mitigation
-Improved health	-Sustainable communities
-Clearer environment	-Improvedwaste management
-Community solidarity	

Economy
-More jobs
-Stronger economic base
-Less poverty
-More enterptises

Work for women and other disadvantaged groups.
Source: The Urban Agriculture Network

METHODOLOGY:

Lagos State is comprised of twenty (20) Local Government Areas. Of these, four (4) – namely: Amuwo-Odofin, Lagos Mainland, Mushin and Alimosho Local Government Areas were studied.

In each of these L.G.A.s, some centralized settlements were studied based on their level of urbanization.

The study considered 30 respondents in each Local Government. In all 120 respondents were sampled.

Purposive sampling technique was adopted for the study. This was based on the fact that only the people involved in agriculture or farming were sampled in each area of study.

Questionnaires were drawn based on the objectives of the study. In the development of research instrument (questionnaires), questions, such as the educational level (background) of the respondents, the marital status, level of income from farming and other business (if any), the type of job the respondent does, age of respondents, the type of farming enterprise he/she is engaged in,the profitability of the enterprise, etc were asked. Face validity was performed on the instrument coupled with pre-testing of it.

Collected data were analysed using simple statistical tools such as frequency tables and percentages. The chi-square was employed in testing the various hypotheses propounded in the study.

RESULTS AND DISCUSSION

Age distribution of sampled urban farmers:

The age distribution of sampled farmers varies from 20-60 years. About 48% of the farmers are in their middle age, that is, 41-50 years. The middle aged group of farmers is closely followed by farmers who are above 50 years of age. This group accounts for about 30% of the population. About 14% are between 30 and 40 years and only 5% are less than 30 years (Table 1).

The reason for this could be due to the fact that most of these age groups have a large family to cater for with their little income. Moreso, younger people still consider agriculture a rural activity. This result corroborates with the United Nations Centre for Human Settlements finding of 1992 which stated that one in five adults of working age in Dar-es-Salaam, for example, is a farmer.

Gender distribution of sample Farmers:

The gender distribution of urban farmers reveals that 80% of the sampled farmers are male while only 20% are female (Table 1). The reason for this simply lies in the fact that most urban women are engaged mostly in other commercial activities like trading which make them unavailable for farming. This does not however rule out their moral support within the family to the project.

This result is in contrast with the UNDP perception that most urban farmers are women.

Marital status of the respondents:

Married people with large families take to farming purposely to sustain their families and also to improve their level of income and have tangible income. The analysis of the survey conducted among 120 urban farmers revealed that about 89% of the farmers are married and only 6% are not married (Table 1). Farmers who are divorced account for a very insignificant figure of 0.83% while widows and widowers account for about 2.5% and 1.6% respectively.

Number of children per farm-family:

The number of children in each farm-family range from 0-5 and above. Families having above 5 children have the highest frequency of 68 (56.67%) of the total sample (Table 1). This is closely followed by families with 3-4 children (28.33%). Families with between 1 and 2 children account for 10% of the sample while only 5% represented families with no children.

The result corresponds with Lee-Smith's (1991) findings that three of every five families in towns and cities in Kenya and Tanzania for instance, are engaged in urban agriculture.

Income Level of Respondents:

As would be expected, people in the low-income group are more into farming. The low-income group accounts for about 33% of the sampled farmers (Table 1). This figure is followed by the middle-income group with 47.5% while the high income group accounts for just about 19%.

The reasons for this is due to the fact that people in the low-income group have to produce food to supplement their income. This group produces mainly for subsistence and sometimes for cach. The result however, is in support of the UNDP statement that low-income urban residents engaged in agriculture primarily to increase their food security and income level.

The Urban Farming Management Practices and Infrastructural Distribution:

The majority of the sample farmers are into crop production. The distribution of the various urban farming enterprises is illustrated by Table 2. The sizes of these enterprises depend on the type of farming a farmer is into. The sizes of commercial farms are usually larger. About 40% of the sampled farmers are into cash crop farming. The method of land acquisition also differs. Although majority of the farmers claimed not to have access to storage facilities they confirmed that urban farming is profitable.

Urban Farming Enterprise Distribution:

The distribution of enterprise among the sampled farmers revealed that majority of the farmers are into some form of crop production. About 55% are solely into crop production. Livestock and fish production account for about 15% each. However, some farmers combine two or more enterprises. For instance, about 5% combine crop production and fisheries.

Study shows that major crops grown include vegetables, maize and cassava. This study also shows that urban farmers who are living in the riverine areas are more into fish farming. This result is in agreement with Yeung's work of 1985 who noted that Hong Kong, the world's most populated city, for instance, produces 40% of its demand for fish.

Size of Farm:

Of the 120 respondents, about 26% are found to be having their farms on a few square metres of land. About 22% have theirs on 0.5 acre of land while about 12% have theirs on 1 acre of land. The highest percentage of 31.6% was recorded among farmers having their farms on more than 1 acre of land (Table 2).

From the information gathered among a cross section of farmers in Mushin Local Government, it was discovered that farmers have access to land facilities in cemeteries and hospital premises, hence, the reason why a greater percentage of the sampled farmers have access to more than 1 acre of land.

The distribution of livestock farmers among the sampled farmers represents about 37%. However, further analysis revealed that about 14% have less than 10 animals, about 4% rear between 10-20 animals. 18.18% and 27.27% represent farmers rearing between 51-100 animals and above 100 animals respectively (Table 2). Majority of the farmers rearing above 100 animals are into poultry production. Apart from poultry keeping, it is usually dangerous to keep animals in the cities, especially when animals are kept on free range.

Method of land acquisition and duration of use:

The methods by which sampled farmers acquire land differs. From analysis, it was observed that most farmers acquire land by lease or rents. This category of farmers represent about 64% of the sampled farmers. About 27% purchase their

Table 1: Socio-economic characteristics of urban farmers:

Variables		Frequency	Percentages
Age (yrs)	30	6	5
	30-40	17	14.17
	41-50	57	37.50
	50	40	33.33
Gender	Male	96	80
	Female	24	20
Occupation	Govt. Job	23	19.17
	Private Company	15	12.50
	Private business	82	69.23
Marital Status			
	Married	107	89.17
	Single	7	5.83
	Divorced	1	0.83
	Widowed	3	2.50
	Widower	2	1.67
Number of children			
	0	6	5
	1-2	12	10

3-4	34	28.33
5	68	56.67

Educational Level

Illiterate	10	8.33
Primary Education	38	31.67
Secondary Education	35	30.83
Post Secondary Education	35	29.17

Income level from other business (₦'000)

24	40	33.33
25-50	57	47.50
50	23	19.17

land (this group often have their farms on their compounds). Land allocated by government accounts for only 8% of land used by the sampled farmers (Table 2).

However, of the 87 farmers who acquire land either by lease/rent or through government allocation, about 28% use the land over a period of 1-5 years while about 23% use the land for between 6-10 years. 50% of the farmers have the opportunity of using land for more than 10 years (Table 2).

Table 2: Urban farming management practices and Infrastructural distribution:

Variables	Frequency	Percentages
Enterprise Distribution		
Crop	66	55
Livestock	18	15
Fisheries	17	14.17
Others	3	2.50
Crop & Livestock	3	2.50
Crop & Fisheries	6	5.00
Crop & L/stock/Fisheries	3	2.50
Crop, L/S, F/others	4	3.32
Types of urban farming:		
Household	28	23.33
Cash	47	39.17
Household & Cash	31	25.83
Pleasure	14	11.67

Size of farm (crop)

A few m^2	31	25.85
½ acre	26	21.67
1 acre	15	12.50
acre	38	31.67
No response	10	8.33

Size of farm (Livestock)

10	6	12.64
10-20	15	34.09
21-50	3	6.82
51-100	8	18.18
100	12	27.27

Method of land acquisition

Lease/rent	77	64.17
Purchase	33	27.50
Government Allocation	10	8.33

Duration of use of land acquired

(yrs)	1-5	24	27.59
	6-10	20	22.99
	10	43	49.42

Assistance from Government

Yes	17	14.17
No	103	85.83

Availability of a steady market

Yes	103	85.83
No	17	14.17

Access to storage facilities

Yes	25	20.83
No	68	56.67
No response	27	22.50

Testing and Analysis of Hypotheses:

The performance and productivity of urban farming is dependent on certain variables which could either be economic, cultural, social or environmental.

Consequently, some propositions in the form of hypotheses were tested, by looking at the association between income derived from other business and those from urban farming activities.

Apart from this, the relationship between level of education and income from farming was tested. Also, tested was the relationship between size of farm and level of income from other business. The last hypothesis tested was the relationship between type of job and level of income from farming.

Data in table 3 show the result of the chi-square analysis carried out to test the hypotheses of influence of a particular variable on another.

However, at the profitability level of 0.05, all the hypotheses tested were non-significant. That is, there were no significant association between income from farming and other business, between level of education and income from farming and between size of farm and level of income from other business.

The implication of this findings is that there are no evidences to show a form of rub-on effect of income generated from the two sources as categorized in this study.

It was of interest to detect whether investment allocation from income obtained from other businesses could have been made and to the farming activities which was proved to be non-significant.

This result is just enough to support the fact that urban agriculture is mostly practised by the low-income group as reported by Lee-Smith (1991).

Also, educational status of urban farmers that served, as respondents have no influence on the amount of income generated from farming activities in the urban areas. It is however expected that literate and educated farmers are more likely to make decisions that would positively enhance income generated in the cause of their engagement in urban agriculture.

Theoretically, scale of farming (small, medium or large) is often considered to influence production cost viz-a-viz the income. However, findings from this study proved otherwise. The reason for this may be because they consider their engagement in farming activities primarily as producing for household, occupying vacant land as a form of taking possession or that it may probably be for leisure.

The result shows that there are no differences between the scale of farming of the low-income and the middle/high-income group. The result however, contrast the UNDP (1996) findings that middle and high-income entrepreneurs, in contrast to gardeners for family consumption, tend to concentrate on high-value crops rather than easy-to-grow crops.

Table 3: Relationship between Income from Urban farm/income from other business; Level of education/Income from urban farming; type of Job/Level of Income From Farming and size of Farm/Income from other business.

Variables	Level of significance	Degree of fredom	Chi-Sqaure tabulated	Chi-Sqaure Calculated	Conclusion	Remarks
Association between income derived from other business Vs Income from other farming	0.05	4	9.488	8.971	X^2_c X^2_t	NS
Relationship between level of Education Vs Income from farming	0.05	4	9.488	8.042	X^2_c X^2_t	NS
Relationship between type of Job Vs Level of Income from farming	0.05	4	9.488	1.392	X^2_c X^2_t	NS
Relationship between size of farm Vs Level of Income from other farming.	0.05	6	12.592	5.513	X^2_c X^2_t	NS

URBAN FARMING AND IMPLICATION OF YOUTH INVOLVEMENT

The definition of youths with reference to agriculture is highly slippery. For the purpose of this study, youth is defined as young men and women between 15-25 years of age. Anybody below 15 years is assumed to be dependent one way or the other on their parents or guardian for existence.

Majority of youth today have an apathetic attitude towards agriculture mainly because of its inherent tedious nature. The provisional 1991 census puts the population of youths in Nigeria at 58 million. Youths are known to have accelerated growth, energetic, strong and physical body and tendency for physical exertion in the work place. So, youths are placed in a better position to help with agricultural work at home, in the school and on the farm.

Past studies in Nigeria have shown that youths are involved in arable farming activities (Adedoyin, et al, 1996).

However, the youths having suffered a great neglect, deprivation, marginalisation, exploitation or actual oppression have now been limiting their participation in arable farming activities. This is more evidenced in the studies conducted by Akinkunmi (1997) and Williams (1997), that rural youths interest in farming activities is diminishing through their non-challant attitude, their mass abandonment of farm works to the aged and consequent movement from the rural areas to the urban centres to seek better alternative jobs. This no doubt portends a dangerous signal to food security in the country particularly if this group of individuals are not recognized as viable resource that needs to be harnessed for the sustenance of agriculture and rural development.

In this study, about 95% of the respondents are above the age of 25 years and so cannot be classified as youths. The potentials in youths therefore are not being directed into agricultural production in the study area.

Time was when some state government train young school leavers in the field of agriculture. In addition to training youths, such programmes provided for farm settlement scheme wherein land and credit facilities were provided to settlers. These efforts however did not yield the desired result, neither do similar programmes exist today.

The above calls for a need to package more motivational facilities that will allow for participation and sustenance of youths interest in urban agriculture.

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A SURVEY OF THE AGRICULTURAL ACTIVITIES AND CONTENT OF YOUNG FARMERS' CLUBS IN BENUE STATE.

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ABSTRACT

The main objective of this study was to determine the agricultural activities and content of the programmes of school-based young farmers' clubs in Benue State. Officials of ten clubs were purposively selected and interviewed in Makurdi and Gboko areas. It was found that most clubs are engaged in planting and harvesting but are not involved in livestock husbandry. They are not involved in decision making. Farm demonstrations and displays were the common means of learning about farming with little or no utilization of new informtion technology.

Implications were drawn and some major recommendation made on the improvement of the effectiveness of young farmers' clubs, including strong local funding, linkage with extension and encouragement of full involvement of members in managing young farmers' clubs.

INTRODUCTION

Sustainable economic growth will not be secured without increased investment in human capital in addition to combating ignorance, disease, malnutrition and the AIDS scourge (ADB, 1999). This calls for planned and effective human resource management. One level of human resource management that calls for intensive attention is the youth with children. With the new awakening of humanism and humanization all over the world, increasing attention is being paid to motivational aspects of human personality especially the need for self-esteem, group belonging and self-actualization. Children and youth, particularly in rural areas of the developing countries, desire self-esteem, group belonging and self-actualization.

Rural youth-work is educational and represents a way to introduce new ideas into rural living and train leaders for the future. The objectives of rural youth programmes, as exemplified by the young farmers' club, include (a) getting young people become more involved in improving their local communities; (b) developing their social skills, self-esteem and self-confidence through their interactions in the clubs; (c) acquiring technical and management skills in agricultural production, and (d) learning leadership skills from the older, more experienced members as the members serve on committees and take on leadership roles in organizing themselves (Swanson, Rolling and Jiggings, 1984).

According to FAO (1996) agriculture is often the main focus of rural youth programmes, but it is often not an area of choice for many young people. The Food and Agriculture Organization (FAO) believes that unless it can be made more profitable, people will continue to leave agriculture for other employment. Physically, children generally tend to be immature for the strenuous demands of farming.

The subject areas covered by rural children training (in formal schools) and the range of activities organized for the children groups (young farmers' clubs, appropriately called future farmers of Nigeria, FFN) are a crucial aspect in determining the success or failure of young peoples' programme in agriculture. Failure to pay enough attention to the relevance and appropriateness of the activities of the clubs argue FAO (1996), results not only in very limited success of the programme, but often leads to drop outs, decreasing support from the community and parents, as well as break up of the groups.

The study was designed to determine the agricultural activities and content of the programmes of young farmers' clubs. The essence was to monitor the level of relevance and appropriateness of the activities of the clubs in Benue State.

METHODOLOGY

Ten young farmers' clubs in the secondary school system (comprising five clubs from Makurdi and Gboko urban areas) were deliberately selected for the study. Officials of the clubs were interviewed for information on the agricultural activities of their clubs. Even though both areas (Makurdi and Gboko) are urban, farming remains the major occupation of the dwellers.

Structured interview schedule was used to elicit information from the club officials. The interview was conducted in January, 2000. Collected data were subjected to analysis using percentages.

FINDING

The average membership per young farmers' club was 45 and the mean age of members was 15 years. The agricultural activities mostly performed by the clubs were farm clearing (90%), planting (100%), fertilizer application (60%), manual weeding (80%), harvesting (100%), processing (60%) while the activities least involved in included farm site selection, decision making as to crop or animal to raise, herbicide application and rabbit keeping (Table 1). This finding agrees with that by Adedoyin, Torimiro and Adeiga (1997).

All the club cultivated crops (mostly cassava and maize) while only 20% raised livestock (poultry and or rabbit).

The major reasons for joining the young farmers' clubs (Table 2) were love of farming (100%), gaining of deeper understanding about farming (80%) and aspiration to gain financial independence (60%).

Farm demonstration and displays were the means by which the clubs learned about farming (Table 3). The use of the television, radio or print media was still a mirage among young, prospective/future farmers in the State.

Young farmers' clubs in this study were of the opinion that farming is tedious (100%), expensive (70%), time-consuming (80%) and not a popular occupation (70%). They all complained of lack of funds and needed farm inputs (Table 4). The young farmers' clubs expressed the need for training and development in farming techniques (100%), loans from government and the provision of farm inputs (Table 5).

