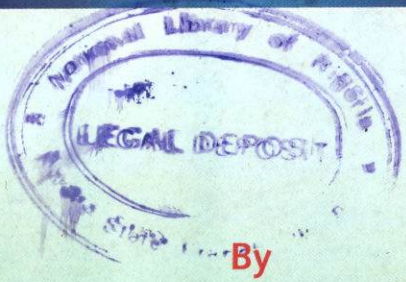
MANAGEMENT OF AGRICULTURAL RESEARCH FOR SUSTAINABLE NATIONAL DEVELOPMENT:

THE ROLE OF MANAGEMENT DEVELOPMENT INSTITUTES (MDIs)



By

PROF. B. Y. ABUBAKAR
Executive Secretary
ARCN

TWELFTH ARMTI ANNUAL LECTURE

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MEANING OF ACRONYMS

ARC	-	Agricultural Research Council
ARCN	-	Agric. Research Council of Nigeria
ARIs	-	Agric. Research Institutes
ARMTI	-	Agricultural and Rural Management Training Institute
ASCON	-	Administrative Staff College of Nigeria
CMD	-	Centre for Management Studies
CORMA	-	Client-oriented Research Management Approach
FCAs	-	Fadama Community Associations
HRM	-	Human Resource Management
NCEMA	-	National Center for Economic Management and Administrative
NAPRI	-	National Animal Production Research Institute
IAR4D	-	Integrated Agricultural Research for Development
NARI	-	National Agric. Research Institutes
NARS	-	National Agric. Research System
NGOs	-	Non Governmental organizations
M & E	-	Monitoring and Evaluation
MDIs	-	Management Development Institutes
REFILS	-	Research Extension Farmers Input Linkage System
WAMDEVIN	-	West African Management Development Institute Network

FOREWORD

The twelfth in the series of ARMTI Annual lecture was delivered on the topic – **Management of Agricultural Research for Sustainable National Development: the Role of Management Development Institutes (MDIs)**. As usual, eminent academicians and practitioners were invited to deliver, discuss and deliberate on it with a view to coming up with some policy issues for national development.

The issue of sustainable national development is hinged on a number of factors among which is research which addresses aspects of technology development and productivity. This topic is important and relevant at this time when Nigeria is striving to become one of the twenty most developed countries by the year 2020. The programmes which will engender this – including the Seven Point Agenda, the National Economic Empowerment Development Strategy (NEEDS), and the Millennium Development Goals – all have agriculture and rural development as their components. Progress made in agriculture and rural development, therefore, will help achieve sustainable national development.

The topic of this lecture is also fit and relevant at this time when it has been realized that most MDIs have concentrated mostly on training and consultancy but less on research.

The lecture traced the historical background to agricultural research and agricultural research management in Nigeria. Some of the weaknesses identified in them are:

- A top-down, centralized, monolithic and isolated structure;
- Lack of linkages, interactions, learning mechanisms among actors;
- Farmers' innovations were not included in the knowledge system;
- Private sector's involvement in agricultural research is discouragingly weak; and
- Inadequate and unreliable funding by government.

The guest speaker, Prof. B. Y. Abubakar, observed that the research environment has become complex with heterogeneous actors which makes it compelling for research scientists to possess a range of skills. Some of these are participatory, creative, motivational, facilitation, negotiation and extension skills.

The guest speaker did not approve of supply-driven research. Rather, he posited that research focus should now be demand-driven, thereby prompting promotion of Client-Oriented Research Management Approaches (CORMA). With the CORMA approach and the innovation system perspective to research management, the guest speaker believes that MDIs are critical to the success of reforms within the agricultural research system. As such, the main role of MDIs is to change the mindset of researchers and research managers in line with the CORMA and innovation systems perspectives. To be able to do this, MDIs have to design, develop and run programmes in the general and thematic areas of research management covering the following:

- Research management focusing, among others on:
  - strategic management capability
  - research priority setting
  - stakeholder participation and system linkages
  - monitoring and evaluation
- Human resource management skills; and
- Leadership skills.

There is no doubt that the guest speaker has challenged the MDIs and their faculty to focus their training, consultancy and research efforts to address the issues arising from the innovative systems approach.

The paper which is well organised, written in simple language and eloquently delivered made it possible for researchers and non-researchers to follow through as they made useful suggestions, comments and raised issues all of which contributed to the overall success of the lecture.

The guest speaker demonstrated thorough understanding of the agriculture and rural sector of Nigeria and the past and current approaches to agricultural research management. There is no doubt that the guest speaker is not only on experienced and professionally recognized researcher – nationally and internationally, but also an astute academician of high repute. He is an acknowledged administrator of human resources in research and non-research organizations.

Management Development Institutes and their Faculty will find this document to be a very good 'guide to action' in designing and developing useful research management programmes – for the benefit of Agricultural Research Institutes in Nigeria and Africa. The document is also helpful in creating awareness on the latest approaches to research management, and will assist the private sector research and Development Departments, NGOs etc in understanding the direction to focus their research. In particular, the lecture has proposed a key role for ARMTI in the current Agricultural Research Council of Nigeria (ARCN) dispensations. It also sets the stage for ARMTI to actualize its longstanding efforts at becoming Nigeria's and indeed Africa's Centre for Agricultural Research Management. Scientists the world over and policy makers too will find the document informative and educative.

It is on this note that I would advise you to read this lecture document.

J. A. Onietan
Ag. Executive Director

A WELCOME ADDRESS BY THE AG. EXECUTIVE DIRECTOR OF ARMTI, MR J. A. ONIETAN, ON THE OCCASSION OF THE 12TH ARMTI ANNUAL LECTURE ON THURSDAY, OCTOBER 15, 2009

Courtesies.

I am very much delighted today, to welcome you all to this great occasion of the 12th ARMTI Annual Lecture.

The Annual Lecture is one of the most important national events of ARMTI. It is an avenue by which the Institute contributes to policy development through topical issues in the Agricultural and Rural Sector with a view to sensitizing all stake holders to the various problems and challenges in the sector, towards proffering pragmatic solutions to same and bringing about the much desired agricultural and rural development in Nigeria.

The very first in the series of the lectures was delivered by Gen. Olusegun Obasanjo Rtd. in 1983, while in the last three series, Professor Francis Idachaba (2004), Air-Vice Marshal Murtala Nyako – present Governor of Adamawa State – (2005) and Prof. Folusho Okunmadewa of the World Bank - (2007) were the Guest Speakers respectively.

The topic for this year's Annual Lecture is: "***Management of Agricultural Research for Sustainable National Development: The Role of Management Development Institutes (MDIs)***" has been carefully chosen bearing in mind its centrality to attainment of the food security component of President Umaru Musa Yar'Adua's seven-point agenda. Agricultural Research Management is dear to ARMTI and, indeed, it represents one of its focal management intervention areas. It is important to state here that ARMTI's role in agricultural research management dates back to 1993 when the Institute was commissioned by the National Agricultural Research Project (NARP) to conduct the agricultural research management needs for the entire country. The outcome of the training needs study led to the design, development and delivery of management training programmes for the agricultural research sector. Similarly, the outcome of the study led to collaboration between the International Institute for Tropical Agriculture (IITA) Ibadan and ARMTI for the development of Training Curriculum for the training of Senior Scientists in Agricultural Research Management. The training was conducted on ARMTI Campus in 1994 by some ARMTI

Trainers and invited research managers. Let me also say that it was based on these experiences that informed CORAF/WECARD (West and Central African Council for Agricultural Research and Development with headquarters in Dakar, Senegal) to invite some ARMTI trainers to participate and coordinate a training workshop in this area. This training involved the National Agricultural Research Systems (NARS) of four (4) African countries – Ghana, the Gambia, Mali and Congo Brazzaville which took place in Ghana in November/December, 2008.

With more than 15 years of ARMTI's involvement in agricultural research management, it is believed that the Institute could put its wealth of experience at the disposal of the Agricultural Research Council of Nigeria (ARCN) in moving the National Agricultural Research System to the next level. Fortunately, ARMTI is privileged to have the Executive Secretary of the Agricultural Research Council of Nigeria, Prof. B. Y. Abubakar, a seasoned research scientist, as our guest speaker for this year's annual lecture. A good match to discuss is another notable Nigerian and management expert, Dr. Tunji Daodu, who is the Executive Secretary of The West African Management Development Institutes' Network (WAMDEVIN).

