Agricultural Innovation Platforms:
Framework for Improving Sustainable Livelihoods in Africa

Fatunbi A. Oluwole, Anthony Youdeowei, Samuel Ifidon Ohiomoba and Adekunle Adewale, Akinbanijo Yemi
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Table of Contents

Foreword 05

Acknowledgements 07

Principal Acronyms and Abbreviations 09

1. Introduction: The Framework for Agricultural Innovation Platforms 10
   1.1 The Conceptual Framework
   1.2 The Purpose and Structure of this Publication

2. Perspectives of African Agriculture 14
   2.1 Overview of African Agriculture
   2.2 Approaches for Intervening in Agricultural Research for Development in Africa
   2.3 The Integrated Agricultural Research for Development (IAR4D) Approach
   2.4 What is IAR4D?
   2.5 Some IAR4D Principles

3. Agricultural Innovation System Approach 26
   3.1 Agricultural Research and Development Process in Africa
   3.2 Innovation Process

4. The Concept of Agricultural Innovation Platforms 32
   4.2 Definition of Innovation Platforms
   4.3 Purpose, Vision and Agenda for Innovation Platforms
   4.4 Characteristics of an Agricultural Innovation Platform

5. Principles for Establishing Agricultural Innovation Platforms 38
   5.1 Basic Framework
   5.2 Principles

6. Operational Modalities for Agricultural Innovation Platforms 41
6.1 Introduction
6.2 Steps and Procedures for setting up Agricultural Innovation Platforms
6.3 Typology of Stakeholders
6.4 Methodological Issues
6.5 Information and Knowledge Exchange

7.1 Introduction
7.2 Monitoring and Evaluation
7.3 Types of Monitoring and Evaluation
7.4 Indicators
7.5 Monitoring and Evaluation of Innovation Platforms

8. Challenges and Lessons
8.1 Introduction
8.2 The Innovation Platform for Technology Adoption (IPTA)
8.3 The UniBRAIN Business Incubators
8.4 PAEPARD User-led Process
8.5 PSTAD-RAILS Learning Teams

9. Future Perspective

References

Glossary of Agricultural Innovation Platform Terms

Annexes
Annex 1: Stakeholder Roles
Annex 2: The role of the public sector in Innovation Platforms
Agriculture remains the fulcrum for the development of Africa, this is based on its position as the largest employer of labor on the continent and the sector that provides livelihood to majority. The productivity of African agriculture and its capacity to translate raw commodity to significant wealth through enterprise configuration is the only way to go. FARA has worked on this in the last decade, and with its constituents, has developed the Integrated Agricultural Research for Development (IAR4D) concept as an effective vehicle to translate the available technologies to diverse socioeconomic benefits and expanded income through enterprise diversification. FARA has recently drawn up a Science Agenda for African Agriculture with its stakeholders having realized that the desired future of Africa agriculture is largely hinged on the quality of its science, among other considerations.

The gains of different products and initiatives developed and proved to have the potential to transform African agriculture will not be realized if the implementation is limited to pilot configuration. It is important to think about scale and take the benefits of the different models to reach a larger audience and stakeholder groups. The case of the IAR4D concept is unique and thus requires the attention devoted to it in this document. The concept aims to transform the linear configuration of ARD by conducting research using the innovation systems approach, where all actors along the specific agricultural system or commodity value chain are made to Interact in the innovation process. Under this system, innovation does not follow the linear path that ARD traditionally follows: the product generation—technology transfer—diffusion—adoption continuum. Rather, it involves continuous interaction among players, utilization of feedback, analysis and incorporation of lessons learnt between different processes, thus, drawing on the knowledge of relevant actors at each stage. The network configuration combines the technical, social, institutional, and the economic aspects of innovations and facilitates timely interaction and learning with the ultimate aim of generating innovations rather than research products or technologies. This concept also demands changes in the wider institutional and policy environments to suit the requirements for systems thinking about innovation, evolutionary economics, and social learning separately to conventional thinking about agricultural research and development.

The IAR4D concept has generated a large volume of success stories on many Innovation
Platforms where it was implemented for the proof of concept and on the platforms of Complementary projects. It is noteworthy that in course of developing the IAR4D concept FARA engaged is series of trial efforts to arrive at a valid framework for the implementation of the IAR4D concept, the Innovation platform was developed from these thoughts and harmonization of knowledge and experience. This book harmonized all the available knowledge from the different initiative on the IAR4D concept and the innovation platform. The key projects in FARA include the Sub Saharan Africa Challenge program (SSA CP), the Dissemination of new Agricultural technologies in Africa (DONATA), the UniBrain, and PAEPARD.

This book will provide an harmonized knowledge to inform the FARA constituent and others with comprehensive background information on the Innovation platform.
The Forum for Agricultural Research in Africa (FARA), working with its forum members, has succeeded in initiating and proving the efficacy of the Integrated Agricultural Research for Development (IAR4D) concept as the preferred model for conducting agricultural research and Development activities for good impact. The IAR4D concept represents a paradigm change in the way agricultural research and development activities are carried out in Africa. The concept has its root in the innovation system approach, which is a multi-institutional, multistakeholders framework that is successfully used in the industrial development era of the West.

The initial hurdle was how to practically use the innovation systems approach in agriculture considering the uniqueness of the sector and its obvious dissimilarity with industry, especially in Africa. FARA thus developed the IAR4D concept as a way to implement the innovation systems approach for agricultural development. It was packaged as a project and FARA received the mandate from the development partners and its stakeholders to do a proof of the efficacy of the concept. This was carried out as the Sub Saharan African Challenge Program (SSA CP), and implemented in eight African countries as its pilot learning sites. The concept has been proven to be an efficacious model, with ability to rapidly take the smallholders out of poverty, through improved productivity, better access to market and efficient networking for sourcing solutions. It has also been proven to translate research outcomes to commercial benefit and development of new commodity value chain and creation of employment. The IAR4D concept stands as a good model to ensure public–private sector partnership in African agriculture. The knowledge on the practice of the IAR4D concept and the proof of concept has been documented in separate volumes.

This book addresses the somewhat variation in the notions and understanding of the concept among the agricultural research and development stakeholders in Africa on the content and the modalities for its implementation. In the course of proving the IAR4D concept FARA has a handful of donor supported projects that uses different component of the IAR4D concept to achieve their goals, most of these projects delivered their set objectives, however, they also offered lessons on how not to do things to ensure sustainability that is livotal to the development of the IAR4D concept. Thus this book Harmonised knowledge and experiences from various project that operated the innovation systems approach and come up with the FARA perspective.
The authors of this book therefore wish to acknowledge the contribution of the various institutions that contributed to the development and implementation of the IAR4D concept. The authors particularly recognise the contribution of the Sub-regional Regional Organizations in coordination of the pilot learning sites — Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricole / West and Central African Council for Agricultural Research (Senegal) (CORAF/WECARD), Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), and the Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA). Equally commendable are the relentless contributions of the task force institutions — International Institute of Tropical Agriculture (IITA); International Fertilizer Development Center (IFDC); Institut National de la Recherche Agronomique du Niger (INRAN); Bioversity International; Makerere University, Uganda; Rwanda Agricultural Board (RAB); International Center for Tropical Agriculture (CIAT) and The International Maize and Wheat Improvement Center (CIMMYT). The authors also wish to acknowledge the huge contribution of the program donors — the European Commission (EC), International Fund for Agricultural Development (IFAD), Italy Government, Government of Netherlands, Department For International Development (DFID), UK and the CGIAR. Lastly, the contribution of over 200 researchers and development practitioners that Contributed to the various research project are recognized.
### Principal Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>AfDB</td>
<td>African Development Bank, Abidjan, Cote d’Ivoire</td>
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<tr>
<td>ARD</td>
<td>Agricultural Research for Development</td>
</tr>
<tr>
<td>CAADP</td>
<td>Comprehensive African Agricultural Development Program</td>
</tr>
<tr>
<td>DONATA</td>
<td>Dissemination of New Agricultural Technologies in Africa</td>
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<tr>
<td>FARA</td>
<td>Forum for Agricultural Development in Africa, Accra Ghana</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>IAR4D</td>
<td>Integrated Agricultural Research for Development</td>
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<tr>
<td>IC</td>
<td>Innovation Clusters</td>
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<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>IP</td>
<td>Innovation Platform</td>
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<tr>
<td>IPTA</td>
<td>Innovation Platform for Technology Adoption</td>
</tr>
<tr>
<td>ISFM</td>
<td>Integrated Soil Fertility Management</td>
</tr>
<tr>
<td>M &amp; E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>NARI</td>
<td>National Agricultural Research Institute</td>
</tr>
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<td>NARS</td>
<td>National Agricultural Research Systems</td>
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<tr>
<td>NEPAD</td>
<td>New Partnership for Africa’s Development</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
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<td>NRM</td>
<td>Natural Resources Management</td>
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<tr>
<td>OIP</td>
<td>Operational Innovation Platform</td>
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<tr>
<td>OFAR</td>
<td>On-farm Adaptive Research</td>
</tr>
<tr>
<td>PAEPARD</td>
<td>Africa-European Partnership for Agricultural Research and Development</td>
</tr>
<tr>
<td>PME</td>
<td>Participatory Monitoring and Evaluation</td>
</tr>
<tr>
<td>PSTAD</td>
<td>Promotion of Science and Technology for Agricultural Development in Africa</td>
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<tr>
<td>RAILS</td>
<td>Regional Agricultural Information and Learning System</td>
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<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
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<tr>
<td>SSA CP</td>
<td>Sub-Saharan Africa Challenge Program of the CGIAR</td>
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<tr>
<td>SIP</td>
<td>Strategic Innovation Platform</td>
</tr>
<tr>
<td>UniBRAIN</td>
<td>Universities, Business and Research in Agricultural Innovation</td>
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1.1 The Conceptual Framework