IMPLICATION AND RECOMMENDATION

Young farmers' clubs are designed to orient rural youths towards farm production techniques, teach them farm management and marketing, and foster a community approach to agricultural development. However, the young farmers in this study are yet to sufficiently achieve the objectives for which they joined the school-based clubs. With the strong interest the club members have for farming, it is expected that efforts must be geared towards encouraging the clubs to attain greater heights in agriculture now and in the future.

If the young, future farmers of this country do not participate in farm decision making, do not keep livestock adequately and do not use modern information technology for agricultural development, perhaps, the nation would have to wait for many more years before putting hunger and poverty behind its teeming population.

The Food and Agriculture Organization (FAO, 1996) lists a number of suggestions that could improve on the effectiveness of rural youth programmes in the world. The recommendations are in the areas of activities and content of the programmes, organization and policy issues, rural youth group management, coordination and links with formal education, as well as funding and support. The suggestions are relevant to this present study and are hereby adopted by the authors of this paper.

Since the interest of young people is easily lost when activities become repetitive or monotonous, rural youth club activities should be varied. Training of young people in farm practices should be relevant, up-to-date, and practical, for example, it must respond to specific market needs. Appropriate skills should be acquired by club members. It will be necessary to build social interaction and entertainment into the club programmes to create novelty, excitement and avoid loss of membership since young farmers' clubs also face competition from sports and social clubs which may be more attractive to young people.

At the organization and policy issues level, strong government support is needed for club programmes, with financial support also from non-governmental organization (NGOs). There is need to adequately train extension staff in how to work with young people as well as on the technical and management issues they need to cover. Such extension staff should act as facilitators, advisors and trainers rather than leaders or managers of young farmers' clubs.

Members should be directly involved in planning the programme of their clubs to ensure that the projects are suitable and meet the aspirations of members.

On the issue of internal group management, initiative, responsibility and self-reliance should be promoted such that the full involvement of club members is encouraged at all stages of activity and decision making.

In the area of coordination and links, it is suggested that agriculture teachers coordinate and supervise the activities of the clubs and also ensure strong link with the extension service in each state of the federation.

In the area of funding and support, in addition to their income generating activities, the clubs need funding from government for the success of their programmes. However, a strong local funding support (from voluntary organizations, fund raising activities, local governments, families, etc) remains the most promising and sustainable approach to funding and support of young farmers' clubs.

In conclusion, the closer the clubs meet the needs and aspirations of members, the more likely they are to be successful. Activities for the clubs need careful planning with the members and the programmes linked with the extension service.

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Table 1: Agricultural Activities Performed by end of 1999 (N = 10)

	Activity	Frequency	Percentage
1.	Farm site Selection	0	0.00
2.	Decision Making as to crop/ animal to raise.	2	20.00
3.	Farm clearing	9	90.00
4.	Planting	10	100.00
5.	Thinning	4	40.00
6.	Supplying	3	30.00
7.	Fertilizer application	6	60.00
8.	Herbicide application	0	0.00
9.	Manual weeding	8	80.00
10.	Harvesting	10	100.00
11.	Product Processing	6	60.00
12.	Storage of Product	5	50.00
13.	Poultry keeping	4	40.00
14.	Rabbit keeping	1	10.00

Table 2: Reasons for Joining Young Farmers' Clubs

	Activity	Frequency	Percentage
1.	Love of farming/interest	10	100.00
2.	Required to do so	5	50.00
3.	Aspiration to gain financial Independence/make profit	6	60.00
4.	To gain deeper understanding about farming	8	80.00

Table 3: Information Technology Utilized in Learning About farming

	Activity	Frequency	Percentage
1.	Audio (radio)	1	10.0
5.	Video (television)	-	-
3.	Print publications	-	-
4.	Displays	6	60.0
5.	Overheads	-	-
6.	Computers	-	-
7.	Farm Demonstration (Individual and Group)	10	100.0

Table 4: Opinions of Young Farmers' Club Leaders on Problems Facing the Members.

	Activity	Frequency	Percentage
1.	Farming is tedious	10	000.00
2.	Farming is expensive	7	70
3.	Farming is time-consuming	8	80
4.	Farming is not popular among young people	70	70.00
5.	Lack of needed farm inputs	10	100.00
6.	Lack of funds	10	100.00

Table 5: Areas of Need Expressed by Young Farmers' Clubs

	Activity	Frequency	Percentage
1.	Training and Development in Farming techniques	10	100.0
2.	Involvement in supervision.	6	60.0
3.	Linkage/Partnership with other bodies	5	50.0
4.	Provision of funds	9	90.0
5.	Loans from Government	10	100.0
6.	Provision of farm inputs	10	100.0

POVERTY, RAPID CHILDREN POPULATION AND SUSTAINABLE AGRICULTURE QUESTION

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ABSTRACT

Nigeria is one of the countries of the world where poverty and fertility issues are most salient, complex and understudied. Nigeria is also one of the countries of the world that currently cumulate high poverty and fertility rates and, understandably, there is great interest in reducing both fertility and poverty as a pre-condition for sustainable development planning.

The search for efficient solutions that simultaneously address these two development issues have been constrained by a number of factors. Notable among these factors is the paucity of data on individual/household's fertility and poverty experiences that are necessary for policy investigations of the dynamic relationships between fertility and poverty and meaningfully direct development efforts such as promotion of sustainable children in agriculture programme. The objective of this paper therefore, is to gain insight into the relevance of poverty and rapid children population in designing sustainable children programme as a basis for better integration of population concerns into development planning.

Household level data were collected from Akiriboto in Ayedaade Local Government Area of Osun State, Nigeria on links between fertility and poverty. A major finding in the study is that poverty affects how many children couples end up having. Fertility-enhancing effects of poverty include high demand for children by the poor to fill their needs for labour and economic security. A major conclusion in the paper is that the poors' fertility strategies may backfire largely because of resultant large family size. A secondary effect of large family size include inability of children to seize new opportunities and their constrained ability to escape from poverty. Summarily, insight into empirical linkages between poverty and fertility outcomes is necessary for efficient integration of development efforts such as children in agriculture programme. For sustainable children in agriculture programme, it is crucial to break the continuous cycle between poverty and fertility through economic programmes such as improved economic opportunities of young men and women and ensuring their educational advancement.

PERSPECTIVES ON POVERTY, FERTILITY AND RAPID POPULATION:

Insight into rapid children population, effective integration of fertility and poverty policies require that links between poverty and fertility behaviour be made explicit. For instance, how fertility behaviour enters the poverty explanations is not always obvious. So, consequence of rapid population on poverty and sustainable development may not immediately be obvious. A fall-

out of Malthus' position is the relationship between economic development (agricultural sustainability and poverty) and population growth. Put simply, this thesis is that where population increases faster than resources available for development in any society, such society will experience poverty rather than sustainable economic growth or development. It is this thesis that has been applied to the understanding of the trinity issues of poverty, childlren population and sustainable agriculture in the 'Third world nations'. For example, Frank (1981), posits that "third world foreign debt has risen to an enormous size... but nobody seems to know how high it is". In fact Mohd (1987) paints the picture more clearly when he states that "millions, especially in the third world are living a barely human existence" According to the World Development Report (1990:1),... more than one billion people in the developing world are living in poverty. The UNICEF's State of the World's Children, (1994); World Development report, (1990); UNDP's Human Development Report; among others explain the poverty situation to be as a result of the population and environmental problems. For instance, World Development Report (1990:2) states: often the problem of poverty, rapid population, and the environment including agricultural sustainability are interwined: Earlier patterns of development and the rapidly expanding population mean that the poor live in areas of acute environmental degradation, mining today's natural resources at the expense of the future.

Later, UNICEF's "State of the World's Children" (1994) noted that as long as the problems of population, poverty, and environmental degradation including poorly guided agricultural development continue to be neglected in the developing world, there will be increasing economic, political instability and ultimately retarded growth. So many scholars have succinctly linked poverty situation in the developing world to unchecked population growth. ...And of course, the standard of living of a family falls as the number of children increases: Ultimately, as children population increases natural resources are exploited and thingly distributed in an unsustainable manner. Presented below is the classification of poverty causes by locus of cause from theoretical perspective.

TABLE 1: CLASSIFICATION OF POVERTY CAUSES BY LOCUS OF CAUSE AND BY THEORETICAL PERSPECTIVE

Locus of Cause	"Consensus"	Conflict
Individual	⇒Physical handicaps	Race
	Mental deficiencies	Gender
	∇ Attitudinal/hebaviour flaws	Ethnicity
	Education/human capital Deficit	Other innate characteristics
Family	Socialization	Lack of resources
	⇒Family structure (e.g. manibil status)	
Community	Community norms/value (of "culture of poverty")	Urban bias Other ecological binses
Larger society	Economic conditions (e.g. crisis) ∇ Shift in occupational structure (e.g. agricultural mechanization	∇ Rapid class structures Nepotism, Race/gender inequities Active constriction of scarcity

∇ Common cause

⇒ Mediation of fertility effects.

Source: Ada

Table 1 highlights the poverty causes that have some connection with fertility. Two types of connections can be distinguished: "common cause" and "meditation of fertility effect. A "common cause" connection exists when the factor listed in the table simultaneously affects fertility and poverty. For example "culture of poverty" arguments assume the poor to be fatalistic, unable or unwilling to plan ahead. Such attitudes impair the poor's ability to seize new opportunity and extricate themselves out of poverty. The poor are assumed to be equally improvident in planning their fertility. Ultimately, individuals socialized within a poverty subculture are likely not only to fall into poverty, but also to experience unwanted fertility. Simply, both fertility and poverty resulted from some set of culturally transmitted attitudes and behaviour. As another example of common cause, sex discrimination in the allocation of productive resources increases women susceptibility to poverty, and also may compel them to seek social status through early and high fertility. Policies that address these common causes are neither strictly-fertility nor strictly-poverty programs, but have the potential to simultaneously affect both countries. For instance, by improving educational opportunities of women, one can reduce incidence of female poverty, unwanted fertility and reduce fertility demand simultaneously.

In addition, mediation of fertility effects obtains when a factor listed in the table is a possible consequence of high fertility. Fertility can remotely affect poverty by using acqussion of human capital, example, interrupts of schooling of young women and limiting the accumulation of human capital and physical capacities through frequent preferences. The French adage that "the poor's table is barren, but his bed fertile" finds some validation in empirical findings

showing a negative relationship between income and fertility in developing countries such as Nigeria. (Pullum 1983). Again, some of that fertility may be unwanted, given the poor's more limited access to family planning services. However, there are several reasons why (low income families may desire larger families. Some of these reasons include: need for labour, old-age security, lower returns to investments in child quantity, low opportunity costs of child-bearing due to lower-wage, and greater compatibility between employment and child-bearing in the rural and informal sectors.

CONCEPTS:

SUSTAINABLE AGRICULTURE

There are many alternative definitions of sustainability and of sustainable agricultural development (Pezzy 1992). Conceptually, those most relevant for our purpose are measure of agricultural output or income that are corrected for changes in the quantity of value of the capital stock, especially the stock of natural resources used in agricultural production. As Sir John Hicks has argued, sustainable output or income is the maximum value that a person or society can consume during a specific period of time and still expect to be as well off at the end of the period as at the beginning (Hicks 1946:172). Applying this concept, an agricultural system can be said to be sustained if the amount of income or quantity extracted for consumption each year can be sustained over time. Sustainability is a word that has entered common use in recent years. To some it implies the capacity of something to continue unchanged for a long time. To others, it implies not damaging natural resources. To others, still, it is on a business-as-usual track.

Poverty: A concise and universally accepted definition of poverty is elusive largely because it affects many aspects of human condition, including physical, moral and psychological. Different criteria have, therefore, been used to conceptualize poverty. Most analysis follow the conventional view of poverty as a result of insufficient income for securing basic goods and services. The poor have been conceptualized as the proportion of the population that is unable to meet basic nutritional needs. (Demery et al 1996). Others view poverty, in part, as a function of education, health, life expectancy, child mortality, etc. Black wood et al (1994), identified the poor, using criteria of the levels of consumption and expenditure.

Furthermore, Sen (1983), related poverty to entitlements which are taken to be the various bundles of goods and services over which one has command, taking into cognizance the means by which such goods are acquired (e.g. Money, Coupons, etc) and the availability of the needed goods. Yet, other experts see poverty in very broad terms, such as being unable to meet "basic needs" – physical (food, health care, education, shelter, etc and non-physical (participation, identity etc) requirements of a meaningful life "World Bank" (1996).

COST AND VALUES OF CHILDREN

Costs and values of children continue to be the pivotal force driving rapid children population and derived effects on poverty and economic variables

such as sustainable agriculture. This section shows the relationships between costs and values of children fertility differentials in relation to poverty and other social-economic and demographic variables. On material costs, major items of maintenance expenditure on children are food and clothing. Generally, the most significant costs of children are educational costs, both direct and indirect. The costs include not only fees, supplies, and clothing, both required and expected, but also the opportunity costs of a child going to school and not working. Therefore, where these costs are high, parents may not send their children to school or limit their family to the number that they can afford to educate (Sally et al, 1978). Cost of educating children varies according to number of living children; fewer children lower cost; employment and income status; higher income and employment status induce high spending on childlren.

After educational costs, the next major cost associated with child rearing is the cost of accommodating them when they grow up. Since additional child reduces the space available, children can reduce the comfort of other family members. Though a couple may have only one child and may not be able to take care of him this may not rule out the fact that in large families every member is likely to forgo one thing or the other for the survival of new members. This opportunity cost can be measured by asking respondents how many of the living children in the households are living away from home due to lack of space.

VALUES OF CHILDREN

In broad terms, the cost of children vary with number of living children, number of co-wives, religious affiliation, rural/urban residency, ethnic group, employment status, income, fertility preference, sex preference, pattern of inheritance, and women empowerment. Often equal, if not of great importance, however, are the values of children. Although the material values may be small in absolute terms, parents may find that the nature, timing or potential for these values justifies their investment in children. This section, therefore, discusses the material value of children. A study (Jegede, 1999).

Table 2: **Distribution of Respondents According to Material Values of Children**

By Number of Living Children.

Material Value	N	1 %	N	2 %	N	3 %	N	4 %	N	>5 %	N	Total %
Cash Income	6	19.4	11	23.9	10	20.4	2	7.1	8	21.1	36	18.9
Help	2	6,6	-		3	6.1	1	3.6	4	5.3	8	4.2
Old Age	7	22.6	23	50.0	14	28.6	12	42.9	15	39.5	71	37.2
Security Cash Remittance	11	35.5	8	17.4	8	16.3	6	21.4	9	23.7	42	22.0
Inheritance	5	15	4	8.4	14	28.6	7	25.0	4	10.4	34	17.7
Total	31	100	46	100	49	100	28	100	40	100	191	100

$X = 17.6$, $df = 16$, $P > .05$.

Source: (Jegede, 1999)

Data above revealed that there is no significant relationship between number of majority of the respondents. 37.2 percent indicated that they wanted children for old age security. This was followed by cash remittance 22.0 percent and cash income 18.9 percent. A considerable proportion 17.7 percent also indicated that their desire for children was motivated by inheritance purpose. There is no clear cut variation between those who have one and those who have two or three living children. The only significant feature of the data is that old age security may be a factor for consideration for having many children as an informant indicated 'nobody knows the child who will care for him or her at old age. This is why one has to have as many as possible.' In Yoruba society, people look unto children for old age survival. This does not only refer to physical provision but for both psychological and social reasons.

Non-Material Value of Children: Some studies indicated that couples in both rural land urban areas perceive the non-material values much clearly than the material values. Children are emotionally satisfying, they may give status or prestige to the parents, they may fulfil certain or hereditary needs, and, perhaps, most important of all is security against old age. Even where parents do perceive children as costly, they may still favour large families for these reasons. A key non-material value is the status or privilege that children give to their parents. In societies, which offer women few avenues to social prestige or power, children may offer the greatest chance to attain prestige (Blumberg 1976). This connection between children and a woman's status or power may be strongest in societies which exclude women from other activities, as Dixon has shown for Islamic and Eastern societies which practice female seclusion. Women who marry early into an arranged marriage may not really be accepted by the husband's family until they have children (Dixon 1976). This necessity for women to prove their fertility is also commonly practiced in the study area. Children are their only source of approval of their husband's or kin (Bernard 1972, Swartz 1969, Sally et al. 1978).