As evident through the lecture topic, our concern this year to draw the attention of relevant stakeholders to the inaneliable role of Management Development Institutes in contributing to the effective and efficient management of the various research efforts in the agricultural sector. This, we believe, is necessary if our desire for a sustainable national development will be attained in Nigeria.

It is our hope that by the time we rise from this place today, we would have all helped to chart a path to accelerate Nigeria's march to National development.

Permit me, ladies and gentlemen, to seize this opportunity to appreciate our clients and patrons who have been partners in progress with us over the years and indeed our prospective patrons.

As I congratulate you over the successes of our collaborations in the previous years, I wish to assure you that we have broadened our horizon to accommodate more of your interests and training requirements, not only in the immediate, but in the years to come.

I am pleased to inform you that ARMTI has continued to take giant strides towards ensuring the total satisfaction of our clients and patrons. With the installation of wirelesses internet technology on our campus, and the digitalization of our library, participants, researchers and other patrons of ARMTI now have an unhindered access to information globally, twenty four hours of the day. The eventual goal of ARMTI in this regard is to become a reference Centre in the field of agricultural and rural management for providing documentation and information services.

We are convinced that ARMTI has a propelling role to play if Nigeria is to attain the seven-point agenda of the current administration and if, indeed, the Countries of Africa and other developing nations of the World would attain the Millennium Development Goals. Hence, in addition to our existing rich course menu, new courses have been developed to meet the current needs in the Agricultural and Rural sector.

Finally, let me congratulate and welcome the Chairman and members of the ARMTI Board of Governors here present today. This is the very first major event of the Institute since the inauguration of the Board barely one month ago. On behalf of the Management and staff of ARMTI, we wish you a very successful tenure of office.

I must also take time to appreciate the managements of Zenith Bank Plc and U.B.A Plc for their contributions towards the success of this lecture. We hope that we can continue to count on your continued and improved support in the years to come.

Ladies and gentlemen, once again, I welcome you all and wish you a fruitful time at this lecture.

REMARKS BY CHAIRMAN, ARMTI BOARD OF GOVERNORS, ALHAJI ADAMU AHMED MALALA, AT THE 12TH ARMTI ANNUAL LECTURE HELD ON THURSDAY, OCTOBER 15, 2009

Courtesies,

I wish to join the Acting Executive Director and Chief Executive of ARMTI to welcome you, our distinguished guests and participants to this lecture.

As the Acting Executive Director has mentioned in his welcome address, the ARMTI Board of Governors is only about a month old, and for us to be here today witnessing this very important national event, is a big privilege.

As we once again appreciate the President and Commander In-Chief, Alhaji Umaru Musa Yar'Adua for our appointment, we want to equally pledge our commitment to the aspirations and mission of ARMTI to bring about accelerated development in the agricultural and rural sector of our great country Nigeria. From what we have seen so far, we are impressed by the quality of the leadership and staff of ARMTI and their commitment to duty of providing management training and rendering advisory services towards ensuring relevant policy development for agricultural and rural development in Nigeria. These, no doubt, are noble causes that we all must support to bring about the fulfillment of the Seven-Point Agenda of the Yar'Adua Administration.

It is my hope and prayer that by the end of our tenure we would have worked so hard with both management and staff to make ARMTI a household name in the league of Management Development Institutes, not only in Nigeria but across the continents.

I thank you very much for listening.

Biography of Professor B. Y. Abubakar presented by Mr A. U. Njoku Chairman Annual Lecture Planning Committee 2009

Prof. B. Y. Abubakar was born on the 7th of February, 1955 in Gombe, Nigeria. He attended Federal Government College, Sokoto from 1968 – 1974 where he obtained both his West African School Certificate and Higher School Certificate (H.S.C.). From 1974 to 1977, he studied Agriculture at the Ahmadu Bello University (ABU), Zaria graduating as the best student in the Faculty of Agriculture as well as the best Animal Science option graduate.

The academic career of Prof. Abubakar commenced as a graduate assistant in 1978 at the National Animal production Research Institute (NAPRI), A.B.U., Zaria and in 1980 he proceeded for his postgraduate studies at the Prestigious Cornell University, Ithaca, new York, U.S.A. He obtained his M.Sc. in 1983 and a PhD in 1985 in the field of Animal Breeding and Genetics. His theses, both on Dairy cattle breeding in the tropics, were under the leadership of the world renowned expert on International Animal Science, prof. R. E. McDowell, who was also the pioneer Chairman, Board of Trustees of the International Livestock Centre for Africa (now ILRI).

On his return to NAPRI in 1985, he worked as a research fellow in the Diary Programme and later served as the Programme Leader, Poultry Research Programme and also as Project Officer of the World Bank assisted National Agricultural Research Project. Prof. Abubakar led a team of scientists from 1985 to 2000 to develop a poultry layer parent stock, "Shikabrown", the first livestock strain to be bred and released in Nigeria. While in NAPRI, he also taught several undergraduate and graduate courses at the Faculty of Agriculture, A.B.U. in animal breeding and statistics and rose to the rank of Professor of Animal Science in 1995.

In 2003, Prof. Abubakar transferred his services to the Federal Civil Service as Director, Policy Implementation and Monitoring in the office of the Secretary to the Government of the Federation. He was appointed pioneer Executive Secretary of the Agricultural Research Council of Nigeria in November, 2006. Prof. Abubakar has over 100 publications to his credit and is happily married with children.

1.0: Introduction

Agricultural research in Nigeria started formally with the establishment of a botanical garden in Lagos during the late 19th century. This garden was part of a network of gardens established under British rule, focusing on the introduction of new crops. In 1903 the Forestry and Botanical Department (renamed Agricultural Department) for southern Nigeria was created. In 1912 this was divided into two regional departments resulting in the establishment of a Department of Agriculture for northern Nigeria. Then in 1914, with Nigeria's unification, the two departments were merged to form a new Department of Agriculture.

Progress was made in terms of infrastructure and human resources resulting in new research stations, more research personnel, and a more technical research program that included plant breeding and plant pathology. Research continued to focus, however, on export crops like oil palm, rubber, cotton and cocoa. The Forestry and Veterinary Departments were also established in 1914, but only began undertaking research activities in 1920. Fishery research came much later, in 1941, with the establishment of the Fisheries Development Branch by the Department of Agriculture. Agricultural research was largely the domain of the local colonial government until World War II, when the British government sought a more active role in the promotion of science and technology in its colonies, which led to the creation of several regional agricultural research organizations in West Africa that complemented or partially replaced existing facilities and which were part of the West African Inter-territorial Research Organisation (WAIFRO). Three of these—the West African Institute for Oil palm Research (WAIFOR), the West Africa Institute for Trypanosomiasis Research (WAITR), and the West African Stored Products Research Unit (WASPRU)—were located in Nigeria. With independence in 1960, the regional institutes were nationalized and the Nigerian Institute for oil palm Research (NIFOR), Nigerian Institute

for Trypanosomiasis Research (NITR), Nigerian Stored Products Research Institute (NSPRI) and Cocoa Research Institute of Nigeria (CRIN) came on board. With regional governments formed after Nigeria achieved independence in 1960, research activities were regionalized, which eliminated federal government involvement. These regional efforts, however, did not yield the expected results prompting the federal government to once again intervene in the 1960s, which was followed by major reorganization and expansion of research institutes in the 1970s and the Agricultural Research Council of Nigeria first came on board in 1971. The first ARCN along with other sectoral councils were abolished in 1977 and a Nigerian Science and Technology Development Agency established in their place.