International discuss and debate on the importance of and impact of agricultural research on socio-economic development in Africa has resulted in a variety of novel ideas and concepts that aim to address the contribution of agricultural research in driving the development process as elaborated by the CAADP program. One of these concepts is the Integrated Agricultural Research for Development (IAR4D), which FARA developed as a paradigm shift to improve efficiency in the conduct of agricultural research and development activities in Africa. The IAR4D concept is based on the innovation systems model and approach which is a multi-stakeholder, multi-institutional framework that has been successfully used in the industrially developed environments in the Western world. The Innovation System Model brings together interested multi-stakeholders and actors along a commodity value chain to address identified challenges and opportunities to
generate innovation. Thus an innovation network is created which facilitates research and learning that not only generates new knowledge, products or technologies, but also ensures the application of same to generate new knowledge and products that may enhance socio-economic fortunes of the actors. Thus, members of the network of stakeholders or partners are able to consider the technical, economic, social, institutional, and policy constraints which hold back overall community development in an environment.

Through implementation of the sub-Saharan Challenge Program (SSA-CP), FARA successfully conducted the IAR4D proof of concept, using a rigorous research methodology in eight countries of sub Saharan Africa, and involving many agricultural research and non-research organizations. The core implementation locations were in three pilot learning sites namely (a) Western Africa (Kano-Katsina-Maradi); (b). Southern Africa (Zimbabwe, Malawi and Mozambique) and (c). Eastern Africa (Uganda, Rwanda and Democratic Republic of Congo) around the Lake kivu regions. For the operational framework for the IAR4D concept, FARA further developed the Agricultural Innovation Platform (AIP) model to bring together all relevant stakeholders into an effective dialogue for problem diagnosis, generation and implementation of solutions for change.

Following FARA’s development of the Agricultural Innovation Platform, several researchers and agricultural development project managers, including other FARA programs, have studied and adopted Innovation Platforms in a variety of scenarios. Innovation platforms are used as mechanisms for conveniently moving away from the traditional inefficient linear research-extension-farmer transfer of technology towards agricultural innovation system (AIS) thinking which involves a combination of technological and non-technological issues or sometimes designated hard and soft sciences, a concept that the Wageningen University and Research Centre has called Convergence of Sciences.

Agricultural research scientists and development partners have adopted and modified the agricultural innovation platforms concept for nesting and implementing IAR4D. There is some wide variation in the way innovation platforms are organized and operationalized and exploited for a variety of purposes. A variety of Innovation Platforms are configured according to specific themes, sectors or (combination of) commodities covered, e.g. livestock, crops, or natural resource management. In some instances, innovation platforms have been established to operate as formal meetings while other Innovation Platforms adopt informal models of operation. Some innovation platforms vary at levels of operation, e.g. community, district, national, and international – or a combination of these (Nederlof et al. 2011; Adekunle and Fatunbi 2012; Tucker et al. 2013.) Consequently, a variety of terms for Innovation Platform have emerged, for example : Innovation network, Innovation coalition, Innovation configuration, Multi-stakeholder platform, Learning platform, Learning Alliance, Association.
interprofessionnelle (French), Plataforma de inovação (Portuguese) (Kristjanson et al. 2009; Klerkx et al. 2009; Homann-Kee Tui et al. 2013). Furthermore, through implementation of specific projects, such as Promotion of Science and Technology for Agricultural Development in Africa (PSTAD), UniBRAIN (Universities, Business and Research in Agricultural Innovation) Regional Agricultural Information and Learning System (RAILS), and Platform for African and European Partnership for Agricultural Research and Development (PAEPARD), FARA has generated a vast amount of knowledge on agricultural innovation and FARA is now recognized as the leading source of knowledge on innovation systems throughout Africa. The use of the innovation systems knowledge in various development environments and programs implemented by FARA has led to variation in knowledge of the innovation platform (IP). This is creating some distortion of the Innovation Platforms concept. Therefore clarification and harmonization of innovation systems knowledge is desirable in order to clearly create awareness, general understanding and to inform FARA’s stakeholders of the complexities of IAR4D and Innovation Platforms.

1.2 The Purpose and Structure of this Publication

In view of the wide range of terms used for describing Innovation Platform, and the existence of some commonality amongst the situations where innovation platforms are used, it is desirable to establish a common understanding of the term Innovating Platform in the context of FARA. It now seems that the original FARA concept and meaning of Innovation Platform is rapidly being eroded, distorted, and confused. Therefore, the purpose of this publication is to consolidate FARA’s knowledge of innovations systems and to present the FARA concept of Innovation Platform so that scientists and development partners who are operating within the context of FARA’s programs can maintain a clear and common understanding of the FARA term “Innovation Platform” in Agriculture. Hopefully, this publication will promote increased awareness of the meaning of innovation platform, its distinguishing features and operational modalities as well as the general procedures for establishing and successfully managing innovation platforms in different settings.

This publication is targeted primarily at researchers in agricultural sciences as well as agricultural development practitioners, project managers and other development actors and FARA Collaborators in Africa who are adopting the IAR4D principles. This publication will also be of interest to policy makers and donor agencies and other relevant stakeholders in African agriculture value chains.
This publication focuses attention on the following topics:

- Description of the Integrated Agricultural Research and Development and the Innovation Systems Approach
- FARA’s concept and definition of the term Innovation Platform
- Principles for establishing Innovation platforms and the modalities for operating them
- FARA’s experiences of adopting and exploiting components of Innovation Platform for implementation of projects such as UniBRAIN, PSTAD – DONATA & RAILS, PAEPARD, Africa-Brazil Marketplace, and
- The future prospects for adopting Innovation Platform model for integrated agricultural research and development in Africa
2.1 Status of Agriculture in Africa

The majority of Africans, about 70%, make their living from agriculture. Unfortunately, however, they do not grow the economies of Africa as they contribute only about 33% to the GDP. This is mainly because of the smallholding and subsistence nature of their agricultural practices. It is also because of the limited investment made into agriculture both by the individual practitioners who hardly take agriculture as a business as well as the governments which do not give the sector the priority attention it deserves. The establishment of the Comprehensive African Agricultural Development Programme (CAADP) framework was to drive the African agricultural revolution, by increasing investment in agriculture, fostering entrepreneurship, agribusinesses and agro-food value chains, improving national and regional agricultural markets, fostering Africa’s collective food security and improving the management of Africa’s natural resources (NEPAD, 2013).
The resolve by African leaders to support the agriculture sector through CAADP was borne out of the belief that agriculture should be the key growth pull for socio-economic development of the continent. However, a substantial part of the available potentials in the agricultural sector is yet to be harnessed to the advantage of a majority of the people on the continent. The average African farm performs at only about 40% of its potential. It is therefore not surprising that governments in most African countries have to import food to meet the needs of their people. And if there is no deliberate intervention to stop this trend, the continent will only produce 13% of its food needs by 2050. Yet African agriculture has the greatest promise: a growing population, vibrant markets and half the world's uncultivated arable land.

In spite of the resolve through CAADP, many African governments are still not investing enough in agriculture. Only about 8 out of the 54 countries in Africa have kept their promise to invest 10% or more of their annual budget in agriculture. There do not seem to be adequate awareness that good and effective investment in agriculture could help lift over 85 million people out of extreme poverty and hunger, provide jobs and boost the continent’s economic growth within a few years. As already widely known, investment in agriculture is 11 times more effective at reducing poverty than growth in other sectors like mining which benefit only a privileged few.

Nonetheless, in the last decade, there has been relative improvement in the development of Africa’s agriculture resulting in about 5.2% annual growth, (NEPAD, 2013). The CAADP framework has facilitated coordinated support to the agriculture sector by African Leaders and Development Partners to bring about this growth.
Unfortunately, the favourable rate of growth reported for agriculture on the continent has not translated into commensurate improvements in the socio-economic well-being of the people. Unemployment is still high, income levels are low, social inclusiveness in development processes is poor, productivity is low, and the general standard of living is still below expectation. The low income per capita (of about US$315/annum) as well as low per capita food production; about 80% of Africa’s food is contributed by farmers that have about 80% of their farms as small plots. This underscores the need for enhanced interventions in agriculture to increase production and productivity along the agricultural value chain, taking cognizance of the need for inclusiveness of all actors. Accordingly, appropriate approaches need to be adopted to create access to markets and finance, land tenure security, knowledge and technology, and the right policies to enable agriculture to truly drive the socio-economic growth of the continent.
2.2 Approaches for Intervening in ARD in Africa

LIMITATION TO AGRICULTURAL DEVELOPMENT INCLUDES

dominance of the production sub-sector by smallholders, low yielding inputs, the absence of feasible range of technologies, poor technical inputs, poor institutions and infrastructures.