Among the Yoruba, large family traditionally increases prestige; children may also be important to parents as a means of cementing the bond between themselves. Even though women realize that they may suffer financially, children are felt to promote constancy in the union (Chen, Wishik, and Scrimshaw 1974). In Islamic societies, fear of repudiation may motivate women to have children (Dixon 1975). A rural based survey noted the advantages of large family size (Titilola et al 1998). Having many children was said by 45 percent of respondent to lead to labour supply, while 33 percent considered having many children as a source of happiness and societal recognition. The remaining 22 percent of respondents considered the financial support at old age from many children as of immense advantage.

Table 3: Perceived Benefits of Having Children

S/N.	Perceived Benefits of Having Children	Frequency		Percentage	
		Yes	No	Yes	No
1.	Never thought about it	21	1279	1.6	98.4
2.	Care for parents in old age	1030	334	75.5	24.5
3.	Good company	697	657	51.5	48.5
4.	Make a woman complete	687	654	51.2	48.8
5.	Carry on the family name	859	495	63.4	36.6
6.	No response	144	1203	8.7	91.3
7.	Source of labour	436	893	32.8	67.2
8.	Inheritance	863	481	64.2	35.8
9.	Others	44	1254	3.4	96.6

Source: Fieldwork, 1997.

Table 4: Frequency of Reasons for wanting more children

S/N	Reasons	Cell 1 n=145	Cell 2 n=149	Cell 3 n=150	Cell 4 n=148	Cell 5 n=150	Cell 6 n=148	Cell 7 n=150	National n=1050
1	Do not have enough	52.1	58.3	79.8	61.9	32.7	62.0	44.1	52.4
2.	To carry on Family name	4.0	-	6.1	11.9	23.0	14.0	23.3	10.8
3.	To help with farm work	33.2	40.8	10.1	23.8	27.5	10.7	18.6	20.0
4.	To provide care at old age	10.7	1.9	4.0	2.4	16.8	3.3	14.0	16.8

Source: Survey Data, 1996.

STUDY SCOPE AND METHODOLOGY:

In poverty, rapid children population and sustainable agriculture questions three issues are immediately relevant:

(1) Effects of fertility on poverty.
(2) Effects of poverty on fertility and
(3) Common causes of fertility and poverty.

To provide empirical evidence to these three area of concern and having seen that regardless of level of poverty there are cost and values for children, a rapid participatory poverty cum fertility assessment (PPA) was carried out in Akiroboto Village of Ayedaade Local Government Area of Osun State involving twenty household heads and their first wives. Nwosu and Adeyeye (1989) World Bank (1993) and Adeyeye (1996) have pointed out the superiority of (PPA) in poverty studies largely because poverty is on the face of the beholders and that the poor are the best to tell their stories.

Effects of poverty on fertility: Poverty affects several dimensions of fertility outcomes, including the initiation of childbearing, child spacing and ultimately family size (see fig:1). Generally, poverty affects both wnated or

unwanted fertility. On the initiation of child earlier; the risk of unwanted pregnancy is greater among poorer women; and more children may be desired. As noted elsewhere by Calves, (1996) young poor women may use childbearing strategically to seek financial support of older males and by so doing enhance marital opportunities. In addition, on spacing of births poverty comes in as a result of lack of knowledge of effective means of contraception. In the rural areas studies generally show that close births are not wanted by the females women. Family size, it largely favoured by the poor for reasons such as need for labour to help on the farm, need for economic and old – age security etc.

Effects of fertility on poverty: Identified consequences of fertility on poverty include; high risks of maternal and child health; curtailing the schooling of young girls and ultimately reduced employment/empowerment. In addition, there is interruption of women working hours. A woman complained vehemently that frequent births drain the bodies vital resources again increasing woman's susceptibility to poverty by depleting women's health and physical resources.

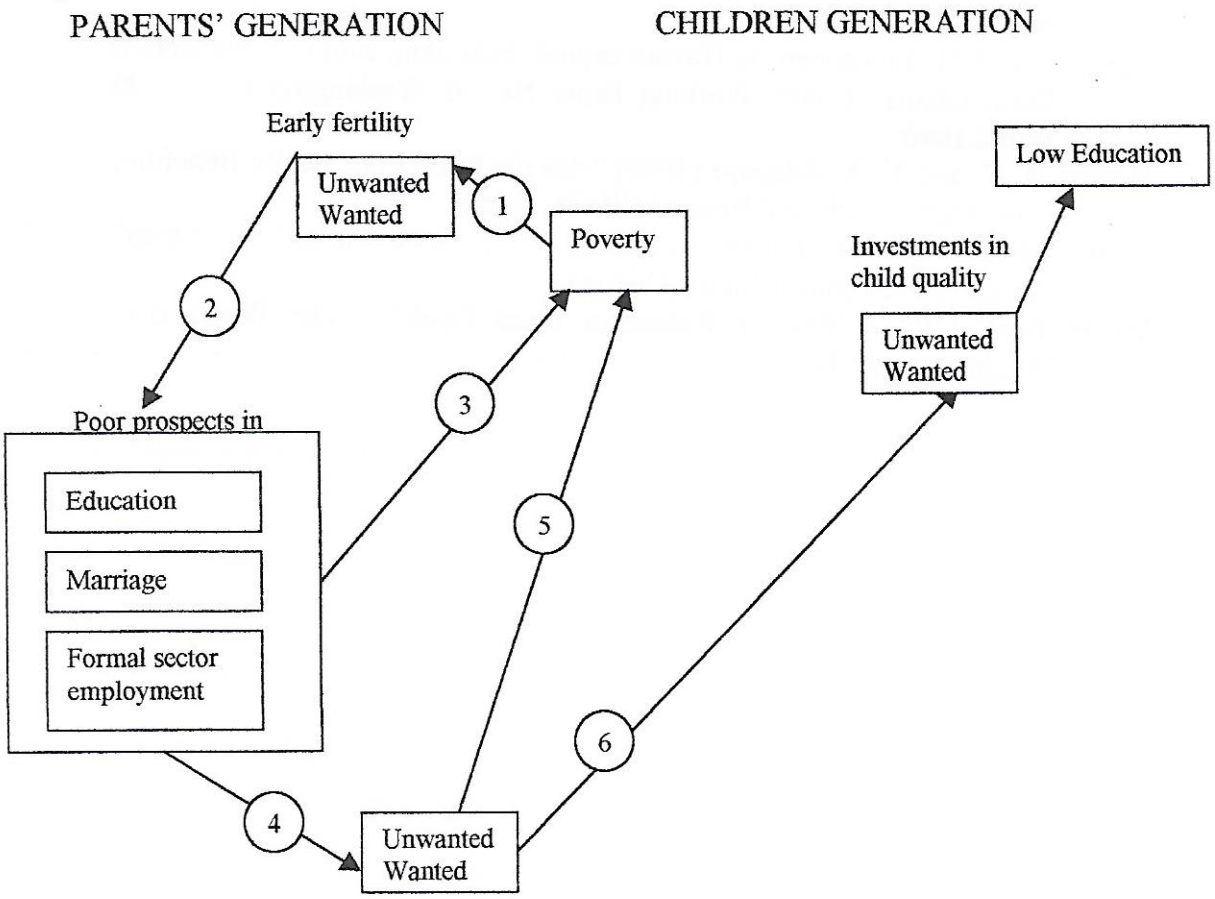
Common causes of high fertility and poverty: In addition to affecting each other, poverty and fertility outcomes may result from a set of common causes (Partfait, 1998). Major causes identified are limited economic opportunities (such as low wages and few employment); landlessness, limited access to credit and nature of agricultural production.

Fertility and poverty across generations: As pointed out Larry (1992) the links between fertility and poverty are not constrained to within a single generation, but, also extend to the next generation. Issues raised in this section are possible effect of child poverty on parents, fertility; effects of parents' fertility on child poverty and common causes of parents' family and child poverty on parents' fertility. The discussion revealed that; high cost of schooling do lower parents' fertility (A woman noted that since structural Adjustment programme (SAP) had been in place she changed her minds with respect to number of children she desire. Effects of parents' fertility on child poverty were copiously described. The revealed effects include lowered child health and malnutrition; retarded growth and lowered resource per child. Furthermore, common causes of parents' fertility and child poverty are; reward for child bearings as may be indicated by favourable social/economics Milieu, low women status and cost of children.

POLICY IMPLICATIONS AND CONCLUDING REMARKS

Attempt has been made in this paper to examine possible linkages between poverty, rapid population and sustainable agriculture question. From both theoretical and empirical standpoints in this paper, there are indications that in broad term the relationship is complex. Poverty remains undoubtedly a challenge to the attainment of sustainable agriculture.

Fig. 2: The intergenerational cycle of high fertility and poverty



Birth spacing/family size

Persistence of poverty and rapid population narrows the chance of attainment of sustainable agriculture.

To achieve sustainable agriculture, two steps are immediately important. There is the need for poverty reduction measures among all rural based age groups through growth, non-growth induced policies and safety nets. Also, in order to improve the human capital of women and children promotion of education and income generating activities among women is important. There is the need for vigorous attempt to improve and strengthen education is family planning in the rural areas.

Policies to alleviate poverty and slow children population will need to be well articulated and implemented for meaningful realization of sustainable agricultural development. Important programmes here are those that reduce early pregnancies among school girls, as well as advancement, security and rural labour needs are very essential. There is also need for favourable macroeconomic conditions that encourage parents to prefer smaller families with better schooled children to larger families with less educated children.

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PROMOTING RABBIT PRODUCTION THROUGH CHILDREN-IN-AGRICULTURE PROGRAMME (C.I.A.P.)

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ABSTRACT

Animal protein requirement in Nigeria especially in rural areas has been on the decline despite efforts made by governments to improve the total protein intake. Little attention is paid to the production of rabbits, which is associated with low cost production, short reproductive cycle, rapid growth and high fecundity rate. Agricultural Extension Programmes have neglected school and non-school children. The main objective of this study therefore was to determine the personal characteristics of the children, find out the level of interest and participation of school and non-school children in rabbitry and suggest strategies for promoting rabbitry through C.I.A.P. One hundred and fifteen school and non-school children from Ikwuano L.G.A. of Abia State were sampled through systematic random sampling for the school children and purposive sampling for non-school children. Data were collected by use of structured interview schedules and analyzed by means of simple descriptive statistics. The major findings were that there are more female (57%) than male school children. Children participate significantly in livestock production and are interested in rabbits. No school has animal farm and rabbits are unpopular in the area. Incorporation of C.I.A.P. rabbit scheme for school and non-school children in the poverty alleviation programme of the Federal Government for rural people are recommended among others.

INTRODUCTION

Nigeria has been witnessing an acute shortage of protein supply. An average Nigerian consumes only about 7g of animal protein daily as against the minimum requirement of 28g/caput/day, this represents a gross short fall of 75% (Ibe, 1999). Nigeria has not been able to provide animal protein sufficient in quantity to meet the per capita animal protein requirement of the citizenry (Ibe, 1999).

Despite the fact that Nigeria is abundantly endowed with animals and has a great potential to be self-reliant in livestock production, she has remained a net importer of livestock products (Abubakar, 1998). The Federal Government has adopted different strategies for improvement in domestic livestock production, but they are all largely directed towards self-sufficiency in the production of cattle, sheep, goats, pigs and poultry. Animal protein is still in short supply and prohibitively expensive for an average Nigerian in spite of these efforts.

There is therefore an urgent need for adequate dietary sources of cheap animal protein to correct the imbalance in both the amount and quality of this nutrient in the diet of Nigerians and to improve the quality of life in our rural area.

Small-scale rabbit production could bridge the supply-demand protein gap, and that is by far the most appropriate type of productive system for subsistence meat (FAO, 1981). Rabbit meat is nutritious, delicious, juicy and tender. Aduku and Olukosi (1990) described the nutritive value of rabbits as outstanding both for its diet and its chemical composition and that it incorporates more protein in its body than broilers and other meat sources. Rabbit meat when compared to beef, pork and chicken is superior because of its low fat content (unsaturated type), very low cholesterol content and low sodium content thereby making it a good source of animal protein for coronary heart patient and people on low sodium diet (Aduku and Olukosi 1990). Rabbits also have no religious taboos regulating their consumption. Extension efforts havebeen focused on adult men and lately on women with a neglect of childlren both in school land non-school. Integrating domestic rabbit technology into the farming system of school and non-school children in the country, will no doubt boost the much needed animal protein in the country, and encourage vocational agriculture in primary and post primary school. This will go a long way to improve the socio-economic life of the rural people. The main purpose of this paper was to characterize the interest of Rural school and non-school children in Ikwuano Local Government of Abia State.

Specifically the study was carried out to:

- Determine the personal characteristics of the children.
- Find out the level of interest and participation of school and non-school children in rabbitry.
- Articulate/suggest strategies for promoting Rabbitry through Children-in-Agriculture Programme (C.I.A.P.).

MATERIALS AND METHODS

This study was conducted in Ikwuano Local Government Area of Abia State. One hundred and fifteen children were drawn through systematic random sampling technique from three primary schools, three non-boarding secondary school and non-school children using purposive sampling technique. Data were collected by the use of structured interview schedule. Percentages and frequencies were used for the analysis of data.

RESULTS AND DISCUSSION

Personal Characteristics:

About 46% of the children were within the age bracket 13-15. 36.5% were between 6-12 years while 17% were between 16-18 years. The indication is that most children in schools are in the age bracket of 6-15 while 16-18 years are those who continued their education while others dropped out either in primary six or JSS 3. Table 2, shows that greater number of the children are female (57%). The lower number (43%) male may be because the boys drop out

of school. On present class, 31.3% are in primary and JSS 1-3 respectively while 24.3% are in SS 1-3 and 13% are non-school children. The short fall in SS Classes may still be because of the drop out of school of students while the remaining go to specialize in an area.

INTEREST AND PARTICIPATION OF CHILDREN IN LIVESTOCK PRODUCTION

From table 4, 90% of the children's parents/guardian keep livestock at home ranging from sheep, goat, poultry to local cattle. 9% of them keep rabbits. This goes to show that many of the children or their parents keep in some measures other livestock but do not keep rabbits. This is not unconnected with its unpopularity in that locality. Eighty five percent of these respondents participate in the management while 15% of them do not. Seventy percent have interest in rabbitry while 30% do not. Thirty percent of them have friends and neighbours who keep rabbits while 70% do not. This is also stressing the fact that only few people keep rabbits in the area. It was also discovered that 80% of othe non-school children do participate in livestock management, while 20% do not. Of the number that participate in livestock management, 83% of them help to feed the animals both in the morning and evening, 10% take part in the afternoon while 7% do it only in the morning. The implication is that the school children and the non-school children feed their animals before going to school and after school on daily basis. None of the schools had animal farm or farm club.

RECOMMENDATIONS

A scheme known as C.I.A.P. Rabbit Scheme sponsored by the government or international organization or the NGOs and coordinated by C.I.A.P. should be launched. In that scheme, the model should be thus:-

Primary School Level

Since the objective at this level is to sensitize the young children to the importance and value of agriculture (NERDC 1991) a programme or scheme design to give the children practical knowledge and experience is very important.

The School/Home Rabbit Farms

Here, two does and a buck (male and female rabbits) of four to siz months of age are given to each interested school child from primary three that is eight to nine years of age to rear. Before this allocation, the school through C.I.A.P. must have demonstrated the management practice for them in school Rabbit farm also provided by C.I.A.P. They will participate in managing the school rabbit farm and also go home to take care of their own allocation as seen in table 7 and 8. This could affect their consciousness and also boost their interest towards Rabbitry and agriculture in general. At the end of the year, the school and children will return half of their products back to their C.I.A.P. Scheme for extension to other children and for sustainability of the scheme. Excess could also be sold or used in school or home feasts.

Agricultural Exhibition:

In this type of show, school children will be encouraged to present their best Rabbits both from school farm and from individuals. Such competitive efforts generate interest in Rabbitry, particularly if well-reasoned prizes are awarded to the top competitors.

Farm Inspection:

Constant inspections of farms should be encouraged at least by the local government agricultural department or Children – In – Agriculture Programme in a given location or University departments. Similarly, Agricultural teachers in each school should inspect the children's rabbit farms. Prices could be instituted and given to the best school Rabbit farm or pupils in each locality or school. This will further enhance the interest and participation of the children in rabbitry.

C.I.A.P. Club:

The introduction of C.I.A.P. club in schools will motivate children's interest not only in Rabbitry but in becoming potential agriculturists. This will enable the children to develop a sense of dignity and respect for agriculture.

Secondary School Level:

Most Secondary Schools in the rural areas are non-boarding, that means that students attend school from their homes like in primary school. Similarly, practical Agriculture is a core subject at the Junior Secondary Level and is also pre-vocational while that of senior secondary school is both vocational and academic (Olaitan and Uwadiae (1993). The same rabbit scheme in primary school should also be the same in the two levels with a little modification. The age here should be 13 to 18 years.