Further changes came in with the Research Institutes Establishment Order in 1980, under which many research stations and departments were upgraded to national institutes. The research institutes underwent further significant reorganization, including review of their mandates as part of the green revolution programme of the early 1980s. The changes in coordination continued under the military regimes. But in 1992, the need to re-align agric research to the federal ministry of agriculture was accepted by government and the Agricultural Sciences Department along with the fifteen agricultural research institutes were formally returned to be fully integrated into their sectors. Presently, Nigeria has the largest and most elaborate National Agricultural Research System (NARS) in Sub- Saharan Africa (SSA). It consists of:

- 18 National Agricultural Research Institutes
- 3 Universities of Agriculture
- 19 Federal Colleges of Agriculture
- 40 Faculties of Agriculture
- 8 Faculties of Veterinary Medicine
- 4 International Agricultural Research Centers present in Nigeria
- Several OPSs, NGOs, CBOs, FBOs etc

2.0: Status of Agricultural Research

The fundamental condition for the overall growth in socio-economic development of the developing countries lies in a dynamic agricultural sector which is possible through a steady increase in the agricultural productivity. Unfortunately over the years in Nigeria, the performance of this sector has been on the decline. Despite the enormous and diverse natural and agricultural resources as well as the elaborate research system, the sector has significantly underperformed its potentials. Nigeria has continued to import large quantities of rice, wheat, sugar etc. Yield of many crops have remained low.

Hitherto, the research system was characterized by:

- A top-down, centralized, monolithic and isolated structure
- Lack of linkages, interactions, learning mechanisms among the actors.
- Farmers' innovations were not included in the Knowledge system
- Private sectors involvement in agricultural research is discouragingly weak
- Participation of NGOs in research and extension still very weak
- Inadequate and unreliable funding by government.
- Lack of stable coordinating agency and effective mechanism for collaboration among all government agencies involved in agricultural research.
- Inability of the National Agricultural Research Institutes (NARIs) to effectively focus limited resources on priority issues.
- Poor state of infrastructure and research facilities.
- Poor staffing situation and absence of functional manpower development programme.

2.1: The Role of ARCN

In 1999 the federal military government signed the Agricultural Research Council of Nigeria decree No 44 of May 26, 1999, now an act of the National Assembly. The decree was published as Extra-ordinary Government Notice No. 78 of 26th May 1999, vol. 86. There was a lull in the take–off activity as government focused its priorities in the implementation of the various Presidential Initiatives and the National Special Programme on Food Security. The Agricultural Research Council of Nigeria (ARCN) took off in November 2006, with appointment of an Executive Secretary. The ARCN has mandate for the coordination, supervision, and regulation of agricultural research, training and extension in the National Agricultural Research Institutes (NARIs) and Federal Colleges of Agriculture. The functions of the council are as follows:

1. Advise the Federal Government on national policies and priorities in agricultural Research, training and extension activities;
2. Prepare periodic master plans for agricultural research, training and extension and Advise the Federal Government on the financial requirement for the Implementation of such plans;
3. Ensure the implementation of the approved master plans by the appropriate research institutes, universities and other bodies;
4. Supervise and coordinate the research, training and extension activities of research institutes establish under section 14 of the ARCN decree;
5. Prepare annual budget for agricultural research, training and extension programmes of the institutes under its aegis and receive grants for allocation to the institutes for the implementation of the annual programmes and to universities and other bodies for special research or training projects.

6. Maintain an up-to-date record of all existing facilities for research, training and extension in the agricultural sciences in Nigeria and advise the Federal Government on their adequacy and efficient utilization;

7. Advise the Federal Government on the re-organization of existing institute, including the creation of new ones, as are required to implement or further the efficiency of research, training and extension in the agricultural sciences;

8. Promote collaboration between scientists engaged in research in the agricultural sciences in Nigeria and their counterpart in other countries or international bodies;

9. Establish and maintain a National Agricultural Sciences Library and Documentation Center and publish or sponsor the publication of the research results in the agricultural sciences;

10. Carry out such activities as may, in the opinion of the Council, further the advancement of research, training and extension in the agricultural sciences.

The establishment of ARCN no doubt is aimed at addressing the challenges faced by the agricultural research system. Hence, redirecting the research system is a priority of the Council.

3.0: Paradigm Shifts in Agricultural Research

The environment in which agricultural research in sub-saharan Africa operates is changing rapidly. Under budgetary pressure and demand from the agro-industrial sector many National Agricultural Research Organisations face serious financial crises. The effects of globalisation and trade liberalisation, and the need to contribute to poverty alleviation as indicated in the millennium development goals have further aggravated the challenges for research organisations. In order to face these challenges research organisations increasingly pursue options for decentralisation and privatisation, as well as increased client participation in technology development. The participation of stakeholders and clients in the agricultural research

and development process is not new. In particular the Farming Systems Approach and the formation of research-stakeholder committees have contributed to a more demand-driven research agenda. However, in Nigeria and some other countries participatory approaches practiced are often not institutionalised. This has led to the recognition of the need for a more comprehensive research management approach in order to achieve the necessary organisational change for enhanced client-orientation.

According to Abubakar (2008), there is a need to review the ways things are done within our research system and change those things that are not working the way they should. The NARIs are structured along disciplinary, commodity or thematic lines. This has its benefits but it a-times impedes the flow of knowledge and militates against adopting integrated or holistic approaches. Although participatory research methods have been promoted in the recent past, the link between participatory methods, natural resource management and market relationships are still very weak. The global paradigm shifts in Agricultural Research for Development according to Jones (2007) are:

- A shift from knowledge generation alone as the key objective to a means to achieve change; from a focus on technology (for example to increase productivity) to development outcomes measured through improvement in natural, physical, human, social and financial capital.
- Shift from mainly reductionist analysis (understanding the parts) to systemic analysis (understanding the relationships between the parts).
- A shift from scientists working in isolation to their interaction with concerned system actors resulting in increased flows and use of knowledge held by the actors, innovation and increased capacity to innovate.
- A shift from research systems to innovation systems
- Cascading levels of prioritisation and intervention (national sub-regional, regional, global).

The concept of Integrated Agricultural Research for Developmer (IAR4D) that will enable the NARIs to take more holistic approach in

their activities is already known within the system. According to FARA (2004) IAR4D proposes an innovation process with three major trusts.

- A new research agenda that recognizes the necessity for an integrated approach to research and addresses the interactions between natural resource management, production systems, agricultural markets and policies.
- A set of principles for conducting research for Development that squarely addressees the complexity and heterogeneity of farming systems.
- Institutional change to forge new partnerships that will involve all stakeholders in addressing the problem of food production, agro-industrial raw materials and maintenance of resource base of agriculture for future generation.

An innovation system can be defined as a network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect their behavior and performance. The innovation systems concept embraces not only the science suppliers but the totality and interaction of actors involved in innovation. It extends beyond the creation of knowledge to encompass the factors affecting demand for and use of knowledge in novel and useful ways. It creates wealth and puts money into the pockets of stakeholders. It is within the innovation system concept that research management that will lead to sustainable national development is envisaged.

4.0: Responsive and Impact-Oriented Agricultural Research

In line with the paradigm shifts in order to achieve sustainable national development, agricultural research should be responsive, client-oriented and impact-oriented. According to Chikwendu (2009) responsiveness of agricultural research implies the ability of research to react quickly and positively to the demand of the end-users. Hence, it is regarded as demand-driven research. Demand-driven on the other hand, refers to the economic concepts of supply and demand. In this

respect of economics demand refers to the amount of goods and service that a consumer is willing and able to buy at a given price. However, as pointed out by Dalrymple (2004) demand-driven public agricultural research is not to be interpreted exactly in the same way economists usually use the term in a market context, as the amount that will be purchased at a given price at a given time. It is more akin to the dictionary definition of the word: "to ask for urgently or firmly; to need or require as useful or necessary. It represents demand for a public good or service. Demand-driven agricultural research also represents the desire for farmers, their organizations and their advocates to play a larger role in the research process. Supply-driven research on the other hand refers to researcher-initiated research agenda or top-down approach. A responsive research therefore is that where research agenda become more demand-driven because clients are assigned a pivotal role in deciding priorities and planning research for improved technologies and knowledge, including monitoring progress, dissemination of improved practices and impact evaluation (Heemskerk *et al.* 2003).