In the past more than 5 decades, considerable efforts have been made to remove some of the key constraints to agricultural research and development in Africa. These efforts notwithstanding, many of the limitations still persist. And some of these include the dominance of the production sub-sector by smallholders who practice mostly undeveloped subsistence farming, low yielding inputs, the absence of feasible or adaptable range of technologies, poor technical inputs, and poor institutions as well as infrastructures.

The low yielding productive sub-sectors dominated by smallholders with limited capacity to apply improved technologies and other knowledge in a most efficient and profitable manner that can guarantee favourable returns to investment. Therefore, cultivation is hardly intense, processing and value addition is minimal and at a low level, and marketing is largely local and hardly differentiated.
The technical constraints that often limit the productivity of agriculture revolves around absence of high-yielding, disease-resistant varieties and breeds, poor control measures for diseases and pests infestation, inadequate on-farm natural resources and biodiversity management. It also includes poor and low capacity for storage, processing and product development.

The Institutional limitations include inappropriate policies, poorly develop and inefficient markets, poor and inadequate support services such as input supply, extension services and effective research. The institutional issues also relate to governance and rules of procedures and how these are managed to produce a wholesome structure for organizing effective and efficient system for increased productivity of agriculture.

The infrastructural constraints are in the area of limited and poor network of roads and haulage system, marketing structures and facilities, and poor storage facilities such as warehousing, cold stores as well as packaging of produce/products.

Some of the approaches that were applied to address some of these lingering challenges to improved agricultural productivity in Africa include:

**Farming Systems Research** was designed to facilitate uptake and use of research outputs by the small-holder farmer through collaboration between researchers and farmers with a systems perspective in the identification, design, development and evaluation of improved technologies in hope of enhancing the adoption of such technologies. The involvement of farmers was expected to empower them and thus increase their capacity to adopt the technologies or research outputs.

**Farmer Participatory Research** this approach provided for the involvement of farmers by research in the planning and conduct of research and development activities using the farmers' fields. The farmers' participation was intended to enhance their confidence in research output and thus improve adoption of research out as well as strengthen the synergy between the two domains in agriculture development. Another variant of this was the On-farm Adaptive Research (OFAR) which was popular in adapting on-station research results to actual situations in the farmers' field to ascertain the efficacy of the research.
output as well as to allow farmers opportunity to contribute to the decision on the final selection of the most feasible and suitable research output or technologies that is appropriate for the farmers to adopt to resolve their farming challenges.

**Integrated Natural Resources Management** is an improvement over the natural resources management (NRM) approach and it sought to maximize soil and water conservation but more as a supply- rather than demand-driven and patterned mostly along the linear ‘research–extension–farmer’ model for technology transfer. The integrated NRM seeks to increase the demand-driven, farmer participatory involvement of farmers to enhance their innovative capacity while conserving the natural resources in the environment.

A major weakness of these approaches is their failure to analyse the interactions among the key stakeholders; the interactions that fosters effective development of an innovation process. Consequently, a new and robust approach that goes beyond the linear research, extension and farmer model to harness the complex interactions among stakeholders and strengthen their capacity to innovate was desired (Hall 2007).

One of the approaches that best fits into this arrangement and provided for the complex interactions among a multiple of stakeholders along the agricultural or commodity value chains is the Integrated Agricultural Research for Development (IAR4D).
2.3 The Integrated Agricultural Research for Development Approach (IAR4D)

The concern for research outputs to produce tangible developmental outcomes, especially in Africa, has been expressed by policy makers, donors and many scientists themselves. The institutional orientation to research and the approaches adopted for application of research outputs has not particularly assisted in regularly show-casing any of such research outcomes, if and when available. This concern caught the interest of the Forum for Agricultural Research in Africa (FARA) which resolved to do something differently to ensure that research outputs create development outcomes.

The IAR4D was proposed as a new, holistic way to tackle these constraints

Soon after the inauguration of FARA in 2002 and following intensive consultations with its principal stakeholders; the scientists across the world, several constraints were identified including; poorly developed agricultural markets, inappropriate policies and natural resource degradation as well as low productivity, poor product development, inadequate nutrition and gender inequality. FARA recognised the need to treat these issues in a holistic manner and thus sought for an approach that will represent a shift in paradigm to bring about the required development in an integrated manner.

The integrated agricultural research for development (IAR4D) was thus proposed as a new, holistic way to tackle these constraints. The IAR4D was intended to break from the conventional linear approach of agricultural research and development by engaging multi-stakeholder actors along the commodity value chains. The IAR4D approach, as a concept aims to foster synergies among disciplines and institutions to commit to change in the way research and development is practiced by all actors, from farmers to
researchers and policy makers at national and international levels such that a holistic view is taken to address AR4D issues across Africa. Fortunately, the Sub-Saharan Africa Challenge Programme (SSA CP) coordinated by FARA, accepted the challenge to prove the concept of IAR4D as a new approach to research and development. The mission of SSA CP was to add value to, and enhance the impact of, on-going agricultural research for development in SSA. Its aim was to provide examples of how processes for systemic innovation can be organized among researchers, practitioners, policy makers, market chain actors and rural communities (Adekunle et.al, 2013). The ultimate goal or purpose was to use IAR4D to improve rural livelihoods and increase food security and sustainable natural resource management throughout the sub-Saharan Africa (SSA).

2.4 What is IAR4D?

The IAR4D is an innovation system based approach that involves multi stakeholders’ collaboration and partnerships towards resolving the multi-faceted challenges in agricultural research and development and thereby promote improved livelihood of the stakeholders, especially the smallholders agricultural practitioners. It is a continually evolving concept that relies on active interactions among actors to identify, analyse and prioritise challenges, and find and implement solutions using feedback, reflection and lesson-learning mechanisms from different processes. This requires drawing on the knowledge of the relevant actors at each stage. The IAR4D enables the creation of a network of actors that facilitates learning and resolution of technical, social and institutional constraints that limit the potentials for growth in AR4D. The key purpose of IAR4D is to generate and/or facilitate innovative solutions to address challenges in AR4D rather than mere research products or technologies. Often, as the IAR4D involves complex mechanisms and interactions, it could facilitate fundamental changes in the broader policy and institutional framework. The approach largely builds on the experiences of previous approaches, including integrated soil fertility management (ISFM) and integrated natural resource management (INRM), and encompasses market and policy domains (von Kaufmann 2007).

The concept of IAR4D is that of an action research that engages several relevant stakeholders as it integrates the technological, natural resource management, policy and institutional dimensions in resolving a development challenge. The goal is to find an innovative commercial, social and institutional solution in responding to agricultural development challenges in the face of changing market and policy conditions. Its strength lies in its ability to engage policy and market, in addition to fostering systemic linkages among actors under diverse contexts. Therefore, the approach enables actors to have a stake in the process of generating, disseminating and using knowledge for socio-economic gains.

The IAR4D seems to be an iterative process that makes the hazarding of a precise definition difficult. This notwithstanding, Hawkins et al. (2009b), summarized the
concept as comprising a set of individual and organizational behaviors that promote the integration of stakeholder concerns, knowledge, actions and learning around a theme of mutual interest. FARA (2007) in one of its publications describes the concept as an action research approach for investigating and facilitating the organization of groups of stakeholders (including researchers) to innovate more effectively in response to changing complex agricultural and NRM contexts for improved developmental outcomes. In general terms, IAR4D is regarded as a broad set of processes that, through their interactions, lead to the generation and use of knowledge (Hawkins et al. 2009b).

In this publication, IAR4D is considered as a framework for engagement and partnership by multi-stakeholders actors along the commodity value chain for the purpose of learning and sharing information and knowledge that may be innovatively applied in specific and/or broad terms to resolve challenges to increase productivity and enhance the livelihoods of the concerned actors. It is an innovation process that seeks to empower actors in technical, social and economic terms and in such a manner that they are never left worse off than when they were first expose to it.

As an integrated approach, the IAR4D shortens the period it takes for actors in research and development to achieve meaningful outcomes as benefits for adoption. It is an approach that allows for quick diagnosis of challenges as well as exposes opportunities for enterprising actors to explore and development products and services that promote visible means of livelihoods.

### The following features are characteristic of IAR4D:

- IAR4D is a living approach and it brings together a number of good trends and ideas.

- IAR4D is about change and innovation as an outcome of application of knowledge, technology and inventions to generate socio-economic benefits.

- IAR4D places research as one of the components contributing to the development process,

- IAR4D focuses on processes and performance rather than on products (technologies, policies); to put it another way, improved processes lead to the ultimate product, termed innovation.

The concept and practice of IAR4D goes beyond its acceptance as new approach to doing things to include changes in personal skills, mindsets and attitudes of actors as well as the organizational practices and culture, and the ways in which these organizations interact to achieve the desired outcomes, as part of the wider ‘innovation system’.
2.5 Some IAR4D Principles

Some of the guiding principles that have sharpened the concept of IAR4D as an approach to practicing agricultural research and development are highlighted below.