School Farm:

The children are more capable of participating in farm work. Students should be encouraged to contribute to the maintenance of the rabbit in the school farms by paying regular attention to the operations in such farms. They are assigned specific roles and encouraged to enjoy the practice both at school and in their homes.

C.I.A.P. Club:

Same as in the primary school, this time, documentaries and movies of the importance of rabbit, management practices and business could sustain the interest of students in the club. Objective would be to inculcate into the children dignity of labour and the importance of agriculture to national security.

Non-School Children:

The age range is 8-18 for non-school children in the rural areas. They will include the children involved in vocational occupation such as trading, hunting, farming and apprenticeship of various sorts. These children like the school children leave home in the mornings and come back home in the evening.

- Under C.I.A.P. rabbit scheme, one, two does and three bucks will be given to each of them to rear in their various homes. Since all materials needed for housing and feeding the rabbits can be sourced locally, they can successfully rear these rabbits. Similarly, at the end of the year, the product would be shared with C.I.A.P.

- In both school and non-school C.I.A.P. rabbit scheme, there would be effective programme co-ordination, monitoring and evaluation in each locality.
- The focus of Children – In – Agriculture Programme rabbit scheme should be on the rural school and non-school children of 8-18 years and this scheme should be incorporated into the poverty alleviation programme of the Federal Government for rural areas.
- C.I.A.P. members in Universities and Colleges of Agriculture, ADP Extension System at State levels should liaise and integrate to make the scheme workable.
- Components of effective Agricultural education curriculum should include, classroom and laboratory instructions, supervised occupational experience (SOE) and leadership development through youth organization such as C.I.A.P. Club. These three must be harmonized for a well-rounded agricultural education programme.
- Workshops should be organized for Agricultural Education Teachers to update their knowledge in Agriculture and the mass media and National Orientation Agency should be made to play an important role in the scheme.
- Rural life should be made more exciting through providing social amenities.

CONCLUSION:

The advantages and role of rabbits in alleviating the acute shortage of animal protein in Nigeria (Aduku and Olukosi 1990) cannot be overemphasized. Since children contribute significantly to farming activities they should be integrated in all efforts aimed at strengthening agriculture.

C.I.A.P. rabbit scheme for both school and non-school children, if properly implemented, co-ordinated and channelled will not only achieve the objective of agricultural education in 6-3-3-4 education system of the country but will stimulate children's interest in agriculture, enable them acquire basic knowledge/skill in Agriculture and improve animal protein level, socio-economic life of the children and their rural families.

Personal Characteristics of respondents

Table 1

AGE	NO	PERCENTAGE
6-12 years	42	36.5
13-15 years	53	46.1
16-18 years	20	17.0
TOTAL	115	100

Source: Survey Data.

Table 2

SEX	NO	PERCENTAGE
Male	50	43
Female	65	57
TOTAL	115	100

Source: Survey Data.

Table 3

LEVEL	NO	PERCENTAGE
Primary 1-6	36	31.3
JSS 1-3	36	31.3
SSS 1-3	28	24.3
Non-School	15	1
TOTAL	115	100

Source: Survey Data.

Interest and participation of respondents in livestock

Table 4

Animals kept by parents and Relatives at home	NO	PERCENTAGE
Other types of livestock	104	90
Rabbits	1	-
None	10	9
TOTAL	115	100

Source: Survey Data.

Table 5

PARTICIPATION OF RESPONDENTS IN LIVESTOCK MANAGEMENT AT HOME	NO	PERCENTAGE
Yes	98	85
No	17	15
TOTAL	115	100

Source: Survey Data.

Table 6

TIME OF FEEDING LIVESTOCK	NO	PERCENTAGE
Morning	7	7
Evening	10	10
Both	81	82
TOTAL	115	100

Source: Survey Data.

Table 7

INTEREST IN RABBIT	NO	PERCENTAGE
Yes	80	70
No	35	30
TOTAL	115	100

Source: Survey Data.

Table 8

HAVING FRIENDS AND NEIGHBOURS THAT KEEP RABBITS	NO	PERCENTAGE
Yes	35	30
No	80	70
TOTAL	115	100

Source: Survey Data.

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THE ROLE OF AGRICULTURAL EXTENSION SERVICES IN THE REHABILITATION OF THE HANDICAPPED CHILDREN

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ABSTRACT:

Handicapped children can be described as those certified by a specialist in any field of therapy as having one or more of the following disabilities – blindness, partial blindness, emotional disorder, deafness, partial hearing, physically handicapped, speech defects, learning disability, social maladjustment, exceptionally gifted and mental retardation.
Rehabilitation according to Ozoji (1992), is a process that leads to the restoration of a person to his or her fullest physical, mental, social, vocational and economic usefulness of which that are capable. Meaningful and effective rehabilitation of the handicapped children must end up with making them self-sustained.

Agriculture fulfils one of the three basic necessities of life, which is food. Rehabilitating children in Agriculture can help fulfil this thereby making them self sustained and a contributing member of the society. Agricultural extension is an out-of-school system of education for farmers and their children to raise their standard of living by their own efforts and using their own resources and providing them with scientific knowledge to solve their problem (Williams, 1989).

Agricultural Extension performs the following roles by providing linkage for handicapped children's needs and problems to research institutes, obtain feedback from handicapped children about new improved technology on agriculture, helping handicapped children to help themselves, act as facilitators of agricultural production improvement programmes and planning and organizing extension activities and the willingness of the handicapped children to participate. The participation of the handicapped children will be highly needed due to their disability.

INTRODUCTION

It is generally agreed that in a democratic society, every member (the handicapped children inclusive) has an inherent right to an opportunity to earn a living and to contribute to the development of the society of which the (handicapped he/she children) is a member. The fulfillment of the inherent right is through education which has multiple effects of enhancing an individual ability to earn a living commensurate with his ability, talent and skill. This position is affirmed by the National Policy on Education (1981), which states that "Government has already included that the gifted as well as those with physical, mental and learning difficulties, must be provided for under the

educational system". This paper focuses on the role of Agricultural Extension Services in the rehabilitation of the handicapped children because the need for self determination, self realization and self actualization is more pronounced and desired by them.

Rehabilitation refers to intervention procedures that seek to restore someone to normal optimal functioning after illness or injury. Efforts at rehabilitation focus initially on those skills lost or impaired. In this respect, rehabilitation includes various physical, occupational and behavioural therapies that seek to restore lost functions. At the same time, rehabilitation often includes efforts to assist in personal, educational or vocational adjustment and development (Mba, 1990). These efforts are due to the fact that a significant part of a person's self esteem is tied to the ability to enable one to live an independent life, or at least a less dependent life.

FOOD AND NUTRITION CRISIS IN NIGERIA:

Nigeria is presently experiencing a state of acute food crisis. There had been food shortages due to distortions in the operations and management of the nation's economy. Prices of foodstuff, fertilizer, energy, and other commodities have skyrocketed. This situation has two distinct implications. The first is the food problem and this arises from the failure of food production to keep pace with national demand arising from higher rate of production growth. The second is a nutrition problem, which results from the qualitative inadequacy of undigested food in terms of energy and protein content and its consequential problem of undernutrition, malnutrition, disease and abject poverty. Enough food to relieve hunger and maintain healthy bodies is therefore a necessary pre-condition for the attainment of better living standards and rising expectation under economic development and political independence.

AGRICULTURAL EXTENSION AS A CONCEPT:

Agricultural Extension in Nigeria has a long history, which dates back to 1893. To a layman, extension simply means "something extended or projected". But to a professional, the real meaning of extension must go deeper. Extension education, is a voluntary out-of-school educational programme for children and adults. It employs teaching and learning principles that affect changes in the life of children, their parents and farmers. It is generally carried out in an atmosphere of mutual trust and respect between agricultural extension workers and their clientele.

It is a two-way communication process in which the extension agent carries the information from research to the farmers and the farmers problems are brought back to research by the extension agents. Over the years, extension activities have been concentrated on the normal farmers, in fact the training received by extension agents does not equip them to relate with handicapped children. With the government emphasizing equalization of opportunities for all categories of people regardless of their disability, efforts should be geared towards making handicapped farmers including their children enjoy the services of extension agents.

FUNCTION OF AGRICULTURAL EXTENSION:

Extension performs three major functions, which are:

- To get the farmers into a frame of mind and attitude conducive to acceptance of technological change. This function is achieved by educating the farmers on the newly developed technology and to convince them of the viability of the new technology in agriculture. The handicapped children can also be educated on new improved technology in agriculture.
- To disseminate to the farmers the results of research and to carry the farmers problem back to the research system for solution. In order to perform this function properly effective communication must exist between the research institute, the extension agent and the farmers. This also calls for adequate knowledge in technical matters related to agriculture and be skillful in the art of communication. For the extension agent to communicate effectively with the handicapped children he will need the support of a special education teacher or receive on the job training in special education.
- To help farmers make wise decision in farm management extension is an important tool in assisting the farmers to develop proficiency in the management of his farm. The handicapped children should be assisted to operate in a modern commercial economy where prices and factors of production play major roles, otherwise, the benefits of combining these two important factors to make wise decision will elude him.

THE ROLE OF AGRICULTURAL EXTENSION SERVICES IN THE REHABILITATION OF THE HANDICAPPED CHILDREN:

For the handicapped children to benefit from new technology in agriculture the following roles are expected to be performed by agricultural extension:

- They are to provide innovations to handicapped children. This is achieved by making them aware and understand new ideas. There are several and varied extension education methods at the disposal of the extension agent for creating awareness. Mass contact method (Radio, Television, Bulletin, Leaflets etc) are used generally to create awareness. Any of the above mentioned methods can be used for the handicapped children depending on their disability.
- They are to provide linkage for handicapped children needs and problems to flow to the research institute.

The special needs of the handicapped children must be well analyzed by extension agents and brought back to research. For example, the special needs of the blind will be different from that of the hearing impaired, the mentally retarded different from social maladjusted.

- They are to obtain feedback from handicapped children about the new impaired technology in agriculture, as interests and peculiarities of the handicapped must form the basis of any new technology for them. Feedback from the handicapped on the adaptability, durability cost, etc to the researchers via the extension agents is highly indispensable.
- They should help the handicapped children to help themselves. This is one of the philosophy of extension work which is based on working with the farmers and not for them in fulfilling this role, the extension agent should help provide alternative solutions to handicapped children problems. This will make them realize the resources at their disposal and leave the final decision to them.
- They should act as facilitators of agricultural production improvement programmes. This may be achieved by trying to influence the definition of the problem objectives (goals) and strategies. The handicapped children should be helped to see the need to participate in any agricultural improvement programme, and what they stand to gain by participating in such programme.

The roles of agricultural extension agents call for a unique blend of skills, and attitude. They must have the competence to understand and apply technical information related to their work as well as the ability to diagnose problems and come up with possible solutions especially those associated with the handicapped children. They should plan and organize extension activities and willingness to interact with others. The delivery systems that matter most in dealing with handicapped children are the specialist who will help in assisting the extension agent in educating the handicapped children, but for the physically handicapped, input delivery is also important.

EXTENSION AGENTS' VIEWS OF HANDICAPPED CHILDREN:

- The handicapped children should/must be viewed as possessing good mental capacity. He must be viewed as having the mental capacity to learn, think, reason, understand, remember, forget and judge.
- They should be viewed as emotional beings that are, capable of feeling various emotions which include, love, hatred, confidence, fear, resistance and acceptance. All people, whether handicapped or not, experience those things which are expressions of attitude. The extension agent must therefore aim at changing these attitudes towards various aspects of agricultural production improvement programme.
- Also, they should be viewed as possessing great potentials, physical strength and stamina plus practical skills.

CONCLUSIONS AND RECOMMENDATIONS:

The roles of agricultural extension services in the rehabilitation of the handicapped children is a way of linking the handicapped children with the research institutes, and making their problems and needs know to research institutes. This will help the researcher to tailor their research results towards solving some agricultural problems that are peculiar to the handicapped children.

For the handicapped children to have contact with extension activities and programmes, extension agents should be sent to rehabilitation centres for the handicapped. Apart from the fact that extension agents would be there to educate the handicapped children (with the assistance of specialist teachers) on the new improved technology in agriculture, the extension agents will have the privilege of interacting with them.

Farm settlements can be created for the handicapped children as we have for the normal farmers, or better still integrated with the present day farm settlement. This will make it easier for the extension agent to make enough contact with them and close monitoring can be ascertained. The research activities should include programmes for the handicapped children. Modification of various agricultural tools and implements should be done to suit the handicapped. The training of extension agents should equip them for dealing with the handicapped children.

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POTENTIALS OF CHILDREN IN SUSTAINABLE CROP PRODUCTION IN ENUGU STATE

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ABSTRACT:

In Nigeria, agriculture still remains a family enterprise as children, women and men of all ages are involved in one way or the other in the agricultural production process. It is astonishing that when these farm children had performed all these farming activities at their early age, once they have completed their education career, they abandon the skills and activities they grew up with for white collar job in the urban areas that are never available. The major objective of the study, therefore is to find out the potentials of children in sustaining crop production in Enugu State.

The research was carried out in Enugu State using secondary school children. A multi-stage random sampling technique was used to get a simple number of 180 respondents Structured questionnaire was used to elicit relevant information from the respondents. Simple statistical techniques were used to analyse the information.

From the analysis, it was found out that majority of the students were in senior secondary schools, belonging to the age bracket of 17 – 19yrs. and find themselves in moderate and large family system which characterizes the farming families.

The students were found to register for agriculture science in their various schools, like agriculture but won't like to take agriculture as a profession despite the fact that the respondents all take part in one agricultural activity or the other in their homes and schools. The respondents identified many problems why they did not want to take up agriculture as a profession after their schooling. Important among these are poor living conditions of their farmer parents, poor financial support and drudgery involved in agriculture. The respondents would like to take up agriculture as a profession if agriculture should be mechanised and rural infrastructures put in place among other conditions.

INTRODUCTION (THE PROBLEM):

Throughout the world today, agriculture is recorgnised as crucial to the survival of man and the improvement of the living standards of mankind.

In Nigeria, agriculture still remains a family enterprise as children, women and men of all ages are involved in one way or the other in the agricultural production process. Implication raised by this is that concerted efforts should be made by everyone in solving agricultural production problems of this country.

A large percentage of the population of Nigeria is under 18yrs. of age and majority of the overall population live in the rural area. (Hausa, 1968). It thus, follows that children make up a considerable portion of the future and it is essential that something should be done towards preparing them for the future profession. The alternative is that a large proportion of the children would probably leave school with unrealizable expectation of urban employment and no marketable skills and are psychologically unadjusted to returning to the rural community.

The drift of these young people from the rural areas to join the pool of unemployment or underemployed in the towns eventually lead to growing social and political tension and rising crime rates.

It is a known fact that children of families contribute immensely towards the agricultural production in such activities in the family. They help their parents in such activities as : clearing of farm land, planting of seeds, weeding, production of organic manure like animal waste to be applied on the farm for use of fertilizer, collection of water used to apply to vegetables and other crops in need of daily water quota inorder to survive during dry season. Children also help their parents in driving away birds and rodents from their rice farms, they are involved in transportation, marketing and processing of all these farm produce.

It is astonishing that after these farm children had performed all these farming activities at their early age, once they have completed their educational career, they abandon the skills and activities they grew up with for white collar jobs in the urban areas that are never available. It is equally more surprising that these children, probably, now youths would prefer to roam around the streets picking debris from dust bins or begging along the streets instead of engaging themselves in agriculture. This work therefore seeks to find out why these children reject farming as a profession. Could it be that there are some unfavourable attributes of farming or what they feel should be done towards farming for it to be attractive to them. These questions and others are what this paper is trying to find answer to.

Objectives of the Study:

The overall broad objective of this piece of work is to find out the potential of children in sustaining food production in Enugu state.

The specific objectives include;

(a) To identify the socio – economic characteristics of children in the study area.

(b) To evaluate the level of involvement of children in crop Production;

(c) To identify children's future intention about agriculture;

(d) To examine the time they render assistance to their parents;

(e) To identify the problem encountered by the children during farming and

(f) To make recommendations based on the findings.

Methodology:

The research was carried out in Enugu State. Enugu State is located on the high lands of Agwu, Udi, Nsukka hills and Oji River Basin to the West (ENADEP 1992). Enugu State is bounded in the North by Benue, in the East by Anambra, South by Abia and Enugu East and a total of Seventeen Local Government Areas (LGAS.). The State has fertile arable land, and most of the populations are peasant farmers. Common crops include yam, cassava, rice, fruits and vegetables.