The aim of agricultural research is to raise the productivity of existing resources by evolving improved methods of production and by the introduction of new inputs. Improvements in technology, driven by the application of scientific research to practical problems are at the heart of economic growth and development (FAO, 1998). Improved technologies are necessary to help producers respond to changing circumstances, as well as raise productivity and real incomes. Impact-oriented agricultural research therefore must lead to technical change. Technical change in agriculture is very important. Without it there can be no sustainable economic growth and with the rapid increase in the population of Nigeria which we are witnessing; there will be growing unemployment, malnutrition, resource degradation and social insecurity. Impact oriented agricultural research will generate new technologies that will permit farmers to do more with less. Particular innovations target specific needs, but agricultural research as a whole can help achieve four broad Objectives (Masters, 1996):

- improve overall living standards
- enhance food security and economic stability
- reduce poverty by creating jobs and reducing food prices; and
- maintain natural resources such as water, soils and vegetation

An impact-oriented agricultural research will help achieve these objectives by providing new knowledge and new materials such as seeds, fertilizers and equipment. Responsive and impact oriented agricultural research is built on the following premise (Heemskerk *et al.* 2003).

- Research organizations provide services
- Research organizations have to know their clients
- Clients have to know research organizations
- Strong clients improve research
- Performance based incentives lead to quality output
- Research Institutions do not stand alone
- Strong client-orientation lead to financial sustainability

5.0: New Priorities of Agricultural Research for Development

Apart from the traditional goals of agricultural research, Byrelee (2004) points out that with liberalization and globalization R & D systems are confronting new priorities especially:

- Competitiveness of agriculture in local and international markets, through technologies that reduce production costs, improve product quality and food safety, and promote higher value and value added products,
- Conservation of natural resources and the environment through sustainable land and water management, reduced agricultural pollution and provision of environmental services through carbon farming and conservation of biodiversity,

- Knowledge-intensive agriculture to use existing inputs more efficiently and sustainably, and
- Poverty reduction by focusing on commodities, regions and technologies to maximize benefits to poor producers and consumers.

To these priorities we should quickly add the issue of devising new means of extending technologies generated to farmers.

6.0: Changing Paradigms and Emerging Challenges for Research Management

Recent developments in agricultural R&D present certain challenges for research managers some of which are:

- Redefining the role of government, private sector, civil society and the end users in agricultural research and service provision
- Strengthening the demand side of agricultural research and services to ensure responsiveness to end users
- Developing a clear understanding of the institutional structures needed at the national, regional and sub-regional levels for agricultural research and service provision
- Ensuring stakeholder participation and global partnerships
- Facilitating development of innovative funding instruments and reduce donor dependence
- Strengthening system linkages and coordination etc.
- Promotion of organizational and Institutional change to enable cross-disciplinary research and development and also multi-institutional collaboration.
- Capacity building of the various stakeholders
- Information and knowledge management
- Continuous monitoring and evaluation
- A move from mere agricultural research to agricultural research for development
- A move from direct funding from budgetary allocation to competitive arrangements

In view of these challenges there is a reform agenda within the research system that entails the redefinition of government role in agricultural R&D, decentralization/privatization of agricultural research for development, broader and active stakeholder participation-pluralism in service provision, networks and partnerships, orientation of the research system to be more outward looking, client oriented and impact driven with a funding base arrangement changing to competitive funding. A lot of factors within and outside the research system contribute to this reform process. These include: changes in the political, socio-economic, market and institutional context. Also changes in the demand for R&D services, research technologies, methodologies and approaches are equally contributory. Research management within this complex environment (managing for innovation) with heterogeneous actors therefore requires range of skills such as:

- Participatory skill
- Creative skill
- Motivational skill
- Facilitation skill
- Negotiation skill
- Conflict resolution skill
- Native intelligence skill (extension skill)
- Forecasting/trouble shooting skill
- Inter personal skill etc
- Proposal writing

7.0: The Role of MDIs

According to Dada (2006), specialized manpower development institutions such as the Administrative Staff College of Nigeria (ASCON), Centre for Management Development (CMD), National Center for Economic Management and Administration (NCEMA), Agricultural and Rural Management Training Institute (ARMTI) were established to train middle and senior management staff in policy formulation and implementation in the areas of planning, budgeting, policy analysis, and public administration. MDIs in Nigeria like their

counterparts elsewhere in the world have three fold mandate of providing training, consultancy and research services to government although attention is paid more to training. The MDIs from the nature of their mandate are critical to the success of reform within the research system. MDIs have important role to play in changing the mindset of researchers and research managers in line with the innovation systems perspective.

The changes happening with agricultural research in line with the paradigm shifts generate far more intense demands upon the contemporary research managers and researchers for innovative professionalism than has ever before been the case. This in turn creates a need for research managers and researchers to respond to contemporary problems in new, more creative and more imaginative ways. Given this very challenging reality, it is especially important that one thinks systematically about such matters within a broad conceptual framework. Client-Oriented Research Management Approach (CORMA) is now being promoted for the facilitation of organizational changing process (Heemskerk, *et al.* 2008). CORMA aims to strengthen the management and organisation of ARCs and the facilitation of research service performance through a process of organisational change. CORMA embraces the participatory approach and the systems approach of FSR, but goes beyond these approaches in terms of the overall management of a research organisation. In CORMA five main management areas are distinguished with a corresponding objective. These contribute to the overall goal of making research more client-oriented through increased efficiency and effectiveness:

- human resource development and management to adapt staff capacities and skills to the demand for services, as well as to stimulate and remunerate staff according to performance;
- financial management to enhance efficiency, transparency and accountability of the ARC. Improved financial management is a prerequisite for involving clients in funding research, attracting sponsors and investors, and sustaining the ARC financially;

- development and enhancement of linkages, stakeholder participation and networks to improve the long-term viability of an ARC and communicate more effectively with civil society, the national agricultural research system and the international community;
- planning, co-ordination , monitoring and evaluation to improve research quality and efficiency; and,
- output production, dissemination and monitoring of impact to enhance the effective use of research results.

Within each of these five management areas different management capacities are required, which, if developed, will contribute to the five management area objectives. For all the management capacities a large number of management activities, which are options, can be developed. The MDIs have the responsibility to develop training modules that are aimed at achieving the objectives set out in the five management areas. Apart from the five management areas mentioned, the MDIs should more specifically provide researchers and research managers also with other forms of technical, managerial and leadership skills. The research managers and researchers need training geared towards change of their mindset in the following areas

7.1: Research Management

With the paradigm shift to innovative systems, research institutions require well trained staff in various disciplines. However, no matter their discipline, they should be able to:

- Liaise with clients and understand their information need and technology.
- Generate the required information through multidisciplinary research and/or partnerships with other Institutions
- Package this information in an appropriate manner for further verification, dissemination and adoption.

There is need to re-orient the mind-set of researchers so that they appreciate the fact that generating improved technologies for the mere sake of it is not the ultimate goal of research. Generating

technologies tailored towards solving recognized challenges of end users should be paramount. The MDIs can contribute more specifically in the following areas of research management.

7. 1. 1: Strategic planning capability

The increasing emphasis upon responsiveness to clientele demands requires that researchers and research managers have a better and clearer understanding of exactly what their clientele are seeking. One of the most effective means for obtaining this understanding is through the engaging of an agency's clientele, or constituencies, in strategic planning exercises. The capacity to do this is lacking within the research system.

7.1.2: Research Priority Setting

Priority setting is not one of the cultures you will find in our research system. With dwindling funding situation there is need for proper planning of agricultural research. Planning of agricultural research has been seen as generally 'supply driven' and mostly carried out within research institutes. Central planning process based on national objectives is usually minimal as is reflected in the manner funds are allocated to Research Institutes. There is therefore the need for capacity building in this area at all levels of research.