I

IAR4D integrates the perspectives, knowledge and actions of different stakeholders around a common theme or 'entry point'. As an integrating framework, IAR4D must, based on analyses of the research and development challenge identified by one or more stakeholders, enable engagement by actors around a mutually accepted theme as an 'entry point'. Collect action on the identified critical challenge or entry point by stakeholders recognizes that a broader working alliance is needed to resolve the concerned challenge and subsequently achieve the desired development impact. The interests and actions of the different stakeholders are diverse, ranging from information and technology to business, politics, policy, finance, organization and management. While there may exist or there may be potential links among these interests, the framework provides a basis for strengthening and/or creating such links to guarantee the accomplishment of the desired outcomes.

II

IAR4D integrates the learning that stakeholders gain from working together. Given that all stakeholders in an innovation system have relevant knowledge based on their past experiences and current roles, such knowledge is potentially available to all the stakeholders through interactive learning and joint actions. In addition to being a concerted action process, IAR4D is also a mutual and interactive learning process, with stakeholders learning from each other and from their joint experiences. For this social and experiential learning to be effective, it requires a conscious and interactive process of planning, action and reflection, monitoring and evaluation, and subsequent re-planning. Reflection is particularly crucial; participating stakeholders become engaged in analysing the outcomes of their own behaviour and the processes in which they are involved.

This ‘learning cycle’ is fundamental to the IAR4D approach and it focuses primarily on the processes that the stakeholders follow as they interact with themselves, rather than on the specific solutions to the research and development challenges. Learning takes place at individual, organizational and institutional levels. At the individual level, participants become aware of how their own personalities, attitudes and mindsets may affect their interaction with others and what adjustments they needed to make to enable them learn more effectively. At the organisational level, group members of
organizations collectively learn how their administrative and management practices and incentive structures, affect or limit the interactions between individuals within the organization and between the organization and other stakeholders. At the institutional level, individuals and organizations collectively learn how they can interact to facilitate innovation. Here individuals and organizations learn how to collectively create an enabling environment that encourages interactions, and how to share information and manage knowledge across networks. As well, local systems learn from other local systems (e.g., through national learning platforms), and national innovation systems learn through international platforms. The theory of adult and experiential learning as well as experiences with knowledge management, action research, farmer field schools, learning cycles and learning alliances all support this principle of integration of learning.

IAR4D integrates a holistic analysis of change. This principle is premised on the general and current concepts of sustainable development and multi-functional agriculture that require such inter-linkages for development. The interlinked dimensions include economic growth (linking farmers to markets), conservation of natural resources (soil fertility, biodiversity and limited carbon dioxide production), social inclusion and equity (pro-poor development) and food security. Integrating analysis, action and change across the different dimensions will reveal the impact of IAR4D in terms of response to poverty reduction and pro-poor development. The principle is supported by the theory of rural livelihoods as well as experiences with INRM, value chains, social equity and gender frameworks, inter-disciplinary research and development, and agricultural development.

IAR4D integrates analysis, action and change at different levels of spatial, economic and social organization. This principle draws on the notion of an agricultural innovation systems perspective that implies that research is not the only driver of development, as was implied in the ‘national agricultural research system’ perspective, or that it even has the central role, as was still implied in the wider ‘agricultural knowledge and information system’ perspective. Agricultural innovation is an emergent property of the broader ‘innovation system’. The agricultural innovation systems perspective sees research as only one of the sub-processes of a framework that encompasses the value chain and the knowledge and information system, as well as policies and institutions that determine the interactions between the components. To be effective at promoting innovations, IAR4D therefore needs to promote change and enhance learning throughout the innovation system, at all levels of organization.
These IAR4D principles imply a new way of doing research and development. The approach involves four dimensions: (a) intensification of subsistence oriented smallholder farming systems; (b) prudent management of natural resources while intensifying their use; (c) development of more efficient markets; and (d) creation of enabling policies. To foster the integration of the various dimensions of agriculture development, IAR4D requires additional supportive mechanisms in terms: (i) promotion of organisational and institutional changes to enable cross-disciplinary research and development and multi-institutional collaborations; (ii) capacity building for project teams, farmers and scientists; (iii) information and knowledge management; and (iv) continuous monitoring and evaluation with a systemic approach to impact assessment.
The agricultural development process in Africa has witnessed the design and implementation of different projects with different approaches to deliver project interventions. Sometimes, these are very succinctly clarified and understood and effectively implemented and sometimes they are not. Many of these approaches have been introduced across the divides in an effort to achieve specific project objectives particularly in expectation that innovation would stimulate the desired improvements in agriculture development situation on the continent. The HIF for example, administers its grants resources based on the perceived stages in the innovation process and the stage in which it wants to intervene on behalf of its clients. The HIF grant award recognizes five different stages in the innovation process which serves as a basis for its processing and tracing the progress of innovations.

The agricultural innovation system is a concept that when fully understood could enhance its implementation for project impacts. Unfortunately, not very many development practitioners are well acquainted with this concept to facilitate its use in driving efficient agricultural development process. Agricultural innovation may be regarded as the process of creating and putting into use a combination of knowledge from many different sources or the use of new ideas, technologies or ways of doing things to bring about significant changes in the life of all those involved in the process. It is the process
of application of new or existing information in a different manner to create new knowledge that enhances the socio-economic wellbeing of the actors. Accordingly, innovation is a new technology, invention or a better way of applying or utilising existing information or knowledge to generate socio-economic impacts.

According to HIF, the innovation process is a dynamic one that focuses on the creation and implementation of new or improved products and services, processes, positions and paradigms. Successful innovations are those that result in improvements in efficiency and/or social-economic impacts.

This understanding of innovation attempts to succinctly clarify what may be termed as innovation, and examines the process that successful innovations may pass through from conception to scale-up. It also stresses the importance of recognizing that novelty in itself is not good enough and that innovations should rather be judged on the basis of their contributions to improvements in efficiency and social outcomes.

Innovation as an application of new knowledge and/or a combination of new and existing knowledge for economic gains is driven by investment in research and development. Extension and education is important to facilitating the process. However, today’s challenges and rapidly changing contexts require a more flexible approach that fits into changing conditions and that enables all related actors to generate, use and apply knowledge as it relates to the changing contexts in which the actors are operating. This is the essence of inclusiveness in the development process. Innovation would therefore become effective when old and new knowledge is generated, shared and applied during the interactions by the different entities (individuals, organizations, institutions) to bring about efficiency and socio-economic impacts. In this respect, the innovation system would seem to be a collection of related elements that must function in concert to continuously improve performance. An innovation system will contain feedback loops crucial to the system behaviour and that permits the system to function in a self-sustaining manner and managed in such a way as to inform what needs to be improved upon.
3.2 The Innovation Process

The innovation process may be compared to the process of evolution as it is fundamentally a dynamic process of improvement and adaptation which strengthens organizations as well as individuals' ability to survive and thrive. The complexity and unpredictability of innovation notwithstanding, a successful innovation process is usually seen as proactive rather than reactive, and may, according to HIF, include some or all of the following five key elements:

1. Recognition of the specific challenge to be addressed or the opportunity to be seized in relation to the desired agricultural improvements been pursued.

2. Invention of a creative solution, or novel idea, which helps address a problem or seize an opportunity.

3. Development of an innovation by creating practical, actionable plans and guidelines.

4. Implementation of a innovation to produce real examples of changed practice, testing the innovation to see how it compares to existing solutions.

5. Diffusion of successful innovations – taking them to scale and leading to wider adoption outside the original setting.

Nevertheless, it must not be suggested or assumed that all innovations follow the linear process. Instead, the so-called clearly defined stages are at best broad and overlapping phases through which many innovations pass. In reality, progress is iterative and frequently non-linear – some innovations might never get past the early phases, and others might be discarded and later revived only after a fortuitous event or different application. There is no set path for innovation, and most innovation processes feature moments of fortunate happenstance or randomness and good or bad fortune.

According to HIF, the ‘4Ps’ model developed by John Bessant and Joe Tidd provide a powerful tool for analysis of the above understanding of innovation. It builds on the hypothesis that successful innovation is essentially about positive change, and puts forward four broad categories where such change can take place:
Perhaps the most commonly understood form of innovation is that which introduces or improves a product or service – a change in what is offered to end users. A good example of product innovation is the ‘Mamera’ drink produced from sorghum, Kasiksi (K6) and Mutobe drinks produced from banana by enterprising actors in the innovation platform in Uganda and Democratic Republic of Congo (Adewale, A.A. et.al, 2013).

Innovations can also focus on processes through which products are created or delivered or the process that brings about more efficiency in the conduct of agricultural business. For example, the integrated agricultural research for development using the innovation platform (IAR4D) is a process innovation that has enhanced the conduct of agricultural research and development activities. It ensured that research issues are jointly identified in demand driven manner and the outputs of research activities are used to generate socio-economic benefits.

Position-based innovations are considered as changes in how a specific product or process is perceived and how they are used. It relies more on post-harvest handling including packaging advertisement and other activities that enhances the use of commercial opportunities.
Paradigm Innovation

The paradigm innovation defines or redefines the dominant paradigms of an organization or entire sector. Paradigm-based innovations relate to the mental models which shape what an organization or business is about. Examples of paradigm innovation in agricultural development may be an increasing emphasis on local ownership and leadership of development processes and interventions.