A multi – stage random sampling was used to select respondents from the state. Two Local Governments were selected from each of the three Agricultural zones in the State, (6 local government areas). Then from each of the selected, local government areas, 30 respondents were selected, bringing the sample number to 180 respondents. Structured questionnaire was used to eilict information from the respondents. The information gathered were analyzed using descriptive statistical tools such as tables and percentages.

Results and Discussion:

Table 1 (see appendix1) shows the distribution of respondents by their sex, age, class and family size. 85(46.67%) are males while, 95(53.%) are females. Also 118(65.56%) fall between the age bracket of 15-17 years, 60(33.33%) fall into the age bracket of 18-20 and only 2(1.11%) fall into the age bracket of 21-23. This shows that the age of Nigeria children fall between 15-20 years and this age bracket is very crucial in the development of many children since this is the age when the future of the child is planned. The table also shows that the majority of the children are in senior secondary classes as 33.33 percent are in SS 3, 44.44 percent are in SS 2, 17.59 percent are in SS1 and only 4.44 percent are in junior secondary classes. When the family size of the children were analyzed, the table also revealed that the majority of the children belong to fairly large families which is a characteristic of farm families. 33.33 percent belong to the family size of 5-7, 55.56 percents belong to the family size of 8-10, 8.89 percent belong to the family size of 11-14, while 1.11 percent belong to both15-19 and 20-23 family sizes each.

The rural household consists of the husbands, wives, children and other dependents. Studies of rural areas in Nigeria (Akinbode 1971, Ekong 1978) revealed that the average size of a rural household lies between 10 and above and that the larger the family size, the larger the aggregate size. The implecation of this is that rural families engage mainly in farming and each household could be regarded as a socio-economic unit. Hence, there are divisions of roles and responsibilities in the rural household.

Table 2 shows that the children are all (100%) involved in weeding, packing and transportation of farm produce. The children also show more than 60 percent involvement in all other crop production activities such as clearing, harvesting, staking making mounds/heaps/ridges/application of fertilizer, planting, marketing etc but do not show involvement in storage, probably because there is no easy way of storage, Indigenous storage techniques are so delicate for children to handle. Since children are involved in almost all the

crop production activities in the study area, then, there is the potentiality of children engaging sustainable agriculture production, other things being equal.

Table 3 shows that even though the respondents are all involved in one agricultural activity or the other during their youthful stage, majority of the respondents (80%) refused to take it as a profession after their schooling. Only 18.3 percent accepted to take it after their schooling while 1.67 percent were undecided taking agriculture as a profession after leaving school. This does not give hope for the future of agriculture in the nation since the aging farmers would soon be extinct and there would be no future farmers to take over from them.

Most of the children, including those who come from rural farming families now have bias against agriculture as a profession (Olaitan 1985). This has been observed to be caused by many factors. Earlier studies at getting their attitudes towards farming as a profession have indicated negative responses. This is to the extent that almost every rural child wants to migrate to urban centres to secure jobs other than agriculture. According to Olajide (1991), they prefer, going to urban centres to learn trades they would have learnt in their rural areas as they do not want to find themselves in farming as a profession either by accident or by design. The situation has become so serious that it now threatens the future of agriculture in the country.

The researcher went further to find out from the respondents why they did not want to take up farming as a profession after all the involvement in agricultural activities at their youthful age, despite the fact that the future of agriculture lies in their hand.

The respondents revealed as shown in table 4.

1. Farming is a poor and dirty job.
2. Farming is labourious and tedious.
3. There is very poor profit (incentive) in farming after all the suffering.
4. Most of the farming activities are still done under traditional method without improved technology and varieties.
5. Lack of capital to embark on extensive and commercial farming.
6. It makes people age faster because of the drudgery involved in farming especially in those aspect of farming reserved for women.
7. Lack of storage facility which makes the surplus produce to be wasted thereby reducing profit.
8. More importantly, poor living standard of their parents.

The important ones among the factors that led to their biases include the state of living of their farming parents. They detest such living standards and come to the conclusion that if such living standard can be caused as a result of their taking to agriculture as a profession, they better run away from it so that they do not end up in such conditions. The low states of farmers is influenced by other factors such as their mode of farming, long investment period before farm yields a profit, wealth from oil or minerals, low incentive from agriculture, low incentive from government, and other external factors such as climate.

Table 5 reveals the respondents' reaction towards what should be done for them to take up agriculture as a profession for the sustainability of agricultural production for the future.

The respondents suggested that

(1) Rural areas should be developed in terms of infrastructural development to enable the youths live in the areas without loosing much when compared with their counterparts in the urban areas.

(2) Agriculture should be mechanized to reduce the drudgery, labouriousness, tediousness and fast aging of the undertakers as pointed out by the respondents.

(3) A special credit scheme should be established by the government to enable farmers get credit facilities without much difficulty.

(4) Improved varieties should be made available as and when due and duly subsidized for affordability by the farmers.

(5) Extension education should be improved and intensified to help educate the farmers on agricultural innovation for easy application.

(6) Finally, the respondents suggested that agricultural science should be made compulsory in secondary schools and scholarships given to the best students.

(7) Storage facility is very crucial for increased productivity so that the surpluses could be stored and sold during scarce periods for increased income. Respondents therefore did suggest that storage facilities should be made available for them in the rural areas for sustainable productivity.

CONCLUSION:

The potentials of the children in sustaining crop production in the nation in general and Enugu State in particular can not be over emphasized. Children have been found to participate in almost all spheres of crop production process but they need to be encouraged by the government and the entire society for them to be able to channel their creative energy more to crop production when they are adults.

APPENDICES:

Appendix 1

TABLE 1

Distribution of Respondents by their Socio-economic Characteristics:

Sex	No	Percentage
Male	85	46.67
Female	95	53.33
Total	180	100

Age	No	Percentage
15-17	118	65.56
18-20	60	33.33
Female	02	1.11
Total	180	100

Class	No	Percentage
6	60	33.33
5	80	44.44
4	32	17.59
3	06	3.33
2	02	1.11
Total	180	100

Family Size:	No	Percentage
5-7	60	33.33
8-10	100	55.56
11-14	16	8.89
15-19	02	1.11
20-23	02	1.11

Source – Field Survey 2000

Appendix 2

Table 2

Distribution of Respondents by their involvement in crop production

	No	Percentage
Clearing	160	88.89
Harvesting	180	100
Staking	90	50
Weeding	180	100
Making mound/ridges/heaps	80	44.44
Packing of farm product	180	100
Application of fertilizer	120	66.67
Planting	170	92.22
Transportation	180	100
Marketing	0	00.00
None of the above	2	1.00

Source: Field Survey, 2000

TABLE 3

DISTRIBUTION OF RESPONDENTS BY THEIR INTENTION TO TAKE UP AGRICULTURE AS A PROFESSION:

INTENTION TO TAKE UP AGRICULTURE AS A PROFESSION	RESPONDENTS = N = 180	
	N	%
Those who would like to take up agriculture as a profession	33	18.33
Those who would not like to take up agriculture as a profession	144	80
Those who are undecided yet	3	1.67
Total	180	100

TABLE 3b:

DISTRIBUTION OF STUDENTS FOR LIKING AND OFFERING AGRICULTURE IN THE SCHOOL

STUDENTS LIKING AND OFFERING AGRICULTURE IN THE SCHOOL	RESPONDENTS = N = 180	
	N	%
Those who like agriculture	162	90
Those who do not like agriculture	18	10
	180	100%
Those who offer agriculture as a course	171	95
Those who do not offer agriculture as a course	9	5
	180	100%

Table 4:

Reasons why children detest taking agriculture as a profession

Poor and dirty jobs
Labourious/tediousness of the profession
(drugery should be reduced).
Poor profit
No infrastrucure in the villages
It makes one age fast.
Lack of capital
Lack of storage facility
Poor living condition of their parents.

Table 5:

What should be done to make children take agriculture as a profession after their school career?

Provide machines
Inputs such as fertilizer and improved varieties of crops.
Provide loans.
Machanize farming.
Scholarship in the rural area.
Establishing Agric. Industries for Youth Employment.
Subsidize inputs (fertilizer)
Provide Extension Services.
Agriculture should be made compulsory in schools and agriculture
Teachers should be highly motivated.

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CHILDREN PARTICIPATION IN AGRICULTURE: A CASE STUDY OF AKURE SOUTH LOCAL GOVERNMENT OF ONDO STATE OF NIGERIA

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ABSTRACT

The study investigated children participation in agriculture in Akure South Local Government Area of Ondo State. Ten villages were randomly selected for the study. Data were collected randomly from 100 children using structured interview schedules. Descriptive and inferential statistics were used for data analysis.

The results revealed that the children in the study area contributed to the development of agriculture in their locality. It was observed that gender issues were no barrier to participation in farming activities and the children in general participated actively in various farm operations such as weeding, planting, marketing, land preparation and harvesting. It was also discovered that the respondents were satisfied with rural living, hence they saw farming as an important and rewarding profession they would like to take to in the future.

Without doubt, children are influential elements of agricultural development of any community. It would therefore be extremely beneficial to include them in the planning process and development strategies.

INTRODUCTION:

For a sustainable development of agriculture in Nigeria, there should be rapid transformation from the subsistence type of farming to a modern or commercial type where man has more control over physical nature. To accomplish this, serious efforts should be made to motivate the rural children and youths to take agriculture as an occupation from the middle-aged men and women who are presently our farming population, as our agricultural future may be bleak when the present group of farmers phase out on account of age.

In the past, farm children have not been given adequate considerations as a unit of farm family. This could be observed in the various development programmes designed and implemented so far, which usually targeted only men and women. Little or no attention has been given to children in terms of development programme knowing fully well that these children are naturally endowed to take over farm responsibilities from 'men' and 'women' who are presently focused on and reached by development programmes among the farm-families (Farinde, 1999).

CHILDREN CONTRIBUTION IN AGRICULTURAL PRODUCTION:

Children contribute in no small way to the production of food for household consumption. They are involved in food processing and farming activities such as land preparation, planting, weeding and harvesting. Alugo (1998) in her study of farmers' children in Ife South Local Government in Osun State, reported that about 90% of youths were on farm after school hours and during the holidays. Children took part in activities such as seed selection for planing, food and meat processing, food preparation and harvesting.

In a survey of rice farms in Cameroon, Fotzo (1977) noted that children contributed as much as 35% labour to pre-harvest activities and 31% to harvesting activities. Jibowo (1992) reported that in South-Western Nigeria, fathers gave a small portion of land to their sons to practice their own independent farming during their spare time. He further stated that this period was usually when the child had attained the age of 10-12 years and may last till the age of 14-18 years.

For children are usually employed in the transportation of farm products from the farm to their homes and nearby markets where they assist their mothers in the sales of farm produce in the markets. Also, farm-children are seen hawking in the streets in the evenings with farm produce, which are ready for sale.

There is need to improve the image and the presence of agriculture among farm children. If this is done from all arms of government (federal, state and local) there might be sustainable agriculture, a halt to rural-urban migration, and more young people taking to farming as a profession thereby increasing agricultural productivity

The main objective of this study therefore is to investigate children's participation in agriculture in Akure Local Government (LGA) of Ondo State. The specific objectives are to:

(i) identify the personal and socio-economic characteristics of farm-children in the study area;
(ii) identify the farming activities which farm-children participated;
(iii) determine the level of participation in farming, and finally
(iv) examine the problems militating against farm children's participation in these activities.

HYPOTHESES OF THE STUDY:

The following hypotheses stated in null form were tested.

1. There is no significant relationship between personal characteristics of respondents such as age, sex and participation of children in farming activities.
2. There is no significant relationship between problems encountered by farm children and farming activities they participated in.

METHODOLOGY:

The study was carried out in Akure South Local Government Area (LGA) of Ondo State. Akure South LGA was carved out of the former Akure LGA. This LGA is bounded by Ifedore LGA with the headquarters at Igbara-Oke towards the west, to the east is Owo LGA with headquarters at Owo, and to the north is Akure North LGA with headquarters at Iju-Itaogbolu and to the south Idanre LGA with headquarters at Idanre. Farming is the main occupation of the people in the study area. They cultivate crops such as yam, maize, cassava, oil palm, cocoa and citrus.

Ten villages namely, Ipinsa, Oke-Odo, Kajola, Iransi, Apomu, Ado-Fure, Imafon, Ita-Oniyan, Oyetedo and Ajegunle were randomly selected for the study.

Each of these villages has an average of fifty-five houses. Children of ages 0 – 17 years selected from every other five houses were interviewed. Ten respondents were interviewed in each of the villages. A total of 100 respondents were involved in the study.

The data collected were analyzed using descriptive statistics. These include percentages, frequency counts, chi-square and multiple regression.

RESULTS AND DISCUSSION:

The result in table 1.1 indicated that majority of the children who were involved in farming activities fall between ages 6-15 years while those below 5 years were not really involved. The table revealed that 57% were male while 43% were female. Both male and female children were involved in farming operations in the study area (table 1.2).

Table 1: Demographic Characteristics of Respondents

N = 100

Variables	Frequency	Percentage
1. Age		
0-5 years		
6-10 years	20	20.00
11-15 years	65	65.00
16-17 years	15	15.00
2) Sex		
Male	57	57.00
Female	43	43.00
3) Educational Status		
Still attending school	97	97.00
Dropped out of school	03	3.00
4) Cosmopliteness		
Occasionally	52	52.00
Rarely	26	26.00

Often	22	22.00
5) Family Type		
Monogamy	63	63.00
Polygamy	37	37.00
6) Residency Pattern		
With friends	01	1.00
With parents	83	83.00
With relations	16	16.00
7) Years of Residency in Locality		
All of my life	50	50.00
1-4 years	17	17.00
5-8 years	17	17.00
9-12 years	16	16.00

Majority of the respondents 97% are still attending school. Only 3% dropped out of school. When interviewed on reasons for dropping out of school, 67% of those who dropped out of school attributed it to their inability to cope with the demands of schoolwork while others attributed it to their parents' inability to afford their school fees.

A survey of how often the respondents traveled out of their localities revealed that 52% travel occasionally, 26% rarely travel while 22% often traveled out of their communities (table 1.4)

Table 1.5 also revealed that majority (63%) of the respondents were from monogamous homes. Majority of them 83% live with their parents (Table 1.6), the study also indicated that 50% of the respondents were born and bred in their present location. Also, 75% of the children reported that they were satisfied with rural living, while 25% reported they were not satisfied with rural living. This is not surprising because 78% of the children could be regarded as not being cosmopolitan as they occasionally or rarely traveled out of their villages to urban areas, while the 25% who want to go to the urban areas are those who often travel and somehow they have been exposed to better living conditions in the urban areas.

Table 2: Distribution of Respondents by Future Professional Aspirations

N = 100

Profession	Frequency N*	Percentage %
Business	80	80.00
Medicine	75	75.00
Farming	73	73.00
Accounting	61	61.00
Teaching	57	57.00
Engineering	56	56.00
Civil Service	53	53.00
Military	31	31.00
No-response	14	14.00

*Multiple responses

The respondents were asked to tick any 5 of the above professions in order of preference (5 most preferred and 1 least preferred). Table 2 indicated that the most preferred profession was business (80%). This was followed by medicine (75%) and farming (73%). The least preferred job was the military.

It is interesting to note that the children in the study indicated their preference for agriculture. A possible explanation for this would be their experience in farming as well as their rural background. It is therefore possible that the respondents could be made to develop a better attitude towards farming if they are adequately encouraged and motivated.

Table 3: Distribution of Respondents according to Agricultural Literacy/Farm ownership/time of the day they go to farm

N = 100

Variables	Frequency (N)	Percentage (%)
1. Agricultural Literacy		
Literate	41	41.00
Illiterate	59	59.00
2. Ownership of farm		
Parent	59	59.00
Personal	02	2.00
Parents/relatives	23	23.00
Others	08	8.00
No response	08	8.00
3. Period of Day respondents go to Farm		
After School hours	64	64.00
Weekends	27	27.00
All day	02	2.00
No response	07	7.00

Table 3 indicated that 59% of respondents have no basic understanding nor can they mention any agricultural production terms. Sixty-four percent of the respondents go to farm after school hours while 27% go to farm during weekends. None of the respondents goes to farm before school while only 2% are on the farm daily.

The question of who owns the farm on which they work revealed that 59% of the children work in their parents farm, 23% worked on both their parents and their personal farms while 8% worked on other people's farms such as relatives, friends or guardians.

From the findings, it is evident that children assist their parents on the farm. Some are given land on which to carry out their own independent farming operations. The result is in line with the submission of Jibowo (1992) who posited that at age five or six, the child is given farm implements with which to work and he is apportioned a small piece of land to work on.

Table 4: Distribution of Respondents According to Participation in Farm operations.