7.1.3: Stakeholder Participation and System Linkages

Stakeholder participation in the planning, funding, execution and dissemination of agricultural technology development activities is essential. They determine how stakeholders can be involved in the research process through identification of problems by research priority setting, review of research proposals, (co-) funding of projects, assessment of research outputs and their impact, and the dissemination of research outcomes. Although there is a system in place for stakeholder participation in research and extension through the REFILS arrangement, but this has generally been ineffective. Linkages between stakeholders in the research system are very weak. While linkages between NARIs and farmers, ADPs have remained weak, linkages with Universities are non-existent except for a few cases. Linkages with the private sector are almost non-existent. NARIs

even relate poorly with each other. There is an urgent need for NARIs to integrate better, not only with each other, but also with ARIs, non-research service providers and other institutions involved in change and development processes, which will include farmer, processors, traders' associations, extension services, marketing, policies, rural credit, etc., components of which are found in both the public and the private sector. There is need for stakeholders to devise more effective linkage system. The MDIs should devise training modules that will adequately promote effective linkage within the system, and should work with other stakeholders towards reforming the REFILS arrangement.

7.1.4: Dissemination of Research Output

No improved agricultural technology will have the desired impact unless the end-users are aware of it and use it. The ADPs, as the extension arms of the State Ministries of Agriculture and Natural Resources have responsibility for the public extension service delivery. We are all witnesses to the fact that since the expiration of the World Bank loans to the ADPs most of them have been poorly funded by the various state governments; hence they have been unable to carry out their activities effectively. From the point of view of responsive and impact-oriented agricultural research, there is need for a functional extension system. For now the ADPs remain the main extension delivery system in the country so their problems should be addressed. In addition there is need to adapt the content of extension programmes to the situation being experienced by farmers in question. This means ensuring that it solves their problems, meets their needs and does not overtax the resources available.

The best way of ensuring this is by developing new practices and solutions in conjunction with the users. Participatory technological development and dialogue between researchers and farmers can achieve this. The MDIs need to promote the role of Local Government Councils in agriculture. That apart we should note that linear systems of passing research results to extension agents who then transfer them to farmers is regarded widely obsolete. Agricultural extension systems are becoming more pluralistic, with wide involvement of the private

sector including NGOs. The application of innovation systems approach is important in technology dissemination. An aspect of this is innovation platforms, which highlight the importance of networks, coalitions and partnerships and the need for effective communication channels among organizations, and individuals that make up the system. The emphasis of this concept is on nurturing the demand for knowledge and improved technologies not just among primary producers but among a range of actors including traders, processors, private companies, equipment manufacturers, input dealers, financial institutions, product and service retailers, entrepreneurs, government policy bodies, Chambers of Commerce, etc. This should be promoted by MDIs.

7.1.5: Monitoring and Evaluation and Impact Assessment

Impact-oriented agricultural research presupposes that impacts of technologies generated by the institutes are known. However, M & E and impact assessment culture do not exist in Nigeria's agricultural research system. Until recently when ARCN conducted training on impact assessment and conducted impact assessment studies on some of the technologies the capacity for impact assessment was largely absent, but field of impact assessment has made significant progress in the state of the art in methodological growth, especially economic impact assessment. M & E and Impact assessment are useful tools for research planning and efficient resource allocation but for it to perform these goals in the NARIs, it needs to become an internally-driven exercise within the system. The MDIs through their training programmes should promote the culture of impact assessment and participatory M & E.

7.1.6: Performance measurement skills

The growing movement in government toward "results orientations", participation of different stakeholders in research process and demand for greater accountability and responsiveness to clientele, place many new demands upon research managers. Among them is the ability to quickly and effectively assess whether the programs that they, or their contractors, are delivering are, in fact, meeting the needs of their clientele in the most effective possible manner. With increasing

frequency, this is being done through the development of systems of performance measurement in which relevant, significant indicators of performance are used to assess the success of a program in terms of the effectiveness of the services delivered and their congruency with the needs of the clientele that they are designed to serve. The development of such indicators is often a complex and difficult task. More emphasis on such matters will be required from MDIs.

7.1.8: Collaborative capabilities

Increasingly, researchers find themselves engaged in projects that require group participation and, as a consequence, serious team building activities. In part, this is a consequence of the growing complexity of research problems and, in part, it is a result of the fact that many research problems no longer fall solely within the purview of a single NARI. Consequently, many efforts to solve contemporary problems require the creation of teams of individuals drawn from different research organisations. The training programmes of MDIs should promote collaboration.

7.1.9: Programme development and design capability

Increasingly, in the face of more complex agricultural problems, research managers need to respond with new, ever more complex, policy initiatives. This necessitates a high level of skill in agricultural research program design and development. Such an ability requires, in turn, the capacity to effectively envision the broader contextual environment within which an activity will occur and to be able to think systematically about the intended and the unintended consequences of the implementing of the program. Consequently, training programs in research management need to focus more attention upon both the details of program and policy design and the techniques by which one can develop a better understanding of the broader political, social and economic environment within which research is operating.

7.2: Human Resource Management Skills

Human resource management is a very important issue in managing responsive and impact-oriented agricultural research. One of the most important responsibilities of research manager is to manage relationships among researchers and to ensure that they have the necessary skills to meet the requirements of their work. This is a significant change from an era in which, even though personal relationships were important, the principal role of managers was to effectively administer processes and procedures. Today, research programs are becoming less structured, increasingly complex and, in some cases, highly fluid in nature, while the research problems they seek to address are becoming ever more difficult. Consequently, there is a need for much higher levels of individual adaptability and flexibility in the contemporary research organizations. This requires that the managerial skills of research managers be significantly enhanced in at least each of the following areas:

- Understanding of individual and organizational psychology
- Ability to facilitate effective staff professional and personal development
- Capacity to build and nurture harmonious multi-ethnic, multi-cultural, multi-religious environments
- Ability to understand and effectively interact with complex external environments
- Enhanced information processing and analytic capability
- Ability to focus in an increasingly diffuse environment

7.3: Leadership skills

Whether one wishes it to be so or not, the combination of globalization and growing technological capacity place increasing demands on the leaders of research institutions for more creative and effective leadership. The ability to enunciate an engaging and compelling vision for the future of the organization, to focus it upon long term opportunities and goals, and to inspire others are all among the most important abilities required of the research managers. Among the key areas in which such efforts will need to be initiated or intensified are in the following:

7.3.1: Ability to adapt rapidly to change and complexity

In the increasingly complicated, ever-changing environment of research the ability to adapt rapidly is of critical importance. Issues such as economic development, global warming, climate change, HIV/AIDs, competitive funding, poverty alleviation which were generally not even considered research cycles in Nigeria a few years ago, now are constant features of research management. It is clear these very complex problems require a level of adaptability, and the capacity to respond in new and creative ways, that was literally inconceivable only a decade or two ago. While adaptability and flexibility are certainly personal traits, they are also ones that can, to a significant degree, be taught and learned through creative education and training. The MDIs can contribute in this regard.

7.3.2: Enhanced self-management capability

In a world overflowing with information, and complex problems that continue to need to be solved, the ability to effectively manage one's own self and ones time (and, in so doing, to keep focused on the principal goals of the organization) becomes ever more important. It is critical that the research manager provide, through his or her ability to remain constantly focused upon the organization's principal goals, the sense of strategically targeted engagement that is increasingly necessary for success. This has produced a growing need to move rapidly to effectively address issues of self-discipline as part of the education and training process in research management.

7.3.3: Entrepreneurialism and risk-taking ability

In an environment in which organizational and institutional structures are becoming increasingly fragile, and which is filled with ever more ambiguous tasks, many of the managerial guidelines and approaches of the past have grown less relevant to the solution of today's problems. Consequently, the ability of an individual leader to recognize the need to take calculated risks in a rational and considered way is crucial to the future success of most organizations. Likewise, the ability to recognize new opportunities and seize them—to

engage in effective entrepreneurial behavior—has become equally critical.

7.4: Immediate Role of ARMTI

The ARCN has recently developed new management guidelines for NARIs and FCAs. It is now a requirement that before officers of ARCN and NARIs on CONTISS 10 and above are to be shortlisted for promotion they would have passed a pre-promotion examination in agricultural research management. We propose that this programme be anchored by ARMTI under the coordination and supervision of the Council. In order to achieve this there is a need for the Council to work with ARMTI on the details of the training modules expected to be conducted on regular basis by ARMTI for ARCN and NARI staff.