The innovation process has some key or essential elements to make it effective; like the individuals and organizations involved, the interactive learning that takes place and results in the development of new products and the institutional relationships that govern how these interactions and processes take place. It is good to recognize the need to be satisfied and people and technologies to accomplish the innovation process as well as the resources to make things happen.

Agricultural innovation process is therefore those systems that result in the effective flow of knowledge to bring about efficient and increased food production to enhance food security and socio-economic benefits for all the actors involved in the process. The systems often contains institutions/or organizations, individuals actors (researchers, extension workers, farmers and other producers) and the resource investments needed to make the innovation happen. The process may be depicted as in the figure 1 below:

The definition of the customer refers to definition of the consumers’ need
Framework for Improving Sustainable Livelihoods in Africa

**THE INNOVATION PROCESS**

- **Define the Customer**
- **Define the Job-to-be-Done**
- **Uncover Customer Needs**
- **Discover Unmet Needs**
- **Find Segments of Opportunity**
- **Explore Entrepreneurship Opportunities**
- **Evaluate the Outcome**

**Source** https://strategyn.com/outcome-driven-innovation-process/

Intervention to make

Definition of farmers' needs
4.1 Introduction

In agriculture, innovation is a process of ensuring that new knowledge or a product is converted into use by interested persons or communities to result in some form of socio-economic benefits. Innovations are vital for agricultural development, particularly to address issues of food insecurity, chronic hunger, poverty and the achievement of sustainable livelihoods in rural African communities.

This section describes the FARA's concept of Innovation Platforms in the context of agricultural research and development. We characterize Innovation Platforms in the context of FARA's programs, through elaborating on the purpose and vision, as well as the distinguishing features of innovation platforms.

4.2 Definition of Agricultural Innovation Platform

The current FARA's operational definition of the Innovation Platform varies. Innovation Platform is defined as “a physical, virtual, or physico-virtual network of stakeholders which has been set up around a commodity or system of mutual interest to foster collaboration, partnership and mutual focus to generate innovation on the commodity or system” (Adekunle and Fatunbi 2012).
The Concept of Agricultural Innovation Platform

It is also defined as a network of partners working on a common theme and using research knowledge in novel ways to generate goods or services that benefit all, especially the poor. (FARA, 2014 MTH) Thus Agricultural Innovation Platforms are multi-stakeholders forum for information sharing and knowledge exchange along a commodity value chain with a view to enhancing agricultural productivity and socio-economic well-being of the actors. It represents organizational model for stimulating innovation and development in agriculture and related sectors.

An agricultural Innovation Platform thus constitutes a forum established to facilitate interactions and learning amongst diverse stakeholders, in a selected agriculture value chain, through participatory diagnosis of problems or needs, joint exploration of opportunities and investigation of solutions leading to the promotion of agricultural innovations along the target agriculture value chain. According to Nederlof et al (2011) Innovation platforms can also act as spaces for knowledge exchange leading to actions without the need for research or researchers, although research is vitally important for the proper functioning of innovation platforms. However, it should be stressed that to be effective, an agricultural Innovation Platform needs to have multi-stakeholder base with good provision for inclusiveness of actors to guarantee socio-economic benefits and improved livelihood for the actors.
4.3 Purpose, Vision and Agenda for Innovation Platform

Innovation Platforms are set up to function as spaces for exchange of knowledge, and learning among a wide range of actors leading to the development of actions that address identified constraints in an agricultural system.

The vision of innovation platforms is to improve agricultural research delivery through engagement of all relevant and interested stakeholders who interact and play their respective roles in the innovation process.

Operationally, innovation platforms bring together multiple actors along an identified agricultural commodity value chain to address challenges and identify opportunities to generate innovation. The approach creates a network of partners who develop the capacity to consider and act on the technical, economic, social, institutional, and policy constraints in an environment. The network also facilitates research and learning that not only generates new knowledge, technologies or products but also enhances better application of existing knowledge thereby ensuring that the old or new products of research are appropriately utilized for the benefit of all members of the platform.

Thus, Agricultural Innovation Platforms work to harness innovations related to technology processes, institutional and social-organizational arrangements, which are promoted through partnerships along and beyond agricultural value chains. Partnerships in innovation platforms are fostered to engage all the actors with special mix of skills which are complemented with functional expertise since the new ways of working require a mix of scientific, technical, managerial and entrepreneurial skills (World Bank 2011).

According to Brigit Boogaard et al (2013), innovation platforms are a worthwhile idea because meaningful change happens in networks of interdependent actors, who cannot change if others do not simultaneously change. And innovation depends on different stakeholders (e.g. farmers and relevant parties in a value chain) who adopt different practices in a concerted manner – based on some kind coordination, agreement and mutual expectation.

The agenda for innovation platforms varies considerably depending on the specific common interests of the platform partners. For example platforms can help deal with complex issues through coordinated action by multiple stakeholders, who help overcome institutional and other barriers hampering development, where competition or conflict is likely to occur, and where there is space for experimentation (Duncan et al. 2013).
A variety of functions have been ascribed to Innovation Platforms, these include, for example:

- supporting the operationalization of research and development
- contributing to improving the relevance and impact of research
- contributing to increasing returns on investment in agricultural research for development
- stimulating and strengthening interaction between multiple stakeholders
- linking different stakeholders to achieve a common objective
- contributing to jointly identifying and solving complex problems
- providing enabling environments for innovation and
- contributing to overcoming institutional barriers and creating institutional change


4.4 Characteristics of an Agricultural Innovation Platform

Agricultural Innovation Platforms can have formal contractual arrangements for progress as it engages private-sector actors, policy makers, and others as part of the development process. This type of arrangement ensured a good combination of public investments and regulations with the commitment of private stakeholders to innovation in a fair, inclusive and equitable manner.

FARA recognizes two main types of agricultural innovation platforms at two levels, namely (i) Strategic Innovation Platforms and (ii) Operational Innovation Platforms. Every country requires both types of innovation platforms. (Adekunle, Fatunbi, and Jones 2010).
Figure 2 illustrates the two types of Innovation Platforms

**Strategic Innovation Platforms (SIP)**
are established at higher levels of governance and management where agricultural strategies are formulated for agricultural development in specific domains. SIPs function by responding to the policy and strategic needs as ‘point of entry” and be set up at national or sub-regional levels to cover districts, local governments, or regions as may be required. The targets for strategic innovation platforms include the chief executives of stakeholder organizations, such as national agricultural research, universities, agricultural extension, input agencies agricultural financing agencies, processing, transporting businesses, marketing and farer associations as well as meteorological stations. Strategic innovation platforms provide the forum for discussions to promote innovation along targeted agriculture value chains or system, and facilitate the operations of other innovation platforms at lower levels.

**Operational Innovation Platforms (OIP)**
are established at community or grassroots levels and have a different focus from strategic innovation platforms. Operational Innovation Platforms function within the production units of the agriculture value chains, for example production, processing, packaging, transportation marketing. These types of innovation platforms source membership from similar organizations with strategic innovation platforms, but target frontline staff in those organizations who facilitate operations at grassroots levels. Although members of operational innovation platforms are not chief executives, they have responsibilities for activities within the mandate of chief executives of organizations. Partners in operational innovation platforms participate in platform activities because of the relevance of their expertise to addressing the specific topic of concern to the innovation platform. Groups of Operational Innovation platforms are also called Innovation Clusters (IC) which are based on each sector of the agriculture value chain in different communities. Innovation Clusters may be set up to respond to the same output market or to respond to multiple output markets. ICs may also be set up along different agriculture commodity chains to facilitate operations.

As the partners on an IC review implementation of their business plan, the composition of membership of the IC may be changed in terms of expertise and participating institutions. The operations of an IC are aligned with market chains and are enhanced through the application of information and communication tools which facilitate communication amongst the IC members. The major difference between Strategic and operational innovation Platforms is that while strategic innovation platforms have responsibility for determining the future strategic direction of activities on the platforms and later facilitate platform operations by providing relevant members from their institutions to join the IC at the community or grassroots levels. Members of the Innovation Clusters, actually conduct hands-on activities in the platform by diagnosing, exploring and investigating solutions and determining their successful adoption.
The configurations of agricultural innovation platforms vary in the pattern of organization and operations; for example according to the theme, sector or (combination of) commodities covered, e.g. livestock, crops, or natural resource management. Variations are also evident in terms of status, formalization, and modes of communication (Nederlof et al. 2011).

Some Innovation platforms function by organising regular formal meetings with a steering body (president, vice-president, etc.). In other cases platforms use less formal communication channels (e.g. exchange visits) and operate at rather irregular frequency.
5.1 Basic Framework

Agricultural innovation platforms are organized for research and development in agriculture and related activities. Thus innovation platforms are applicable to a wide variety of agricultural technologies ranging from very simple to highly complex and integrated ones. Participation in innovation platforms provides farmers with spaces for communication, learning and negotiation and the opportunity to achieve sustainable increases in agricultural production and productivity through access to technical information, social interaction with other partners along the agricultural value chain, including finance, input supply, agricultural extension, value addition, capacity strengthening, and markets.