N = 100

Farming Operations	*No. of respondents N	Percentage
Cleaning	20	20.00
Ridging	38	38.00
Planting	84	84.00
Weeding	88	88.00
Harvesting	64	64.00
Marketing	76	76.00
Processing	63	63.00
No response	10	10.00

*Multiple responses

The result in table 4 shows that children in the study area are involved in one farming operation or the other. The farming operation the children were most involved in is weeding (88%). This is followed by planting (84%) and marketing (76%). Every child that goes to the farm could at least uproot some weeds with hand or with the aid of cutlass or hoe. Most children participated in planting of such seeds as maize grains, yam, and cassava cuttings in the farm. Also, children hawk farm produce in the village markets or assist in carrying loads to the market. Harvesting and processing too are often important activities farm children were involved in, all the activities children indicated that they were involved in were not too difficult for them to handle. However, land clearing and ridging were considered as tedious tasks for adults not to talk of children. It is not surprising therefore that they attracted the least participation by the respondents.

HYPOTHESIS TESTING:

From Table 5, it is evident that there is a significant relationship between the respondents' ages and the farming activities in which they participated.

Table 5: Summary of Chi-square Analysis Showing Relationship Among FarmingActivities and Selected Characteristics of Farm Children

Selected Characteristics	Degree of freedom	Significant level	X^2 calculated	X^2 tabulated	Decision
Age	87	0.0001	146.842	107.52	Reject
Sex	27	0.1953	23.286	42.55	Accept

Table 6: Summary of Multiple Regression Showing the Relationship Among Variables Investigated

Variables	Slope B	Standard Error of B	95% confidence	Interval b	Beta
Problems	-0.24606	0.14384	-0.53159	0.03946	-0.17241
Age	-1.36457	1.19150	-3.72967	-1.00054	-0.11463
Sex	-2.34779	1.56764	-5.45953	0.76395	-0.15183
Farming Operations	16.2964	4.6894	6.9880	25.06048	

Table 6 indicated that there is an inverse relationship between the variables investigated such as age, sex, problems and farming operations in which children are involved. As age increases at adulthood, the strength to perform farming operations reduces.

CONCLUSION/RECOMMENDATION:

The major findings of the research can be summarized as follows:

1. Children in the study area, both boys and girls, were involved in farming operations in their localities.
2. The children participated actively in various farm operations such as weeding, planting, marketing, land preparation and harvesting. Participation was high in weeding and planting and least in land clearing and land preparation.
3. Majority of respondents (97%) are still attending school and only few of them traveled out of their communities at one time or the other.
4. The respondents were satisfied with rural living. 73% of the respondents aspired to choose farming as their profession.
5. The children are not literate when it comes to agriculture, that is, they can neither mention nor understand agricultural production terms.
6. Finally, some of the problems respondents reported they encountered including lack of money for school fees, inadequate health care facilities, social amenities, fatigue and ill health.

In conclusion, the future of the agricultural sector in effect belongs to the younger ones. Failure to ensure a development of positive attitude in the younger ones towards agriculture would imply a failure of our educational goals with respect to agriculture.

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THE ROLE OF CHILDREN IN AGRICULTURE TOWARDS ENHANCED ECONOMIC STATUS OF THEIR FAMILY IN IKWUANO LOCAL GOVERNMENT AREA OF ABIA STATE.

BY

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ABSTRACT:

Researches, policies and programmes in the agricultural sector have focussed on men and women while the activities of children in the sector have been relegated to the background. Hence, facilities for the improvement of the sector have been meant to serve the interest of the men and women, to the detriment of those of the children. This study carried out in a rural area examined the roles of children in agriculture, with regard to their contribution towards the economic wellbeing of their families. Findings show that children engage in virtually all farming activities; contribute to the enhanced economic status of their families through the food they grow as well as the incomes generated from the sale of farm products apart from the income from paid jobs which they undertake. This paper therefore, contends that the activities of children in agriculture be recognized to the extent that appropriate policies and programmes are put in place to take care of the problem which children in agriculture encounter; appropriate curriculum in agriculture should also be put in place to help develop and sustain the interest children have for agriculture and hence, motivate them to contribute more to the economic well being of their families. Agriculture is widely practiced in rural areas. Therefore, government should endeavour to develop the rural areas so as to minimize the problem of rural-urban migration which adversely affect the activities of children in agriculture. This is because, children who have interest in agriculture may not have the zeal to stay in the rural areas when there are prospects of better conditions of living and sources of income in the urban areas.

INTRODUCTION:

Many studies in Agriculture have focussed on the roles played by men and women towards agricultural development. Therefore, policies and programmes meant to enhance the development of the sector have been focussed on these categories of people or their groups, while children, who normally join their parents and households in their farming activities received no attention. Hence, we often read some phrases such as: 'Men and Women may perform some identical jobs in agriculture, yet tradition reserves some specific roles for men and some for women....'; 'Women play significant roles in economic development'; '....four out of every ten agricultural workers are women' (Nwankwo et al 1998). 'Women contribute significantly to economic life

everywhere, their share in labour force continues to rise and they are becoming more involved in micro/small scale enterprises. Their incomes are becoming increasingly necessary to all households' Childebelu et al (1998).

As a result of this relegation, not much literature is available in the area of the role of children in agricultural development, whereas, as much as, if not even more of any compliments extended to men and women in agriculture should also go for children in agriculture as they contribute as much to agricultural development as the men and women, it not more. From the foregoing discussion, some research questions are pertinent. Such question as:

(a) Do children not participate in agricultural , activities?
(b) In what ways do the activities of children in agriculture benefit their families and contribute to economic development?

OBJECTIVES OF THE STUDY

The broad of objectives of this study is to examine the roles of children in Agriculture towards agricultural development in Ikwuano L. G. A. Specifically the objectives include:

1. To determine the activities which children in Ikwuano L. G. A. involve themselves in towards agricultural development;
2. To determine the socio-economic characteristics of the children in Agriculture;
3. To determine and analyse the benefits which accrue to the families through the activities of children in Agriculture; and
4. To make recommendations based on the findings.

METHODOLOGY

The study was based at Ikwuano L. G. A., an agrarian community, in Abia State. The area is well known for agriculture and as a result, two federal Agricultural Institutions were established in the area. Six schools were purposively selected from the L. G. A., made up of 3 post primary and 3 primary schools because it is expected that majority of the target group should be in schools. 120 school children were randomly selected from the schools including 20 non-school children.

The sampling frame for the study consists of pupils from primary schools, students from post primary schools and non school children. Purposive sampling technique was used to select 3 primary schools and 3 post primary schools, in the local government area. Data for the study was got from primary sources with the use of face-to-face interview of the respondents. Some descriptive statistics such as means, percentages, frequency distribution and tables were employed in data analysis.

RESULT AND DISCUSSION:

Findings show that the children especially those non school children and those in secondary schools engage in all farming activities which include: clearing, tilling, planting, staking (if necessary) weeding, harvesting etc. They are also involved in animal rearing as they help to bring food for the animals especially those who keep sheep and goat under intensive method. Primary

school children do not engage in clearing and staking but engage in all other farming activities for both crop and animals production.

SOCIO-ECONOMIC CHARACTERISTICS OF THE RESPONDENTS

Most of the respondents (about 46%) are within the age range 13-15years. 36% are between 8 and 12 years while about 16% fall within age range 16-18. This indicates that the study focused on children (see table 1).

About 54% of the respondents were females while 46% were males as table 2 indicates. Majority of the children interviewed are in Junior Secondary School (JSS) 1 to 3 (about 43%) while about 29% are in primary 3 to 6. About 16% of the respondents were non-school children.

About 80% of the respondents come from families with household size of between 6 and 10 persons. This indicates that most of the households are relatively large and hence depend on the assistance of the children for its upkeep.

Most of the respondents indicate that they go to farm in the evening after school and on Saturdays.

They also use holiday periods to work in the farms.

BENEFITS

The indications are that the families benefit from the activities of the children in form of food from the farms which helps to augment the food requirements of the household. About 19% of the respondents said they derive food only farm their farming activities. About 11% indicates that they farm for the purpose of selling the proceeds for money, while about 69% said the benefit they derive from their farming activities include both food and money. Proceeds in excess of the requirement of the household are sold for cash which they claim is used to pay their school fees among other uses.

Also, 58% of the respondents opined that they engage in hired labour, a situation whereby they work for other people on their farms for payment. Money realized from this activity, further inquiry revealed, is used in payment of school fees as well as in assisting in buying other things they need in their homes. In this way, the children make positive contributions towards economic enhancement of their households.

RECOMMENDATION:

The study has been able to show that children contributed positively towards the economic emancipation of their households. However, this contribution is ascribed to only their parents and adults. It is the contention of this paper that the contribution of the children be recognised. Policies for agricultural development should be made in such a way that the interest which children have in agriculture would not be dampened. Appropriate curriculum in agriculture should be put in place so that the children interest in agriculture would be sustained. The rural areas should be developed through the provision of the essentials for better living such as pipe-borne water, electricity etc. These would encourage the children to stay around and some of them may grow up to become proud farmers, unlike the present situation whereby farming is left for old parents and those who are less privileged in the rural areas.

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Table 1: Age Distribution of Respondents in Years.

Age	No.	Percentage
8-12	44	36.7
13-15	56	46.7
16-18	20	16.7
Total	120	100

Source: Derived from the survey data, 2000.

Table 2: Distribution of Respondents According to Sex.

Sex	No.	Percentage
Male	55	45.8
Female	65	54.2
Total	120	100

Source: Derived from the survey data, 2000

Table 3: Distribution of Respondents According to Educational Level.

	No.	Percentage
Primary 3-6	35	26.2
JSS 1-3	52	43.3
SSS 1-3	13	10.8
Non School	20	16.7
Total	120	100

Source: Derived from the survey data, 2000.

Table 4: Distribution of Respondents According to Household Size

No. Of persons	No.	Percentage
1-5	12	10
6-10	96	80
11 and above	12	10
Total	120	100

Source: Derived from the survey Data, 2000.

YOUTH PARTICIPATION IN RURAL DEVELOPMENT: A CASE STUDY OF SELECTED YOUTH PROGRAMMES IN LAGELU LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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ABSTRACT

Youths constitute a strong and very important labour force in agricultural and developmental activities of rural communities. However, rural youth participation in rural development for change programmes are geared towards bringing an improvement in the standard of living of the people and change in their attitudes, knowledge, behaviour and skills.

This study examines the level of youth participation in some selected youth programmes in Lagelu Local Government of Oyo State by identifying the types of youth programmes, factors enhancing youth participation, constraints to their participation and resources available for the youth Clubs.

One hundred and twenty youths were purposively selected from six villages from Lagelu Local Government Area with a pretested interview schedule.

Ninety five percent of the youths were involved in youth programmes while 5 percent were not. The youth clubs to which they belong include village development youth club (55%) Lagelu Progressive Youth Club (35%), Girls' Guide (1%), Boys' Brigade (4%), Boys' Scouts (3%), as well as Girls Guild (2%).

Majority of the youths indicated their involvement in various activities such as crop production (29%), environmental sanitation (17%), Livestock farming (5%), public education and community self-help project (10%). 17% of the youths attended Agricultural Leadership training programmes organized by extension agents and school teachers.

The resources of the youths included funds, furniture, farmland and vehicles among others. Education, membership of youth clubs organization and occupation were significantly related to the level of participation in youth programmes (X^2=22.09; 8.32, 22.09; P=0.05 respectively).

INTRODUCTION

The youths constitute a very significant proportion of rural communities. Their existence and potentials are well known in Nigeria since they form a large component of Nigerian population and contribute a lot to the development of the nation and particularly their local communities. Events have shown that many factors militate against their participation in community development programmes for change in behaviour, and attitude towards rural development. Because the potentials of youths are known to be remarkably under utilized, it is

necessary to identify areas of selected youth programmes where youth participation could be upgraded to a desired level for a desired change in rural areas.

This study is therefore necessary in identifying how the potentials of these youths could be fully tapped and utilized. Furthermore, the knowledge obtained from the study may suggest recommendations to improve youths interest in youth programmes and enhance agricultural development at the local, state and national levels.

Assessment of youth activities and programmes will enable youth planners and directors to be aware of lessons from the past strategies and thus, work towards improving youths extension efforts.

The objective of the study include:

(i) to identify the types of youth programmes in Lagelu Local Government Area, Oyo State;
(ii) to determine how youths are trained;
(iii) to identify club resources and sources of acquisition;
(iv) to identify the types of youth clubs available in Legalu Local Government Area.

The Hypothesis tested was that there was no significant relationship between level of participation in youth programmes, and membership of youth club, occupation and formal education.

Youth Participation in Rural Development

The youths constitute a potent force in Agricultural Development through an effective extension system. (Jibowo, 1989) identified a number of characteristics which when nurtured and utilized, are invaluable assets to agricultural extension and rural development. These characteristics include reduced fear of failure, minimal risk aversion, faster reaction time, greater physical strength, social propensity and innovation proneness. These assets are utilized in youth programmes for rural and national developments.

Rural youth participation in rural development for change programmes are geared towards bringing an improvement in the standard of living of the people and change in their attitude, knowledge, behaviour and skills. The 'change' programme can be people's efforts, governmental efforts or a combination of both or it could be the efforts of non-governmental organization (NGOS). This helps to identify what is and what should be and goes further to bridge the gap.

Finally, the success and strength of rural enterprises in which youth may engage depends on cultural elements, level of income, type of education and technical assistance made available to them (Bur, 1996).

Rural Youth Extension Programmes

Rural youths' programmes have a great potential in creating interest in farming among rural youths and school leavers (Ekong 1974). However, Schmidt (1971) stated that various involvements can facilitate adult extension work, teaching adult through learning by doing, involvement of youths in family

decision-making thereby influencing parents to be more innovative, encouraging farmers to open up to agricultural extension agents' instruction and demonstration, helping to train future extension workers thereby giving a higher chance of being in agricultural related profession; helping youths to adopt modern agriculture, thus encouraging them to stay in the rural areas to farm, and strengthening continuity of extension. They are more receptive to innovation than the adult farmers; helping to upgrade extension programmes through regular training and practical work on the field.

However, an important fact in sustainable development is the establishment and strengthening of youth programmes, through an effective extension system.

Jibowo (1999) highlights the number of characteristics which when nurtured and utilized are invaluable assets to agricultural extension. These characteristics include less conservation; less fear of failure, innovative proneness, faster reaction time and rate of learning, minimal risk aversion, social propensity, and greater physical strength.

All these characteristics are rarely utilized in youth programmes for rural development.

A successful youth programme in the rural areas must take into consideration current programmes, problems, attitudes, youth characteristics and reasons for joining youth clubs as a motive force for successful youth programmes.

Methodology: One hundred and twenty youths who were involved in youth club programmes were randomly selected and interviewed in Lagelu Local Government Area of Oyo State using a structured interview schedule. A total of six youth clubs comprising of twenty youth club regular members were purposively selected. These youth clubs include Lagelu Development Youth Club, Lagelu Youth Football Club, Lagelu Progressive Union, Boy's Scout, Boys' Brigage and Aiyedaade Progressive Youth Club. Percentages and frequency counts and chi-square analysis were used in data quantifications.

FINDINGS AND DISCUSSION

Youth Programmes and Clubs:

95% of the youths were involved in youth programmes. Most of them belong to Clubs such as Village Development Youth Club (55%), Lagelu Youth Football Club (30%), Lagelu Progressive Youth Union (25%), Boys Scout (3%), Lagelu Boys Brigade (4%), Aiyedaade Progressive Youth Union (10%) and Girls Guild (3%).

The youth programmes were aimed at crop production (29%), environmental sanitation (17%), Leadership development (17%), Community self-help project (10%), Livestock production (5%) and Public education.

The crops produced by the youth clubs involved in crop production include cassava (40%), Yam (30%), Leafy Vegetables (17%), Cowpea and Okro (13%) and Maize (1%). Livestock farming was also very popular among the

youths as some of them (85%) were engaged in keeping goats, sheep, poultry and Rabbit while 15 percent do not keep livestock.

The result also showed that the youth Clubs used group land as they operated group farming. Group labour was employed for crop production by 90% of youth clubs while 10 percent employed individual labour. This shows that group farming is more popular than individual farming among the youths.

PERSONAL CHARACTERISTICS

Majority (65%) of the youths are between 16-25 years of age, 25 percent were between 26-30 years, while (10%) were between 12-15 years.

90% of the youths were single and schooling was the most frequent occupation (50%), 25 percent were farmers, 5 percent were teachers, 10 percent were engaged in tailoring while the remaining 10 percent were engaged in automobile mechanics and trading.

80 percent of the youths had secondary school education while 10 percent had post-primary education and the remaining ten percent had primary and informal education.