8.0: Conclusion

In almost every profession, new circumstances require the development of new, or the redefinition of existing, skills. Researchers and research managers must be prepared to adapt and change in response to the changing tasks and problems with which they must deal and the changing world in which they work. This in turn requires that those who undertake the responsibility of providing training and education for research managers(this includes the MDIs) adapt their programs to reflect the new demands and realities facing those who are and will be guiding agricultural research now and in the future. This does not mean rejecting that which has been important in the past, but rather adding to or redefining past practices in such a way as to accommodate new needs and developments.

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Comments of the Lead Discussant, Dr. Olatunji Daoudu (Executive Secretary of WAMDEVIN) on the 12th ARMTI Annual Lecture

Introduction

Let me start by expressing my profound appreciation to the organizers of this Forum for inviting me to be the Lead Discussant in this year's ARMTI Annual Lecture, which has become a highly respectable and veritable platform for generating new ideas in the Agricultural Sector for national Development. I consider it a great honour indeed knowing fully well that my understanding of Agriculture does not go beyond seeing food on the table. Maybe, your only reason for inviting me is because of my over 20 years limited experience in the MDIs. I thank you very much.

I must also congratulate Prof. B. Y. Abubabkar, the Executive Secretary, ARCN and the Guest Speaker at this Forum for treating us all to a thought provoking, highly stimulating, well researched, articulate, and scholarly but down to earth paper, which, to me, reflects a well groomed and thoroughly brilliant mind that is very concerned and passionate about enhancing/maximizing the contributions of Agricultural Research to Sustainable National Development, through the building of a formidable partnership between ARIs and MDIs under the auspices of the ARCN.

He is of the firm belief that: "the fundamental condition for the overall growth in socio-economic development of the developing countries lies in a dynamic agricultural sector which is possible through a steady increase in the agricultural productivity."

One gets a feeling from his presentation that Prof. Abubakar is a bit disappointed about the contributions of the Agricultural Sector to National Development having regard to our rich endowment in that Sector namely: 18 National Agricultural Research Institutes, 40 Faculties of Agriculture, 8 Faculties of Veterinary Medicine and several NGOs, CBOs, OPS.

A clear evidence of this is our continued importation of food items such as fish, rice, wheat, sugar, etc in every large quantities at huge

cost. Indeed, presently, Nigeria, according to him has "the largest and most elaborate National Agricultural Research System (NARS) in sub-Saharan Africa (SSA)", yet the performance in this sector rather than improving has been declining in its contribution to national economy.

The main thrust of his paper, in my understanding, is that Researchers and Managers in the Agricultural Sector now face new challenges imposed on them from the external environment and they must, for purposes of their own survival and relevance, rise up to the challenge. According to him, "they must be prepared to adapt and change in response to the changing tasks and problems with which they must deal and the changing world in which they work."

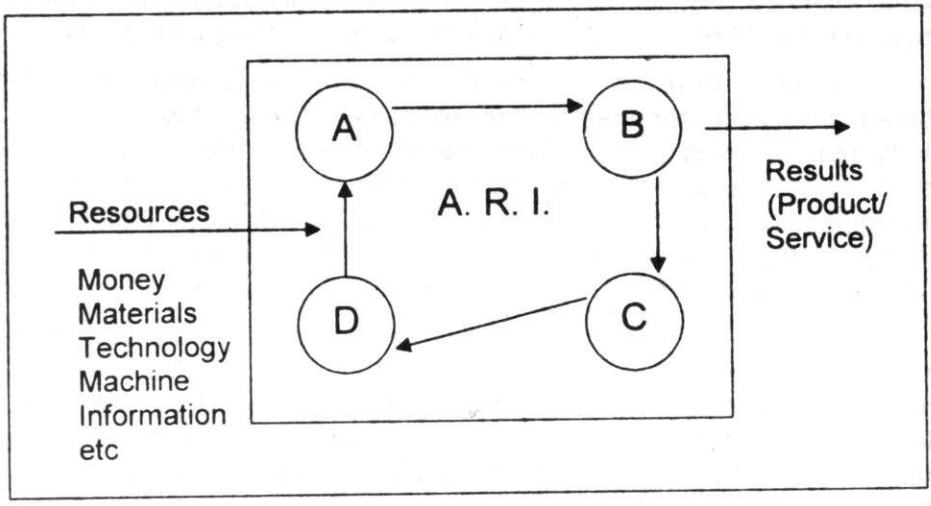
And those who are in the business of providing education and training for research managers and researchers i.e. the MDIs should innovatively evolve new training programmes to "reflect the new demands and realities facing those who are and will be guiding Agricultural research now and in the future." In particular he advocates, and very strongly too, impacting new management skills, Entrepreneurship, Advocacy, Priority setting, performance measurement, conflict resolution, Negotiation, HRM, etc. all of which will not only change the mindset of the Researchers and Research Managers but also bring an awareness into them that:

(i) the era of Research for its own sake is over, and

(ii) "generating improved technologies for the mere sake of it is not the ultimate goal of research, but generating technologies tailored towards solving recognized challenges of end users should be paramount"

In effect, what the paper tries to emphasise or bring to the surface is an accepted principle/reality in business management that ALL organizations, private or public, agricultural research institutes inclusive, are not Islands unto themselves. They exist in an environment which impacts on them and from where they pick the resources and also pump out their results i.e. Products and Services. It is the customers or clients in this external environment, the ultimate consumer, in this case, farmers, NGOs, OPS, extension workers.

consumers, market women etc. that decide or make organizations to be relevant or otherwise. Put diagrammatically,



Peter Drucker, Drucker, captures this relationship between organizations and their external environment vividly when he asserted, rather authoritatively, many years ago that:

> *"There are no profit centres within the business, there are only cost centres, the only one thing one can say with certainty about business activity is that it consumes efforts and thereby incurs costs. Results depend not on anybody within the business but someone outside – the consumer in a market economy, the political authorities in a controlled economy etc. It is always somebody outside who decides whether efforts of business become economic results or whether they become so much waste and scrap."*

Resources garnered into the organization are only processed by the various cost centres – Finance, Administration, Legal, Marketing,

Supplies, Production etc. into goods and services (RESULTS) that have value outside the organization. It is because of its processing function that some management scholars prefer to refer to an organization as an:

IMPUT	-	ABSORBER
IMPUT	-	PROCESSOR
OUTPUT	-	RELEASERS

The implications of this overlap between organizations and their environment, which is well captured in the paper are as follows: that

(i) Research Institutes have no results within them as all results are outside of them;

(ii) The ultimate deciders of their relevance are their clients, and customers, sponsors, funding agencies etc;

(iii) In view of (i) and (ii) above they need to develop new skills of relating with these clients outside the Agricultural Research Institutes, especially management skills;

(iv) The MDIs that provide these skills must repackage their training programmes to meet the current challenges faced by the agricultural research institutes

HIGHLIGHTS OF THE PAPER

Historical

The paper highlights various attempts at setting up agricultural research in Nigeria starting with:

(i) the establishment of a botanical garden in Lagos during the late 19th Century.

(ii) the setting up of Forestry and Veteran Departments in 1914 but active research activities commenced only in 1920;

(iii) fishery Research followed in 1941;

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(iii) fishery Research followed in 1941;

(iv) the setting up of regional agric research organizations in West Africa – West African – Interterritorial Research organization (WAIFRO) the West African Institute of Oil Palm Research (WAIFOR), the West Africa Institute for Trypanosomiasis (WAITR) and the West African Stored Products Research Unit (WASPRU) all located in Nigeria.

- In 1960, these regional research institutes were nationaliuzed
- When regional governments came into being in Nigeria, these institutes also became regionalized thus removing research from the purview of the Federal Government.
- But because regionalization did not yield expected results, the Federal Government, once again, had to intervene in the 1970s.
- This culminated in the setting up of the Agricultural Research Council of Nigeria in 1971

Currently, Nigeria has the largest and most elaborate National Agricultural Research System in sub-Saharan Africa with 18 National Agricultural Research Institutes, 40 Faculties of Agric etc yet "the performance of this sector has been on the decline; indeed the sector has significantly underperformed its potentials." And a clear evidence of this underperformance is that Nigeria, "has continued to import large quantities of rice, wheat, sugar", etc. including fish!