Typology and Focus of Platform, Engaging Stakeholders, Agenda for Platform, Mode of Operation and Harnessing Mix of Skills
Thus an agricultural innovation platform can be considered to function as a forum to foster and facilitate interactions and learning amongst groups of stakeholders with shared interests. Therefore, the principles that underline the establishment and management of agricultural innovation platforms must take into account all the issues that promote successful interaction, collaboration/partnerships amongst diverse but 'equal' partners as stakeholders.

5.2 Principles

FARA has developed the following principles which govern the establishment of agricultural innovation platforms:

1. **Typology of Platform** – The level of operation of the agricultural innovation platforms must be decided early in the process of setting up the platform; the level may be village, district, regional, or national and it might be noted that there are two basic types of Innovation Platforms that may be found at each level; (i) the Strategic and (ii) the Operational Innovation Platforms.

2. **Focus of Platform** - Agricultural Innovation platform focuses attention on promoting improved agricultural technologies and facilitating innovations along targeted commodity chain. The boundaries of the platform should be delineated; may be thematic, geographic, and sectoral or value-chain related. Often, it is geographic and sectoral.

3. **Engagement of Stakeholders** – All stakeholders relevant to the focus of the platform should be carefully identified and engaged taking into cognisance their common and shared interest. Every member of the platform identified should demonstrate that they have something to offer and contribute to the activities of the platform and be aware that they have something to benefit; making it a collaborative win-win system. The stakeholders should act as partners and perform different but complementary tasks in the development, dissemination and adoption of knowledge for socio-economic benefits, in the form of new ideas, methodologies, procedures, concepts or technologies used or adapted from other locations.

4. **Agenda for the Innovation Platform** - The agenda for the Innovation Platforms should be clear and well designed to ensure that all stakeholders benefit from the operations of the platform. A common agenda is improvement in the socio-economic well-being of the actors based on the given commodity and on which value chains the activities of the platform will be based.
5 **Mode of Operation of the Platform** - The agricultural innovation platform should establish clear ground rules to define how decisions are made, how conflicts are managed and how new organizations can join. The existence of ground rules ensures that the platform is a fluid entity with an evolving membership that draws in relevant expertise depending on the problem being addressed. Stakeholders can join and leave at will, while roles of actors change over time and the focus of the platform also changes with the context of agricultural practices and policies of the country.

6 **Harnessing Mix of Skills** - As Agricultural Innovation Platforms operate to harness innovations related to technology, processes, institutional and social-organizational arrangements. These innovations should be promoted through forging strong partnerships along and beyond agricultural value chains and they are fostered to bring on board actors with special mix of skills that complement functional expertise of producers and support services providers to enhance. The new ways of working require a mix of scientific, technical, managerial and entrepreneurial skills to guarantee that the outcomes are of socio-economic benefits to the actors.

7 **Involvement of Research** - Innovation Platforms must strategically engage researchers to continually contribute technical research outputs by way of technologies, new products, and better ways of increasing productivity, improved natural resource management, policy, markets development and gender equity. Obviously, research in this case does not imply physical but also includes socio-economic and process research.
6.1 Introduction

The engagement of a multitude and diverse variety of stakeholders, who have different objectives and expectations tend to complicate the setting up and successful management of Agricultural Innovation Platforms. Therefore the setting up of agricultural innovation platforms requires very careful thought and coordinated planning of the various steps and procedures. Furthermore, different methods can be adopted for setting up agricultural innovation platforms according to the focus and agenda of the platform. Whatever system is adopted, agricultural innovation platforms must be well set up and articulated to meet the common interest of the partners and stakeholders that are involved.

An effective Innovation platform should be established to demonstrate the following qualities:

i. common understanding of the agenda around which the interest of the actors are harnessed.
ii. there should be cohesion
iii. stakeholders should achieve general consensus on the target commodity of mutual interest
iv. the platform should be organized to satisfy the interests of the stakeholders
all stakeholders in the platform should contribute to the operations of the platform and derive benefits from the platform
good facilitation that would ensure that actors contribute their best in the mutual interest of all.

6.2 Steps and Procedures for setting up Agricultural Innovation Platforms

The steps and procedures for establishing Agricultural Innovation Platforms are aggregated into three phases as follows:

**PHASE I**

*Initiation and Visioning* – this phase consists of scoping study by the initiating institution or organization to determine the potentials for a platform by collecting important data and information to obtain a clear understanding of the challenges which are constraining agricultural productivity, markets and profitability in the target commodity system, agriculture value chain or local environment. Other components of phase I are identification of the potential stakeholders of the platform and to engage with them, determination of the innovation platform agenda and site selection.

**PHASE II**

*Establishment* – the major activities in this phase are action planning, learning and implementation, and determination of initial operational modalities and activities.

**PHASE III**

*Management and Sustainability* – this phase involves activities that ensure successful management of the innovation platform and putting in place measures that promote sustainability of the innovation platform.

FARA has identified Nine Steps in the establishment of an agricultural innovation platform; these steps are as follows:

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**42 Agricultural Innovation Platforms:**
1 Location of site:

In locating a site for the IP, the activities to be conducted would include (i) agricultural situation analysis to identify opportunities and challenges in agricultural production in the location, or community, socio-economic circumstances, abiotic and biotic environmental factors, economic potentials, for example market access, linkages and networks with domestic, regional and international resources and available infrastructure (roads, electricity, water, telephone and reliable communications facilities) and all relevant information that would enable a most profitable engagement in agricultural productivity in that location and its immediate and extended environments.

In special cases, the site for an innovation platform may be pre-determined by the institution or government that is promoting the innovation platform.

2 Identification of target commodity and analysis of its market chain:

The identification of target commodity can be achieved, in most cases, through the interest of the institution or country promoting the IPs. An analysis of the commodity value chains would help identify the challenges to productivity and opportunities for innovation, and the potential chain of actors that may be involved in the platform. It will also help identify natural resource management policies, product development and markets to help boost socio-economic activities on the platform.

3 Identification and Validation of Stakeholders

An accurate and reliable identification and validation of stakeholders is conducted through stakeholder analysis to concretize the relevant stakeholders required for the platform. This should be complemented with a situation analysis to capture current knowledge, attitudes and practices of stakeholders. Stakeholders of innovation platforms should maintain continued interest and a stake in the platform, and they should be engaged with the output market as priority focus, as well as reference to input needs, advisory services, processing, transportation, agricultural finance and insurance.

4 Engagement of Researchers

The involvement of agricultural researchers is vital for the operations of innovation platforms. Researchers are important for the generation or continuous improvement of relevant technologies along the commodity chain, action planning, to support stakeholder analyses and mapping and capacity development. Researchers should be represented by core research partners who are required to contribute directly to the
research agenda. Researchers should change with changes in the priorities of research in the innovation platform agenda. However, as research on the Platform also include socio-economic researchers, efforts must be made to generate process or methodical research outputs to continuously enhance the operation of the Innovation Platform.

5 Development of Innovation Platform governance and management guidelines:

Irrespective of the mode of operation of the innovation platform, whether informal or formal, arrangements must be made for the operations of all innovation platforms guided by a governance structure with sets of rules, regulations and well articulated guidelines. Rules, regulations and operational guidelines for innovation platforms are developed by the stakeholders facilitated by the innovation broker or facilitator.

6 Facilitation of Stakeholder Interactions

effective interaction among stakeholders and partners in the innovation platform is essential for contributing to creating an enabling environment which improves the quality of stakeholder action leading to the successful operation of the platform. According to Leeuwis (2004), effective facilitation of interactive processes can be characterized by seven tasks as follows:

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<tr>
<td>i</td>
<td>preparing the process,</td>
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<tr>
<td>ii</td>
<td>reaching and maintaining process agreement,</td>
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<tr>
<td>iii</td>
<td>joint exploration and situation analysis,</td>
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<tr>
<td>iv</td>
<td>joint fact-finding and uncertainty reduction,</td>
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<tr>
<td>v</td>
<td>forging agreement,</td>
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<tr>
<td>vi</td>
<td>communication of representatives with constituencies, and</td>
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<tr>
<td>vii</td>
<td>co-ordinated action</td>
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Although initial facilitation of the Innovation platform may be carried out by the promoting institution, as soon as the IP is fully established, it is proper for the facilitator to evolve from among the partner stakeholders. The role of facilitation may be devolved to the national agricultural extension system which seems to have the relevant skills to do so. Facilitators could also be drawn from the stakeholder groups, for example national
and international NGOs, international donor agencies, farmer organizations, national and international research organizations, and government organizations (Klerkx et al. 2009).

7 Development and Implementation of Innovation Platform Business Plan:

A major aspect of action planning is the development of a business plan for the innovation platform. The business plan should be developed and agreed upon by all stakeholders who should have collective responsibility for its implementation and according to the agreed schedule.

8 Establishment of Monitoring and Evaluation Protocol, and compilation of Lessons learned:

A monitoring and evaluation (M & E) plan should be developed and put into use to ensure that effective learning is taking place along the pathway of innovation generation. And that the innovation platforms play the roles of enhancing communication, coordination, sharing of information and knowledge as well as the pattern of delivery of outputs and outcomes according to the M & E framework developed for the innovation platform operations. Further complimentary activities at this step include identification, characterization and documentation of innovations that evolved and the lessons learned by the stakeholders during the implementation of innovation platform activities.