TABLE 1: Distribution of Respondents based on their training:

Area of Training	Frequency (N: 120)	Percentage
Improved from practices	17	14.0
Environmental Sanitation	20	17.0
Community Self-Help Development	12	10.0
Leadership Development	20	17.0
Driving of Tractors	10	8.0
Livestock Farming	6	5.0
Crop Production	35	29.0
Total	120	100.0

Most of the youths have gone through some youth training for effective performance in the youth programmes. The areas of training include crop production (29%), environmental sanitation (17%), leadership development (17%), improved farm practices (14%), community-self development (10%), driving of tractor (8%) and livestock farming (5%).

Training is needed for the performance of certain youth programmes. There was a clear evidence as observed in the youth club objectives and needs were met by the club and were capable of training their members to meet their goals.

The youth farmers were local government officials (45%) community development agents (15%), Agricultural Extension Agents (25%) Resource persons from the Ministry (19%) and Secondary School Teachers (5%).

Youth Club Resources

The resources of the youth clubs help in carrying out some of the activities. The main resources identified by the youths include farmland (40%). Vehicles (19%), Buildings (20%), Fund (through levies) (30%), others include tables, chairs, plates, spoons and forks rented out to generate income (fund).

TABLE 2: Distribution of Respondents based on the constraints encountered during youth programmes

Constraints	Frequency	Percentage
Unemployment	55	46.0
Lack of fund	18	15.0
Lack of co-operation among parents and members	17	14.0
Poor community support	15	13.0
Drug abuse	10	8.0
Poor Leadership and lack of extension Agent to train	5	4.0
Total	120	100.0

The respondents identified problems facing youths: Majority rated unemployment (46%) as the most pressing problem facing youths. Other problems include, lack of fund (15%), lack of cooperation among parents and members (15%), poor community support (13%), drug abuse (8%), poor leadership and lack of extension agents to train (4%).

TESTING OF HYPOTHESIS

Table 3: **Chi-square test of relationships between membership of youth club, educational status, occupation and level of participation of respondents**

Level Participation	**Chi-square Value**	**Degree of Freedom**	**Significant Level**	**Decision**
Membership of Youth Club	8.32	3	0.05	Reject H_O
Educational Status	22.09	4	0.05	Reject H_O
Occupation	22.09	4	0.05	Reject H_O

There were significant relationship between membership of youth club, educational status, occupation and level of participation of respondents in youth programmes.

The chi-square values were significant at 0.05 level. Most of the youths fell within the age group of 12-30 years. The youths participated greatly during their youthful ages.

Most of the members of the youth clubs participated in almost all the activities of the clubs.

It may therefore be claimed that membership of youth clubs influences participation in club programmes.

Moreover, education and occupation influence level of participation in youth programmes. Education and occupation are positively related to the level of participation in youth programmes.

Conclusion and Recommendations

Youth participation in club programmes is concentrated among youths within the age group 16-25 years.

The aims of the youth club in their youth programmes covered a wide variety of rural development – including crop production, animal production, environmental sanitation and community self help project. Youth club formation and youth programmes must therefore be strengthened by training to improve agricultural development. The youth trainers include extension agents, persons from the ministry and local government officials.

Resources of youth clubs identified include farmland, chairs, levies by members and building.

Education, occupation, and club memberships were significantly related to the level of participation of the youths in youth activities or programmes.

The youth clubs should be helped and encouraged by the government by providing trainers (resource persons) to assist club officers in the improvement of their performances. They should organize varieties of activities and invite resource persons to teach club members on important subject matters. These resource persons should teach more skills and knowledge so as to equip the members with adequate skills and knowledge after leaving school.

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ACHIEVING NATIONAL DEVELOPMENT AND GROWTH: THE PLACE OF CHILDREN-IN-AGRICULTURE PROGRAMME

BY

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INTRODUCTION

Researchers had for long embarked on rigorous studies aimed at establishing a fixed yardstick against which to measure economic growth and national development. It has, however, not been easy to establish and standardize such a yardstick. Economic growth has, for example, been looked upon as increased productivity measured by the Gross National Product (GNP) or National Income. This definition implies that the higher the national income of a country, the higher her economic growth and vice versa.

Development has sometimes been misconstrued to be synonymous with 'growth' or increased material productivity. Research has established that a society may indeed experience growth without really experiencing development. Again, national development has often been equated with change. According to Akubuilo (1990) this view is also not correct because it is now accepted that not all the changes that occur in the society result in progress while others may leave the society worse off. It therefore means that for any change to be considered as development, such a change must connote "progress" and must result to the upliftment of the quality of human life.

The term, national development has four main aspects – social, economic, political and cultural. All nations must of necessity pursue the concept of national development by incorporating these four aspects. Each of these aspects has to be given its proper place in the planning process.

Economic development is defined by Mellow (1966:3) as a process by which a population increases the efficiency with which it provides desired goods and services, thereby increasing per capita levels of living and general well-being. Sanda (1980) tried to distinguish between economic development and social development. According to him, while economic development is largely concerned with ensuring notable and sustained increase in a nation's real-national income (the sum of all the goods and services produced in a nation), social development is concerned with the human capital and how to mobilise the latter for the enhancement of the quality of life of the majority of the citizens through basically non-economic elements in development.

Cultural and political development have to do with such things as the provision of functional and quantitative education for most of the people, a near absence of the use of child labour, presence of a strong middle class, proper

recognition of women's status and position and the ability of the bulk of the populace to think and take decisions for themselves.

Every good government should aim at providing basic needs for the entire citizenry. When this is done, the social, political, economic and cultural climate may then be ripe for meaningful 'development' to occur.

Importance of Agriculture in Economic Growth and National Development

The importance of agriculture in the economic growth and national development of a developing country like Nigeria cannot be over-emphasized. Firstly, efficient agriculture helps a country to meet the food demands of a growing population. Secondly, agriculture supplies adequate and cheap raw materials for our industries since many of our industries are agro-based. Thirdly, agriculture supplies savings to other sectors of the economy. Fourthly, agriculture serves as a market for the products of the industrial sector. Fifthly, agriculture provides productive employment. Sixthly, agriculture brings in foreign exchange or capital formation through increased earnings from the agricultural sector. Improved agriculture is beneficial to the nation as a whole and to the individual farmers in terms of raising the per capita income as well as improving the socio-economic conditions of the farming population.

Krishna (1987) reported an agriculture teacher as saying that agriculture is part of human behaviour and culture; an intrinsic component of human existence which people must learn to appreciate if they must understand and contribute to human conditions of existence. Olaitan, Agwubike and Akubuilo (1987) conceptualized agriculture as meaning the growing of plants and keeping of animals to obtain food and other products. As simple as this definition might seem, food and other agricultural products are critical issues in the world today. According to Olaitan (1993) nations such as Russia and Iraq have had to bend their political ideologies and inclinations for the prospects of receiving food aids or avoiding food embargo. Some countries in Africa and Asia have been tagged beggar nations because millions of their citizens are hungry. In most of these countries, the bane of basic agriculture has been basic environmental factors such as inclement weather and political instability.

Some disturbing facts and questions on the role of agriculture in the economic development of Nigeria have now arisen. According to Ndukwe (2000) agriculture is generally regarded as the main stay of the Nigerian economy. At present, it employs about 70 percent of the country's labour force and its contribution to the GDP, especially during the first decade of Nigeria's independence, was substantial. This contribution was about 64% in the 1960s declining to about 44.6% in the 1970s. For sometime now its average contribution has remained at 25%. The growth rate of agriculture has correspondingly been characterized by a marked decline particularly since the oil era of the 1970s. It declined by 10.5% in 1975/76, was zero in 1976/77 and again declined to an average rate of 5% between 1978 and 1980.

The share of agriculture in total export was 85.6% in 1960 and after ten years, it declined to 30%. The next ten years (1980) brought this share to 2.4%. In the last four years, Nigeria has been importing most of the items she used to

export (e.g. palm oil and cotton). The upshot in this deteriorating performance in agriculture is that the nation's dependence on food and raw material imports has grown exponentially. Food import bill, for instance, rose from ₦126.3 million in 1972 to ₦1,027.1 million in 1978 an 8-fold increase in six years. Since then, annual food import bill averages ₦1.5 billion, which is approximately 15% of the GDP.

It is not surprising that the Food and Agriculture Organization reported in 1989 that about 11 million Nigerians are mal-nourished.

Successive Nigerian governments had at one time or the other seen the need for greater mobilization of resources in the agricultural and rural sectors through the following programmes – Operation Feed the Nation Programme (OFN, 1976); the National Accelerated Food Production Programme (NAFPP, 1972); First Generation Integrated Agricultural Development Authorities (RBDAS, 1976); National Committee on Green Revolution (NCGR, 1979); the World Bank Assisted Agricultural Development Projects (2nd Generation ADPs, 1986); National Agricultural Land Development Authority (NALDA, 1991); Family Support Programme (FSP, 1995); Better Life Programme (BLP, 1989) and Family Economic Advancement Programme (FEAP, 1997).

All the above efforts do not appear to have solved in any significant way, the food problems of this country. At best, some of them have remained avenues of siphoning away public funds. Apart from food shortages (which are essentially culminations of other factors), critical issues in the Nigerian food arena today according to Olaitan (1993) are:

a) disinterest and poor attitude of youths to farming;
b) an abundant supply of graduates of agriculture who are neither able to find paid employment nor employ themselves, and
c) an obvious situation where about 90% of the food supply is produced by aged illiterate peasants.

The Special Role of Agricultural Extension

Agricultural extension (i.e. Farmer Education) has a crucial role to play in economic growth and national development. Extension bridges the gap between technology generation and its usage. It is based on the principle of helping farmers to help themselves. Uwakah (1986) stressed the need for increased farmer education (i.e. Agricultural Extension) in rural parts of Nigeria. According to him, practical education should be directed towards:

- efficiency in agricultural production.
- Efficiency in marketing, distribution and utilization.
- Conservation, development and use of natural resources.
- Management on the farm and in the home.
- Family living; youth, leadership and community development as well as education in public affairs and good citizenship.

Nigeria operates the Unified Extension System – the Training and Visit System of Extension (T & V) with the Agricultural Development Projects (ADPs) as the implementing and supervising organs.

The ADPs have various units including the Women-in-Agriculture (WIA) unit. Since the ADPs as presently composed are still having problems in

solving the food needs of this country, it is conceptualized that the introduction of another unit – the Children-In-Agriculture Programme – would assist in no small way to move extension forward since aged illiterate peasants (present crop of farmers) can no longer be depended upon on such vital aspects as our food security.

Origin of the Children-in-Agriculture (C.I.A.P.) Programme

C.I.A.P. is an effort initiated from a rural-based University at Ago-Iwoye, Nigeria. It has now networked into a National Programme. It was initiated and developed in Ogun State University, Department of Agricultural Extension and Rural Sociology, Ago-Iwoye rural enclalve. According to Torimiro and Adedoyin (1999), the programme is conceived as a missing component in the farm-family sub-system of the operationalization of Research-Extension-Farmer Input Linkage System (REFILS). The purpose of C.I.A.P. is to keep, nurture and sustain the interest of rural children in farming, which they have been participating in through socialization process from their childhood up to adulthood. This will be achieved through the promotion and popularization of some farming activities such as fisheries, rabbitory, cropping, forest resources management, etc.

Importance of C.I.A.P. to the Extension Service:

According to Torimiro and Adedoyin (1999), C.I.A.P. is extremely important for the following reasons:

- It is based on careful studies of the current situation of school-based and community-based rural children participating in farming activities in Nigeria;
- It advocates rural children extension service programmes both for schooled and unschooled children who are participating in farming activities;
- It considers the need for linkage between the rural children's current interest in farming and their future aspirations in the same profession;
- It establishes local centres for participatory schools and community-based programme activities;
- It employs states co-ordinatorship approach to monitor its programme activities;
- It uses a rotational national conference and network meeting for its programme evaluation and policy – implied resolutions;
- It recognizes the diversities in the farm families components, viz; men farmers, women farmers and children farmers, and emphasizes the need for extension packages based on the needs of each of the components.

Children-in-Agriculture Programme and National Development and Growth:

It has been stated earlier on in this paper that the neglect/exclusion of children in our Training and Visit (T & V) extension system has militated against our agricultural extension efforts – enhancing the adoption of improving technological packages by rural farmers in our effort or bid to improve their socio-economic conditions and drag them out of the vicious circle of poverty in which majority of them find themselves. Our extension efforts should be total so as to include men, women and children. National development and growth

can only be attained when all talents are discovered, developed and maximally employed to make functional and abundant, natural resources of that nation. As Okafor (1984) posited:

> The ablest young men and women must be trained in the fundamental fields of knowledge and made to acquire critical qualities of mind and the durable qualities of characters which will enable them and the nation to dance freely to the tune called in modern symphony of change.

The Children-in-Agriculture Programme is an educational innovation – innovation in both formal and non-formal education. A lot of awareness have to be created in pre-disposing the minds of the Nigerian public towards accepting the concept of C.I.A.P. as an innovation aimed at complementing/filling the missing link in our extension system. This presupposes that the many constraints usually encountered in implementing educational innovations must be removed. Daily experiences have shown that the attitude of people to educational innovation depends on the benefits they hope to derive from it. Havelock (1977) and Ivowi (1984) highlighted various problems that could mar the successful implementation of educational innovation. These are unawareness, lack of support, finance, human and material resources.

There is research evidence to show that children do contribute significantly in farming activities especially in the areas of planting, weeding, processing evacuation of agricultural produce among others. A survey conducted in 1986 in Oyo State as reported by Ikpi and Halim showed that children accounted for 27 percent of the total labour utilized in the production of cassava from land clearing to harvesting. Also, the same study revealed that 25 percent of the total labour required for processing and marketing of cassava was accounted for by the children. Torimiro (1997) also reported that many farmers (66%) engaged an average of four of their family members who are in the children category in farming activities. Ironically, one can now observe the tendency of rural youths to migrate to the urban centres in search of white-collar jobs which, more often than not, are non existent. Consequently, the aged farmers are left in the rural areas with no one to help them out. There is research evidence to show a positive correlation between education and modernity, (Lionberger, 1960), (Akubuilo, 1982). Also, for obvious reasons, it will be safer to adopt a pessimistic view that in the near future, it may not be possible for the extension service to recruit the exact number of extension staff to meet the optimum change agent/farmer ratio. All the above have crystallized into the need for a children-oriented programme for sustainability of agriculture in Nigeria.

Recommendations:

The Children – In – Agriculture Programme (C.I..A.P.) can help Nigeria achieve national development and growth if the underlisted suggestions are noted and implemented:

1) at the secondary school level, the skill development objectives of vocational agriculture should be split (Phipps, 1980) into clear and concise components to enable learners to:
   (a) make a beginning and advance in farming;
   (b) produce farm commodities efficiently;
   (c) market farm products advantageously;
   (d) conserve soil and other natural resources;
   (e) manage a farm business;
   (f) maintain a favourable environment; and
   (g) participate in rural leadership activities.
2) Agricultural education at all levels in Nigeria should incorporate the three major components required in agricultural education, namely:
   a) classroom/laboratory instruction
   b) supervised occupational experience
   c) leadership development through youth organizations.
3) The teaching of practical agriculture should be made compulsory in all the primary and post-primary institutions in Nigeria.
4) C.I.A.P. should focus on rural children between the ages of 6 – 18 years.
5) C.I.A.P. should be properly integrated into the ADP/Extension system at state levels as was the case with the Women-in-Agriculture (WIA) programme.
6) Infrastructure should be provided in rural areas so as to arrest the exodus of rural youths to the urban towns.
7) Funding of C.I.A.P. should come from the Federal, State and Local Governments, NGOs, Voluntary donors and other interested stake holders.
8) Supervised Agricultural Credit Scheme (SACS) should be made to take its rightful place in C.I.A.P.
9) Faculties of Agriculture in Nigeria should be made to show greater interest in C.I.A.P. by providing conceptual framework and other academic/professional inputs.
10) The Land Use Act should be reviewed to ensure its continued functionality.
11) Appropriate farm management practices should be employed to present farming as a lucrative business.
12) C.I.A.P. should liaise with the various NGOS, the UNDP, UNICEF, ILO and any other agencies working on children development.

13) Agricultural inputs should be supplied to children participating in the Children-
In-Agriculture Programme at heavily subsidized rates (50%) as and when due.

14) Intensive propaganda by all agents of information to change the attitude of all
sectors of the public including children themselves on the need for agricultural education should be mounted.

15) Undergraduates of agriculture in all the Nigerian Universities should be on automatic government scholarships.

16) Graduates of agriculture should be encouraged to set up their own farms by giving them 'soft' loans.