Some of the problems, identified by the author, as militating against the performance of ARIs include the following:

- poor state of infrastructure and research facilities;
- inability of the agric research institutes to effectively focus their limited resources on priority issues;
- poor staffing situation and absence of functional manpower development programme;

- poor participation of NGOs and private sector in agric research and extension;
- inadequate and unreliable funding by government;
- lack of stable coordinating agency and effective mechanism for collaboration among all government agencies involved in agric research.

It was to address the foregoing problems, among others, that the Agricultural Research Council of Nigeria (ARCN), came into being in November, 2006, with a mandate for "coordination, supervision and regulation of agric research, training and extension in the National Agricultural Research Institute (NARIs) and Federal Colleges of Agriculture. In effect the main purpose for setting up the ARCN is to address the problems and "challenges faced by the agricultural research system" in Nigeria.

Paradigm Shifts in Agricultural Research

The paper now goes on to say that as a result of stringent budgetary constraints coupled with a hostile operating environment, and demand from the agro industrial sector coupled with the effects, intended and unintended, of globalization, trade liberalization, agricultural research organizations now face new challenges. Consequently, they have been compelled to "review the ways things are done within our research system and change those things that are not working the way they should". The writer calls this a Paradigm Shift in Agricultural Research, which, from a global perspective, includes, among others:

- "a shift from knowledge generation for its own sake as an end in itself to a means to achieve change;
- a shift from scientists working in isolation to their interaction with concerned system actors resulting in increased flows and use of knowledge held by the actors, innovation and increased capacity to innovate; and
- shift from research systems to innovation systems."

The paper goes on to advocate the concept of Integrated Agricultural Research Development (IAR4D) which "will enable the NARIS to take more holistic approach to their activities." IAR4D suggests an innovation system whereby a "network of organizations, enterprises and individuals focus on bringing new products, new processes into economic use together with the institutions and policies that affect their behaviour and performance."

My understanding of this innovation system is that in addition to generating new ideas and technologies, it brings on board all actors/stakeholders. It also creates wealth through the commercialization of new found knowledge/technologies, hence the author says that "it is within the innovation system concept that research management that will lead to sustainable national development is envisaged."

The author then goes on to advocate that agricultural research, "should be client-oriented, impact-oriented and responsive"; responsiveness refers to the ability of research to react quickly and positively to the demand of the end-users" "thus suggesting that agricultural research should be demand driven i.e. to say that the needs and desires of farmers and their organizations will be given more prominent role to play in the research process whereas a supply driven research is a researcher-initiated research or what is called a topdown approach."

By implication, the demand driven research, because it involves the stakeholders especially the farmers and their organization and advocates, is likely to yield more positive results. Such an approach, according to the author:

- "Is more likely to raise productivity, generate more economic growth and increase real incomes.
- It will also generate new technologies that will permit farmers to do more with less.

- It will also help to enhance food security, economic stability and reduce poverty by creating jobs, and food prices by providing new knowledge and new materials such as seeds, fertilizers and equipment."

The author then goes on to state that recent developments in agricultural and rural development present about 13 major challenges for the researchers and research managers. The list is on pages 9 and 10 of the paper but 4 of these strike me most, arising from the author's earlier emphasis on Impact Oriented agricultural research.

These challenges are:

- strengthening the demand side of agricultural research and services to ensure responsiveness;
- ensuring stakeholders participation and global partnerships;
- capacity building of the various stakeholders; and
- a move from mere agricultural research to agricultural research for development.

These challenges, according to him, inevitably have led to a Reform Agenda within the research system which entails:

(i) "the redefinition of government role in agricultural R & D;

(ii) Decentralization of agric research for development;

(iii) Broader and active stakeholders participation in service provision; and

(iv) Orientation of the research system to be more outward looking client oriented and impact driven with a funding base arrangement changing to competitive funding."

The factors, within and outside the research system which have fueled this Reform process include market changes in the socio-political terrain, changes in the demand for R & D services, research technologies and approaches.

Against the backdrop of this complex environment, and emerging challenges, research management, according to the author, requires a new set of skills which are also well articulated in the paper. These include:

- Participatory skill
- Creative skill
- Motivational skill
- Facilitation skill
- Negotiation skill
- Conflict resolution skill
- Native intelligence skill (extension skill)
- Forecasting/troubleshooting skill
- Interpersonal skill, etc
- Proposal writing

Since it is within the mandate of the MDIs to provide these management skills, the author believes strongly that their inputs are critical to the success of reform within the research system (p. 12). The training provided by MDIs, he hopes, will significantly help in "changing the mindset of researchers and research managers in line with the innovation systems perspective" I unequivocally endorse this point of view.

Role of MDIs in national Development

Before commenting on the specific capacity building areas where MDIs, especially ARMTI, can contribute to the Agricultural Reform Agenda as proposed by the author, it is apposite, to remember that,

(i) the immediate challenge of granting political independence to African states, in the 1960, was finding adequate local capacity to occupy top management positions to be left by

the departing colonial public servants. In literature, this was referred to as Kenyanisation (in Kenya), Gambianisation (in the Gambia) and Nigerianisation (Nigeria).

In meeting up the challenge, the Nigeria government set up the Wolles Commission with the main task of advising the Nigerian government on long range strategy of producing enough and capable manpower to occupy the positions left by the colonial public servants The Wolles Commission in his report recommended the setting up of the first MDI, ASCON 1973. This was closely followed up by the setting up of other MDIs such as ARMTI, CMD etc. The object of setting up the MDIs include the following, among others, to:

(i) provide higher management training for the development of senior executives for public and private sectors of the Nigerian economy;

(ii) provide and arrange for a comparative study and investigation of the principles and techniques of management and administration, and for exchange of ideas and experience and for promotion of better understanding between persons connected with management and administration arising in different spheres of national life;

(iii) awards grants, scholarships or travel fellowship to research in public administration and allied subjects;

(iv) conduct research into problems of management and administration and allied subjects;

(v) establish and maintain a library;

(vi) undertake, organize and facilitate study courses, conferences, lectures, seminars and the like and to promote the aforesaid objects; and

(vii) undertake and provide for the publication of journals and of research papers and booms in furtherance of the aforesaid objectives.

Thus, with over thirty years experience in management training, I'm confident that ARMTI is strategically placed to play the partnership role which the author envisages will emerge between it and the new Agricultural research system, including changing the mindset of researchers and research managers who are supposed to be the reform champions within the innovative research systems.

The justification for the involvement of the MDIs, according to the author, to provide management skills to researchers and research managers is as follows: "current happenings within the agricultural research, in line with paradigm shift generate far more intense demands upon contemporary research managers and researchers for innovative professionalism than has been the case." In other words, agricultural research managers need to be trained to be more creative, innovative and entrepreneurial in responding to the new demands and challenges in their environment, failing which their research outfits will become irrelevant in the scheme of things. Or as we say in Management, their ARIS could become exhibits in the Museum of Corporate Dinosaurs. The research managers, henceforth, should be able to look at issues holistically rather than from the narrow scientific perspective of his discipline. Indeed, under the Client-Oriented Research Management Approach (CORMA) which is aimed at strengthening the "management and organization of ARCs" and ensuring participating approach to research management with emphasis on client involvement, the researcher and research manager need a new set of management skills (p13) including:

(i) "Financial Management;

(ii) Human Resource Management;

(iii) Planning, Coordination, Monitoring, Evaluation to improve research quality and efficiency;

(iv) Output production, dissemination and monitoring of impact to enhance the effective use of research results; and

(v) Development and enhancement of linkages, stakeholders participation and networks to improve the long term viability of ARC and communicate more effectively with civil society the national agricultural research system and the international community."

According to the author, preparing research managers for this new set of skills is the responsibility the MDIs are being called upon to handle.