9 Review of Implementation of Business Plan, Lessons learned and development of Sustainability Plans:

Here, the activities include

1. critical review of the elements of the business plan in response to the lessons learned
2. re-assessment of the priorities
3. identification and assessment of issues that require intervention along the commodity productivity chain. At this stage, sustainability and scaling out strategies should be developed, building on the output and outcomes of the established M & E process.
6.3 Typology of Stakeholders

The variety of multi-stakeholders and partners that may be identified for an agricultural innovation platform may include all or some of the following:

- Farmers
- processors
- traders, transporters and marketing agents
- the private sector, input suppliers and output handlers
- district/provincial; and national policy makers
- extension agents
- researchers
- agricultural finance institutions
- ICT specialists
- NGOs operating within the community
- environmentalists

Figure 3 shows the diversity and variety of stakeholders that may be identified for an agricultural innovation platform.
6.4 Methodological Issues

Standard proven methods should be adopted for implementation of innovation platform activities.

In setting up an innovation platform, identification and characterization of essential stakeholders can be done using scoping studies, situation analysis, stakeholder analysis, characterization and mapping. General methods to be adopted for stakeholder mapping include the following:

- social network analysis,
- focus group discussion,
- gender analysis,
- outcome mapping and
- market chain analysis

This implies the use of participatory action and learning processes or methods like PLA, RRA, etc. that will involve all possible actors to guarantee inclusiveness of the outcomes.

6.5 Information and Knowledge Exchange

Effective communication, information and knowledge exchange and sharing of experiences are vital requirements in innovation platforms. Thus the stakeholders should develop a communications strategy which should consists of appropriate roles, tools to use, approaches to adopt, and feedback mechanisms which are consistent with the requirements of the innovation platform and with generation and management of knowledge. The actors in an Innovation Platform should incorporate information communication technology (ICT) which can be exploited to make information flow and communication be on real time as much as is possible. ICT facilities include mobile telephony, skype, Google talk, MSN, Yahoo Messenger, video messaging, email, blogs, wikis, newsgroups, podcasts, RSS Feeds, YouTube, audio-graphics and online forums. Each Innovation Platform would be expected to select and use an appropriate ICT tool that is most relevant to their information needs and with which most members are conversant with /comfortable to use. The selected ICT tool would also help explore and exploit online knowledge resources and facilitate social networking among member and actors on innovation platforms.
7.1 Introduction

Monitoring and evaluation (M & E) are complementary concepts that have found great acceptance in today’s development arena across the various divides. M & E now forms a critical component of most, if not all, development projects and programmes and even in the conduct of institutional activities. The M & E as it is fondly known have become useful tools of engaging the interest and satisfying the yearning of stakeholders in the administration especially of development interventions.

The term “monitoring and evaluation” is usually used together even though they do not mean the same thing. They are two distinct concepts that complement each other so much so that they now become inseparable in their use in the organizational setting.

7.2 Monitoring and Evaluation

Monitoring is the systematic collection, analysis and subsequent use of information collected to enhance the implementation of projects and programmes as well as in the conduct of institutional activities. Monitoring is aimed at improving the effectiveness and efficiency of projects or programmes or organizations. It is usually based on the targets set and the activities planned at inception or before commencement of implementation. Monitoring helps to keep track of activities been implemented and lets
monitoring know whether things are going well and to enable it take mitigating actions when things are not going right. If carried out properly, it becomes an invaluable tool for good project management and it provides a useful basis for evaluation.

**Evaluation** is the objective assessment of the implementation of project or programme or the conduct of an institution through critical analysis of the information collected during monitoring or specifically for that purpose at completion of the project or programme implementation. It is a comparative analysis of actual project outcomes/impacts against the planned or expected ones. It looks at what was planned to be achieved against what was actually accomplished and how this was done. This is to determine whether activities and outcomes of the project or programme meet the desired objectives and purposes of their implementation. Evaluation may be formative or summative. It is formative when it takes place as the project is being implemented or the organization is running with the intent of improving the way the project is being implemented /organization is functioning. Evaluation is summative when it is carried out to draw lessons from a completed project or from an organization or institution that is no longer functioning.

Usually, evaluation exercises are conducted to ascertain the relevance, effectiveness, efficiency and sustainability of the project or programme outcomes and whether the desired impacts have been made.

The **M & E processes should enable**:

- the effective governance of projects and programmes
- the demonstration of value for money
- continuous learning resulting in sustainable improvement
- a transparent conduct of project, or programme or institutional activities from inception to completion
In many organizations, M & E is not seen as a management tool but as a requirement of funding partner. Be that as it may, the primary use of M & E should be for the organization or project to see if and how it is making progress against the objectives, whether it is working effectively and efficiently, and to learn how to do it better. Plans are essential but they are not cast in stones. If they are not working, or if the circumstances change, then plans should change as well. M & E help the project or organization know when plans are not working, and when circumstances have changed thereby giving management the information it needs to make decisions about the project or organization, the changes that are necessary to be made in terms of the strategy to adopt to ensure the right accomplishment of the project objectives and the expected outcomes and impacts. It is not bad to get something wrong but it is extremely wrong not to learn from past mistakes and to take corrective measures to improve on performance. This is the whole essence of M & E to projects and programmes and institutions.

Although monitoring and evaluation is not a magic wand to wave and make project and institutional challenges to disappear overnight, it helps to identify challenges militating against success and suggest solutions to resolve the challenges and ensure that implementation is on track and that at the end the desired change is realized. Besides, monitoring and evaluation also help raise questions about assumptions and strategy; help reflection on the direction to go and how to get there and provides information and insight about the project/programme /institution. It encourages management to act on the information provided and the insight given and thereby increases the likelihood of making a positive difference in the development situation.

### 7.3 Types of Monitoring and Evaluation

Monitoring is usually an internal process function in any project or organization intended to generate information that will enable better management decision for enhanced project, programme or institutional performance. Evaluation on the other hand is external and in most cases terminal to the project and usually may not be of immediate significance to improving the project performance but drawing lessons for future improvement of similar projects /programmes /institutions.

_Evaluation can thus be conducted in several ways leading such types of evaluation as_

**Self-assessment:** This is carried out by the organisation or project to ascertain how it fared so as to learn and improve future processes and practices. It requires a great deal of honesty to do this effectively and for it to truly be a learning experience.
External evaluation: This is an evaluation done by a carefully selected team outside to the project implementation. This is usually by way of consultancy. The evaluation team is considered to have an unbiased assessment of what transpired in the project during its implementation and judges how the project was implemented and whether the expected outcomes/impacts were made and the lessons that should be learnt in the process.

Whether the evaluation is internal / self-assessment or external, the approaches that may be adopted in the actual conduct of the exercise can be participatory monitoring and evaluation (PME). The PME involves as many people as is possible that have direct stake in the work that was done. These may be project staff, beneficiaries and other actors working together to determine the project outcomes /impacts. There are several participatory approaches that can be adopted such as Rapid Rural Appraisal (RRA); usually for rural development projects, Participatory Learning and Action (PLA), etc.

Interactive evaluation: involves active interaction between an outside evaluator or evaluation team and the organisation or project being evaluated. Some-times an insider may be included in the evaluation team.

7.4 Indicators

As the name implies, indicators are pointers to show the direction to what is intended to be achieved while carrying out a particular course of action. They are landmarks which tell that the implementation process is going in the right direction or not. They reflect the planned activities to be carried out and they are stated as the workplan is drawn. Indicators may be stated in statistical terms like numbers and percentages or qualitative terms like the level, extent of progress made.

7.5 Monitoring and Evaluation of Innovation Platforms (Ips)

Once the IPs have been established and even in the process of establishment, the monitoring and evaluation system need to be put in place to guide the operations of the platform. The plan of activities of each IP should provide for
**Agricultural Innovation Platforms:**

When the plan of action of an IP is made in this manner, it becomes easier to develop specific indicators that may be monitored to ascertain the level of work being done per given period of time.

The indicators that may be monitored in the organisation of an IP could vary from:

- number of partners – representatives of research, extension, policy, credit institutions, information services, NGOs, etc.
- number of actors – farmers, processors, marketers, input dealers, transporters, etc.
- proportion of males to females as well as that of the youths, etc.

For a production or cultivation oriented IP, activities that may be regularly monitored may include:

- Number of actors generally and per activity area,
- Disaggregated number of actors – male, female, youths.
- Number of other actors reached indirectly; through promotional activities like field days, agriculture fairs, etc.