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YOUTHS AS AGENTS OF SOCIO-ECONOMIC TRANSFORMATION IN IFE CENTRAL LOCAL GOVERNMENT OF OSUN STATE, NIGERIA.

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ABSTRACT:

The objective of the study was to determine the role of youths in the socio-economic transformation in Ile Ife Central Local Government (LGA) of Osun State.

The demographic characteristics, types of social and economic activities the youths were involved in, in their localities were examined.
Ninety-five youths who were randomly selected from three wards of Ife Central LGA were interviewed through the use of interview schedules. The data was analyzed with descriptive and inferential statistical tools.

The results indicated that majority of the respondents were within the age range of 14-20 years; with a majority of them belonging to artisan groups.
The respondents had participated in the development of their communities in the following ways:

Public sanitation, road maintenance and construction of public building. They were also involved in economic activities, which included trading, farming and artisan work.

There was significant relationship between age and religious affiliation of respondents and socio-economic activities they were involved in. These were significant at 5% levels of significance.

INTRODUCTION:

All over the world both in developed and developing countries, governments are seeking ways of making the best use of their youths, especially in rural land agricultural development programmes. Youths form a large work force in any productive set up which any country cannot afford to ignore.
According to (UNESCO) 1991, the preparation of any nation for productive life in the rural areas depends upon the policies and programmes designed for their youths. It was posited that a high value must be placed on the importance and the role that young people can play in rural development and other programmes.

The vast roles which youth programmes can play in developing countries like Nigeria includes: a mobilization tool through which rural youths can be made to be productive both to themselves and their communities. It could enhance the reorientation of the minds of young rural people by promoting positive attitudes towards the worth and dignity of labour. It would also enhance the status of farming by giving young people opportunities, profitable enterprise and improving the lot of the communities through service projects (Seynes, 1964).

Nigeria is in need of a socio-economic transformation through her youths to accelerate her rate of growth and development (Williams, 1978, Seiders 1996). Despite the large budgetary allocations and manpower resources to socio-economic development, youths, sports and cultural sectors over the years, no appreciable progress have been recorded. In fact, large percentages of the youths remain idle, unstimulated and unmotivated. Most of the nation's youths roam the streets aimlessly, jobless, unemployed and underutilized (Jibowo 1989, Akinwowo 1974).

There is need to harness our young human resources for the development of our nation. This can be achieved by mobilizing our youths at the grassroots' levels to be engaged meaningfully in the development of their localities. For the purpose of this paper, youths were defined as a group of people between ages of ten and thirty years of age.

The main objective of this study therefore is to determine the role of youths in the socio-economic transformation of Ife Central Local Government of Osun State.

The specific objectives include:

(1) To investigate the role played by the youth in the development of their localities;
(2) To identify youths' occupational aspiration;
(3) To identify some of the problem encountered by the respondents.

HYPOTHESIS OF THE STUDY:

Hypothesis 1: There is no significant relationship between age of the respondents and participation in socio-economic development of their communities.

Hypothesis 2: There is no significant relationship between respondents' religious affiliation and participation in socio-economic development in their localities.

METHODOLOGY:

The study was carried out in Ife Central Local Government Area (LGA) of Osun State of Nigeria. The LGA concists of three wards, namely, Iremo, Okerewe and Akaraba. To the East of the Local Government is Oke-Ogbo which is the headquarters of Ife East LGA. To the north is Ipetumodu headquarters of Ife North LGA, to the south is Ifetedo which is the headquarters of Ife South LGA.

Youths both in school and out of school were involved in the study. The respondents were randomly selected from the three wards. A structured interview schedule was used to solicit information from respondents. A total of 95 responses were used for the analysis.

Descriptive Statistics such as percentages, frequency count were used for data analysis while the hypotheses stated in null form were tested with chi-square.

Results and Discussion:

Demographic Characteristics of Respondents:

The result in Table 1.1 indicated that majority of the respondents (46.3%) were within the age range of 14-20 years. 33.7% were within 21-27 age group, while 20.0% of the respondents were 28-30 years of age.

Table 1: Demographic characteristics of respondents

N = 95

Variables	Frequency (N)	Percentage (%)
1. Age		
14-20	44	46.3
21-27	32	33.7
28-30	19	20.0
2. Parent's Level of Education		
Primary	16	16.9
Secondary	29	30.5
Tertiary	40	42.1
None	10	10.5
3. Parents occupation		
Farming	21	21.1
Clergy	6	6.3
Professionals	40	42.1
Trading	22	23.3
Contractors	6	6.3
4. Occupational Aspiration of Respondents		
Medicine	25	26.3
Law	16	16.9
Engineering	16	16.9
Accounting	14	14.7
Banking	10	10.5
Journalism	8	8.4
Trading	6	6.3
5. Membership of Social Group		
Artisan Association/ Welder/ Mechanic/Vulcanizer/Driver	80	76.0
Religious Group	70	66.5
School Club	35	33.3
Others	10	9.5
6. Religious Affiliation:		
Christianity	66	69.5
Islam	23	24.2
Traditional	6	6.3

*Respondents belong to more than one social group.

Majority of respondents parents' (fathers) 89.5% had one form of education or the other ranging from primary to tertiary educational level while

only 10.5% did not have any formal education (Table 1.2). Forty-five (45.3%) of the respondents' parents are either farmers of traders. 41.2% are professionals while 6.3% are either clergymen and contractors respective (Table 1.3). Table 1.5 indicated that majorityof the youths 60.1% aspire to become medical doctors (26.3%), lawyers (16.9%), engineers (16.9%), while none of the respondents aspires to become agricultural officers. The respondents belong to social groups such as artisan associations (76.0%), religious groups (66.5%), school clubs (33.3%), and others (9.5%). (See Table 1.5). It is important to note that respondents belong to more than one social group. Also the majority of the respondents are Christians (69.5%), while 24.2% and 6.3% practiced Islam and Traditional religion respectively.

Table 2: Distribution of respondents according to the perceived problems facing their communities:

N = 95

Variables	Frequency (N)	Percentage (%)
2. Lack of social amenities	43	45.3
3. Lack of money to finance community projects.	33	34.7
4. Flooding	7	7.4
5. Disease Outbreak	7	7.4
6. Leadership	5	5.2

The results in Table 2 indicated that the respondents perceived the following problems as facing their communities; lack of social amenities/infrastructures (45.3%) lack of money to finance community projects (33.7%). Flooding and disease outbreak were 7.4% while leadership problem was the least perceived problem by respondents (5.2%). The perceived problems are not surprising considering that most of the communities lack basic social amenities and infrastructures such as inadequate health facilities, epileptic power supply and dry taps. In Nigeria these problems are faced by both urban and rural areas.

Table 3 indicated the activities that the respondents were involved in their localities. About seventy five percent (75%) of the respondents were involved in social development activities such as public sanitation (42.2%), road construction/maintenance (32.4%), public building construction (25.4%). The respondents reported that they were motivated to participate in the different activities through their social groups. The local youth group decision on the type of community development projects to be involved in was guided by felt needs of the group or request by the head/elder of the communities in which the youth groups are located (Table 3.1).

Also, majority of the youths (75.8%) were engaged in one form of income generating activities or the other. These include petty trading (45.8%), and farming (33.3%). Artisan work such as welding, vulcanizing, mechanic attracted (13.9%) while the remaining 7.0% of respondents were involved in unspecified income generating activities (Table 3.2). Those respondents who were involved in agricultural activities either cultivated or marketed food crops

while others were involved in animal husbandry like rabbitry, poultry and piggery.

Table 3: Activities respondents were involved in their localities

Variables	Frequency (N)	Percentage (%)
1. Social development		
Participation		
Yes	71	74.7
No	24	25.3
Types of Activities:		
Public Sanitation	30	42.2
Road Maintenance	23	32.4
Public Building Construction	18	25.4
2. Economic activities:		
Income Generating Activities		
Yes	72	75.8
No	23	24.2
Type of Activities		
Petty Trading	33	45.8
Farming	24	33.3
Artisan Work	10	13.9
Others	5	7.0

HYPOTHESES TESTING:

Chi-Square (X^2) test was used to determine the relationship between respondents' age and religious affiliation to participation in social and economic activities in their localities.

Table 4: Summary of chi-square (X^2) test:

Variables	Calculated X^2	Tabulated X^2	Degree of Freedom	Decision
Age	4.161	3.357	4	Significant
Religious Affiliation	3.572	3.357	4	Significant

The result in table 4 suggested that there was significant relationship between age and religious affiliation of the respondents and their participation in socio-economic activities in the locality. These were significant at 5% level of significance. The age of 14-30 is the age when youths are very energetic and curious about the happening around them, they are optimistic and adventurous and they are receptive and adaptable to changes than older people. They would be willing to participate in community development activities if rightly motivated. Religion on the other hand emphasizes services to mankind and love for fellow men. Since community development process seek to bring about changes in the lives and motivations of people, youths participating in religious activities would be more responsive to human needs and thus become supportive of activities that would enhance the standard of living of the people in their localities.

CONCLUSION:

The respondents in the study area participated in the development of their communities. Public sanitation was one of the activities given the most attention in the various communities. The respondents were not only engaged in monthly sanitation exercise but also were engaged in inter-house clearing and cutting of bushes around their surroundings. They were also involved in economic activities in their localities involving agricultural production, sales as well as artisan work.

The respondents were highly motivated by their different local group to participate in their community's transformation through taking part in public sanitation (health), road repairs, maintenance, building of public buildings like classroom blocks, town halls, market and motor parts, etc.

In summary, we may conclude that if youths can be effectively organized and trained via vocational, socio-economic youth programme, tailored to meet their cultural, agricultural, and educational levels, they would contribute effectively to accelerating the socio-economic transformation of their communities and the nation at large.

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CHILDREN IN AGRICULTURE AS A MEANS OF ENHANCING RURAL DEVELOPMENT

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ABSTRACT

Agricultural development has long been associated with rural development, which is the enhancement of living conditions of the rural dwellers mostly. Infact, enhancement of rural income is seen as one of the major variables in the concept of rural development. This is based on the fact that the enhanced income is used in procuring the family household needs. Children, therefore, are involved in irrigation (dry season farming), making ridges, applying fertilizer and chemicals, weeding and harvesting. All these lead to increased farm output, thereby enhancing income. The children are taken as hired labour or family labour.

INTRODUCTION:

In Nigeria as in many developing countries of the world, agriculture, forestry and allied ancillary activities reflect the productive system of nature and are the primary and predominant occupation of rural people, Lele (1975). It is the primary occupation because it supplies the basic necessities of human life, provides basic inputs for industries and contributes to foreign exchange earning. Nicholas (1970) emphasized that the rise in agricultural production makes important contributions to general economic development and that within considerable limits, it is one of the preconditions which must be established before a take off into self-sustained economic growth becomes possible. In many developing countries, it is believed that no meaningful rural socio-economic transformation could be achieved without significantly modernizing and accelerating agricultural production. The industrialized countries of the world today started their own industrial revolution by maximizing and modernizing agricultural production.

Agriculture in Nigeria has not only passed through different stages but has also pursued varied objectives. During the pre-independence era, emphasis was on the development of export crops for the colonial market industries and the improvement of the different administrative headquarters for the conveniences of the colonial administrators. In the early years of post independence (1960s), agricultural development strategies took the form of promotion of farm settlements in Eastern and Western regions and farm training institutes in the Northern region. On the other hand, in the post civil war era (1970s), attention was focused on food crop production.

The Concept of Rural Development:

Rural development can be defined as improving the living standards of the low income population residing in the rural areas and making the process of their development self-sustaining, Ayo (1986). However, Abakare (1977) defined it as a process whereby concerned efforts are made in order to facilitate

significant increase in rural resource productivity with the overall objectives of enhancing rural income, increasing employment opportunities and upgrading rural communities. Rural development has been closely linked with agricultural development, particularly in the developing countries. This is based on the fact that more than 50 percent of the total rural population derive their livelihood from the agricultural sector, Ayo (1986). Notably, efforts made in enhancing rural income through increasing rural resource productivity bring about rural development.

Problem statement:

The performance of Nigeria's agricultural sector assessed by any of the common indicators has been very disappointing since the early 1970s. Total agricultural production and exports have continued to assume a downward trend. Infact, the capacity of Nigerian agriculture to provide food to meet domestic requirements has declined. Consequently, demand pressures on available food supplies have risen due to the astronomic growth in rural population. Governments at various times had adopted some strategies aimed at improving food output supplies. The strategies include: Operation Feed the Nation (OFN), National Accelerated food Production Programme (NAFPP), Green Revolution (GR), Agricultural Development Programme (ADP), River Basins Development Authority (RBDA), Credit Schemes etc Balogun, (1986).

Incidentally, the agricultural production is predominantly in the hands of small scale farmers. The present agricultural production technology of the small scale farmers is crude and highly labour intensive. It is characterized by widespread shortages of inputs including: Labour, seeds and fertilizer. Storage and marketing facilities for agricultural produce are under-developed. The continued migration of able bodied men to seek for attractive remunerative jobs in the urban centres, leave the aged men and women in the farm. They are incapable of sustaining the required labour and moreso, hiring labour will take much of the total cost. Observation, therefore, shows that children can provide labour for certain farming operations, Okorie, (1986).

Children in Agriculture:

In recent times, children have become a source of labour for some farming activities, which invariably enhance farm output. This is as a result of the following:

(a) Financial Problem: As a result of the recent economic crunch, some parents lost their jobs and are unable to cope with their children's education. Again, some parents are so poor that they cannot train their children in schools (especially secondary). The children now have to seek for jobs to raise money either on full or part-time basis.

(b) Unemployment Problem: It is a known fact that generally there is low enrolment especially of males in our schools. The males are already discouraged in going to school because of the unemployment situation in the country. It has no meaning to them going to school and at the end no job is secured. Such children now engage themselves in some operations especially farming to raise money for their personal upkeep.

Adoption of Modern Technologies:

The children help in the adoption of modern technologies and they include the following:

Irrigation of Dry season Farming:

Green vegetables are usually very expensive during the dry season. Those who can grow some stands can increase their income. To grow these vegetables in the rural communities were there is no pipe-borne water, requires irrigation. The children are then engaged in irrigating the farm, mulching, and application of organic and inorganic manure.

Making Ridges:

Some children are involved in the clearing of bush depending on the nature of the bush. It may be difficult for them to clear thick forest, but the recent practice of continuous cultivation does not make for thick forest. They also make the ridges/mounds and can even plant.

Other Agronomic Practices:

There is virtually no farm activity that the children cannot be employed to carry out. Weeding is an important farm operation because if not removed at the appropriate time, they may retard the growth and development of the crops. Children are also engaged to weed the farm twice or more before the maturity of the crops. Apart from the application of chemicals to the farm against pests, diseases and weeds, children check the migration of birds into the farm. They also remove disease crops and check the menace of pests.

Children are also employed or engaged in harvesting and processing of farm produce.

Intensive Animal Care:

Animals perform better when confined than when allowed to roam in search of food. Children are engaged in serving food to the animals and removing their droppings. The animals can be taken out for a little while to exercise themselves before they are brought back and confined again.

POLICY IMPLICATION AND CONCLUSION

As can be seen today, virtually all the farm operations can be carried out by the children. Even those who go to school close in the afternoon and after a little rest at home, get into farms for one farm activity or the other. Those not attending school are fully engaged in farm work. They, therefore, provide farm labour for their families and also cheap labour on hired basis. It will be encouraging if schools can make provision for the children to go to farm and work. Although income is being raised, farm output is enhanced through adoption of technologies. The totality of the children's farm activities promote rural development, hence one of the objectives of rural development is to ensure maximum coverage of the population's food need, increased exports, reduced imports, thereby ensuring the conservation of scarce foreign exchange.

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CHILDREN-IN-AGRICULTURE PROGRAMME

(A National Research and Development Network in Nigeria)

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Ogun State, Nigeria

Ref No: CIAP/NH/006/3

19th March 2001

Professor C. J. C. Akubuilo
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Dear Professor Akubuilo,

COMMENDATION FOR EXCELLENT PERFORMANCE

Accept compliments of the National Research Network of Children-In-Agriculture Programme (CIAP).

I am happy to inform you that the National Board of Coordinators, at its meeting held at the CIAP National Headquarters on Wednesday 21st February, 2001, considered the report on the National Research Network Meeting and Conference hosted by the Enugu State Chapter at the Enugu State University of Science and Technology from 27th – 30th June 200 and resolved to commend you for the excellent organization of the event under your leadership as the Enugu State Coordinator and Chairman, CIAP 2000 L.O.C.

You have set a grand pace and standard for other state chapters hosting after you to follow and emulate respectively.

Congratulations.

Kind regards.

Dr. S. Fola Adedoyin
National Coordinator/President