Other management areas where MDIs should feature as facilitators of Agricultural Research Systems rightly identified by the author are as follows:

- Research Management
- Strategic Planning
- Priority Setting
- Stakeholder Participation
- Dissemination of Output
- Monitoring and Evaluation and Impact Assessment
- Performance Measurement
- Collaboration
- Programme Development/Design
- Human Resource Management
- Leadership
- Change Management
- Self Management (Discipline, time, resources)
- Entrepreneurship
- Risk Management

I enthusiastically endorse this position too in view of the rather complex scenarios and emerging monumental management and environmental challenges which the researchers and research managers have to cope with in a demand driven "responsive, impact-oriented, client-oriented," research management approach which is now being adopted as the best practice model in Agricultural Research Systems.

The author has virtually covered all the grounds. However, I wish to humbly suggest that the decision makers, the researchers and research managers in the ARIs also need to have management consulting skills at their finger tips. These include the following among others:

(i) Expression of Interest (EOI) Skills

(ii) Proposal Writing Skills to be able to respond to Request For Proposals (RFPs)

(iii) Bidders Conference/Management Skills

(iv) Consultant-Client Relationship

(v) Advocacy Skills

(vi) Lobbying Skills

(vii) Marketing Skills

(viii) Policy Analysis Skills including an appreciation of the overlap between Politics and Public Policy

(ix) Managing the Delicate Boundary between Research outfits and the outside world

(x) Force Field Analysis Skills

(xi) Project Management, etc.

Lastly, MDIs/ARMTI, under the auspices of ARCN should carry out a comprehensive Identification of Training Needs (ITN) of the Management Skills requirements of all the Agricultural Research Institutes with a view to:

(i) validating the views expressed by the author in this paper; and

(ii) to create an awareness in all ARIs of the emerging partnership between MDIs and ARIs under the auspices of the ARCN.

And when that is done with a National Workshop on the outcome of the ITN, again under the auspices of ARCN, may also useful.

Thank you.

Rapporteur's Report by Dr (Mrs) Tope Sinkaiye
12th Annual lecture of ARMTI titled "Management of Agricultural Research for Sustainable National Development: The Role of MDIs"

The programme started with National Anthem at 10:25 a.m. on the 15th of October, 2009. This was followed by opening prayer led by Dr (Mrs) C. I. Jolayemi. Then Mr Gbenga Okeowo recognized the dignitaries present at the occasion. They included Heads of Federal Parastatals, Bank Officials, members of Armed forces, ARMTI Board of Governor's members and dignitaries from the academia and other walks of life.

The Chief Executive of ARMTI, Mr J. A. Onietan gave the opening remarks saying that the ARMTI annual lecture series was aimed at sensitizing stakeholders to various problems and challenges in the sectors with a view to proffering pragmatic solution to same. The full text of his message is contained in the welcome address.

The Chairman of ARMTI Board of Governors, who doubled as the Chairman of the occasion presented his remark. He praised the quality of leadership provided by the President of Nigeria and capped his remark by expressing hope that ARMTI will become a household name in Nigeria and Africa in general.

Engr. Funsho Akilapa represented the Minister for Agriculture at the occasion. He spoke on ARMTI's achievement and areas of change. He commended ARMTI on the positive changes and development in ARMTI's physical environment.

The Chairman of the Lecture Planning Committee, Mr A. U. Njoku introduced the guest lecturer. Prof. B. Y. Abubakar by giving his citation. At the end, the Guest Lecturer then presented his paper. He emphasized on the non-participatory approach of researchers which had led to rejection of some developed technologies that would have been beneficial to the farmers. He gave the example of new okro variety that was rejected due to non-consideration of the peoples' culture and food habit. He advocated innovation approach which focuses on all the value chain of any commodity in technology development. He also

dwelt extensively on the need for capacity building in research management to complement researchers' technical capabilities in agricultural development activities.

The lead discussant, Dr Tunji Daodu commended the lecturer for the excellent paper and went ahead to give his observations. He said the lecturer was disappointed in the agricultural sector development and abhors Research Institutes' operating as Islands. He said Research Institutes should collaborate to get results, as there are new challenges poised by the new environment, which they should rise up to and adapt. He advocated new management setting to help change the mind set of researchers.

The discussant opined that Research Institutes are cost centres. He said, research is a means to an end and not an end in itself, therefore comprehensive training needs should be carried out with a view to building researchers' capacity for effectiveness. He said all the concentrates being imported for fruit juice on which over US1 billion is spent on importation can be produced in Nigeria with effective research. He consequently recommended a national workshop to validate the training needs identified by the guest lecturer and exposure of researchers to management consulting skills, saying that "they have technical "know-how" but they need the technical "know who".

At the end of the presentations, five people made the following comments bothering on the need to make research relevant to the farmers' need and not just for research sake – i.e. pure academic exercise

- need to translate research works into the language that users (i.e. farmers) understand;
- need to train extension workers that will relate with the farmers;
- need to have sociologist that will look into the cultural and acceptability of their research works – i.e. on particular crops;

- finally accepted programmes (e.g. on a particular crop) must be sustained. DO NOT STOP PROGRAMMES MID-WAY.

Comments:

Mr Ademola Adeyemo, ARMTI, Ilorin

There should be a review on the rating of local/international journal in higher Institutions. Rather than focus on researches that will impact on local farmers, Nigerian scientists focus on studies that would be attractive for publishing in international journals.

Dr John Olarewaju, Director-General, (MNILS), Ilorin

The Director-General, (MINILS) commended the Lead Speaker for his scholarly/practitioner approach to the issue of discussion. He commended both presenter and discussant for demonstrating transformational leadership that does not only identify problems but proffer workable solutions.

What this gathering has brought about is the need to make full utilization of existing resources (especially MDIs). The lead speaker has not only identified the potential of ARMTI but provided platform for utilization of its capabilities through collaborations. He said that no country could develop beyond its human resource capabilities and therefore commended ARMTI for the noble initiative of the Annual Lecture. He wished ARMTI the best of luck in this endeavour.

Engr. S. I. Obiako, Assistant Director, NCAM, Ilorin

He differed from the view expressed by the Lead Discussant that researchers require management consulting skills for greater efficiency and effectiveness. Engr Obiako stated that management consulting skills in various areas of research is not necessary for an individual researcher and wondered how the individual researcher could acquire them all, without being confused.

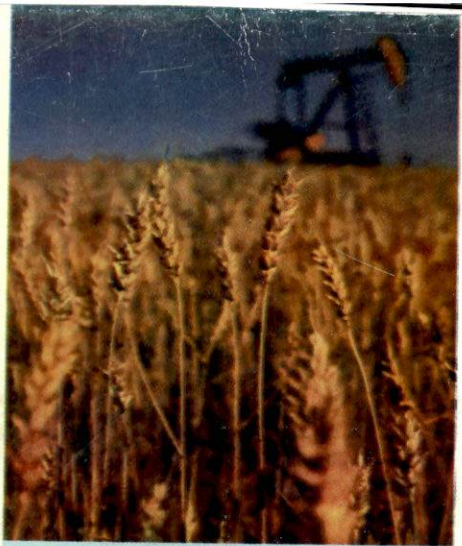
Rather than a joint exercise, he suggested that MDIs and ARCN should identify their respective training needs and formulate training modules as applicable.

Dr Oladele Windapo, Director (ADEM), ARMTI, Ilorin

Advocated need for a degree in Agricultural Research Management. He said that ARMTI had done a lot on research management. First the Institute had carried out training needs assessment: and conducted training in Nigeria and collaborated with NAARM in India. Research management has become regular menu in our training programme. Most of the skills enumerated by the Discussant are already available in ARMTI.

ARMTI should be considered in the competitive agricultural research management scheme. Let research management be one of the areas to be funded.

ARMTI should be included in the funding of research as sometime the Institute is not considered as a Research Institute.



MANAGEMENT OF AGRICULTURAL RESEARCH FOR SUSTAINABLE NATIONAL DEVELOPMENT:

THE ROLE OF MANAGEMENT DEVELOPMENT INSTITUTES (MDIs)

By

PROF. B. Y. ABUBAKAR
Executive Secretary
ARCN

TWELFTH ARMTI ANNUAL LECTURE

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