<table>
<thead>
<tr>
<th><strong>What</strong> is to be done; should relate to or reflect the agenda of the IP and the mutual interest of the actors.</th>
<th><strong>When</strong> these activities are to be carried out reflects the timing of operations.</th>
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<tbody>
<tr>
<td><strong>Who</strong> is to do it – identifies the roles and responsibilities of the various stakeholder partners and actors on the platform and whether the action is to be taken by an individual or a team.</td>
<td><strong>Where</strong> the activities are to be done – within the platform, immediate community or outside the community, and the</td>
</tr>
<tr>
<td><strong>How</strong> the specific activities may be carried out; determines the specific steps to take for example whether it will be by direct effort of members or to outsource to those more endowed to do the assignment.</td>
<td><strong>Resources</strong> required in accomplishing the assignments; this mostly refers to the budget of time, money, materials and even the human capacity requirement to get the job done.</td>
</tr>
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</table>

When these activities are to be carried out reflects the timing of operations.
Monitoring and Evaluation of Performance of Innovation Platforms

- Area cultivated to given crops; by direct actors on the platform and those influenced by promotional activities (indirect actors),
- cost of labour engaged
- the types and quantity of inputs required,
- time of specific operations,
- yield figures - quantity produced per unit area,
- Quantity consumed, sold, discarded, processed, etc.
- amount realized from sale of produce,
- Improvement in incomes and the living standard of stakeholders
- Other relevant information that may be of interest to actors and partners on the IP.

In monitoring of IP activities, the actors and partners may decide on the M & E approach to take depending on the intensity of monitoring action required. However, it would be preferable to always adopt a participatory method that would encourage inclusivity and joint learning by actors and partners. It may be advised that each platform operators form an M & E team that will conduct or facilitate conduct of regular and systematic monitoring of the IP activities to guide its operations and enhance decision making in the conduct of the Innovation Platform operations.

As regards evaluation, each IP should provide for the regular evaluation of its completed or some of its ongoing activities depending on the specific objectives it wants to achieve. The approach to the conduct of such an exercise should depend also on the objective to be achieved which will then inform the level of detailed information the exercise would seeks to obtain. This would then determine how it will be done and who should be involved. In all M & E exercises, it would be preferable to use participatory approach to enhance joint learning and action.
8.1 Introduction

The implementation of the Integrated Agricultural Research for Development (IAR4D) Innovation Platform approach was in process as by a number of FARA programme initiatives as the proof of concept was on-going. This was an indication of the confidence FARA staff had on the efficacy of the innovation systems approach. This action inadvertently resulted in a situation of divergence in the explanation and application of the IAR4D concept. Obviously, most of the initiative picked an aspect of the approach that was most suited for its operations. It does not seem however, that these initiatives updated their understanding and application of the concept as new evidences emerged through the on-going living proof of concept process. The result is a shade of opinions and learning, which may be considered spillovers, based on these applications and experiences.

8.2 The Innovation Platform for Technology Adoption (IPTA)

The IPTA approach is an application of the Innovation Platform concept to drive the dissemination and adoption of improved technologies and innovations to enhance agricultural production and productivity along commodity value chains. This approach was introduced by the Dissemination of New Agricultural Technologies in Africa
(DONATA) initiative of FARA which was also a component of the FARA-AfDB project on Promotion of Science and Technologies for Agriculture Development in Africa (PSTAD). The PSTAD project was executed, with a grant from the African Development Bank (AfDB, by FARA in collaboration with SROs and NARS in 34 countries (DONATA in 25 countries) The IPTA is conceived as a multi-stakeholders forum for facilitating acquisition of knowledge and skills to adapt improved (existing and new) technologies to local settings / needs using the innovation system approach. The establishment of an IPTA or Innovation Platform, as it was also referred to, usually follows an analyses of the target commodity value chain to mutually determine the most critical challenge to increasing productivity of that commodity. This critical challenge or the weakest link in the chain serves as the first point of intervention or the entry point for action by concerned platform members. The analyses also often revealed the opportunities that are available for members of the platform to explore and enhance agricultural production and productivity generally, and in particular, their means of livelihoods. Depending on the number of actors and the critical challenges and opportunities that have been identified, there could be more than one entry point per Innovation Platform per season. In the DONATA experience, most IPs had their entry points in developing the seed system as availability of improved certified seeds at the local or farmer level was considered the most critical challenge for which intervention in the first two seasons were focused. However, over time, the IPTA process evolved in such way that the entry points became diversified to other points in the commodity value chain. The improved understanding of issues and opportunities through active engagements among stakeholders triggered more interventions towards the downward end of the commodity value chain such as processing and marketing of products. As at December 2014, about 160 IPTAs had been established across the countries participating in the DONATA initiative.

The IPTA has partners and actors. The **IPTA Partners** are representatives of institutions whose mandate impacts on enhancing knowledge and skills of actors and assist in increasing the production and productivity of the target commodity. They usually include Research, Extension Service, NGOs, Input Supply, Marketers, Transporters, Policymakers, Processors, Farmers’ organization, and Information Service Providers amongst others. This group of stakeholders on the platform may be considered strategic partners because they facilitate or guide the strategic direction of IPTAs especially in terms of what commodity to promote and the arrangement of the logistics support to do so. On the other hand, **IPTA Actors** are those members of the platform who are directly involved in the application of knowledge and skills gained on the platform to resolve the challenges faced or explored the opportunities identified to increase productivity of the target commodity. They are immediate or direct beneficiaries of activities on the platform. Consequently, a Partner could also be an Actor depending on the roles played
on the platform. And this is why it is often stressed that the IP is a means of enhancing the socio-economic well-being of all members or stakeholders in the long run.

**Facilitation** of activities among IPTAs stakeholders is crucial to the success of operations on the platforms. The DONATA Focal Person in the selected focal NARI for PSTAD –DONATA facilitated the IPTAs in many of the target countries. As a result, Research and Extension institutions coordinated activities of the IPTA; as the key strategic partners. Nevertheless, IPTA stakeholders may decide to select their Facilitator based on their understanding of the capability of members such a step enhances participation, cohesion, and sustainability of the IPTAs.

However, the extension personnel may play this role because they are professionally more endowed to do so and this may ensure sustainability, institutional capacity building, and effective integration of the IPs into the national dissemination and learning systems.

### 8.3 The UniBRAIN Business Incubators

The Universities, Business and Research in Agricultural Innovation (UniBRAIN) is another project initiative of FARA designed to contribute to enabling African countries to create jobs and raise incomes through sustainable agribusiness development. It seeks to improve the capacity of African youths in entrepreneurship by training them to acquire demand-driven technical and vocational skills through better linkages between university education, research and business.

The UniBRAIN Agribusiness Incubator seeks to address the downward point of the agricultural value chain by commercially adding value to agricultural outputs with a view to enhancing employment and improving incomes and stimulating sustainable agricultural growth. The understanding is that a number of available research outputs and innovations can readily be commercialized to generate employment and income for the people and thereby improve their livelihoods and living standards while enabling profitable and improved agricultural development. The commercialization of such research outputs easily conform with the consumer end of the agricultural value chain that seeks to transform and add value to agricultural produce and improve their utilization and uptake by consumers.

In promoting the agribusiness incubator concept, suitable agricultural based commercial enterprises (agribusiness incubators) are identified to provide an Incubation platform for agribusiness 'Incubatees' (i.e. potential entrepreneurs) to understudy
(internship) the process of transforming agricultural produce, using research outputs and innovations, appropriate knowledge and skills, into commercial products that are demanded by the consumers. The agribusiness incubators are thus existing legal entity providing start-up support to emerging small businesses.

After the period of internship, the Incubatees or new entrepreneurs are encouraged through providing them with, for example, production rooms, equipment, as well as organizational, legal, financial, advisory and informative services to develop their own business plans to undertake the new agricultural enterprises of their interest thereby providing employment and improving incomes.

The agricultural business incubation platform can thus be seen to be fulfilling the critical downstream activities of the Innovation Platform (IAR4D) of encouraging value addition through product development for wealth creation and sustainable agricultural production.

### 8.4 PAEPARD User-Led Process

The Africa-European Partnership for Agricultural Research and Development (PAEPARD) is a FARA initiative supported by the European Union to promote African-European multi-stakeholder partnerships for agricultural research and development. It is designed to enhance more equitable, more demand-driven and mutually beneficial collaboration between Africa and Europe on ARD with the aim of attaining the MDGs.

The PAEPARD recently adopted the User-Led Process (ULP) as a concept to promote the involvement of end-users in its activities especially the process of generating, applying and utilizing grants to support agricultural development in Africa.

The ULP draws on the concepts of social inclusion and integration; two ideas on which the Innovation Platform (or IAR4D) is very strong. The PAEPARD support for ULP is an effort to ensure that a level playing field is provided for all stakeholders to interact and play their roles in the agricultural development process. It should be stressed that the guiding pillars of this approach are the two concepts of inclusivity and integration and thus seems to be a chip out of the IAR4D block.
8.5 PSTAD-RAILS Learning Teams

The Regional Agricultural Information and Learning System (RAILS) is another FARA initiative that promotes information and knowledge exchange among stakeholders in agricultural research and development. During the implementation of the PSTAD project when most of the RAILS activities were implemented as a Component of PSTAD, the eRAILS tool was developed and used. Furthermore, the concept of “Learning Teams” was introduced to facilitate quality content for eRAILS and quality information and knowledge exchange among stakeholders.

The eRAILS is an online portal for facilitating learning across the various stakeholder groups within and across countries on the African continent and beyond. The country based Learning Teams facilitate the development and quality assurance of content uploaded unto the eRAILS portal. The eRAILS portal is a dynamic and decentralized system that enables stakeholders to create websites at all levels; individual, sectional, national, sub-regional and continental, to facilitate adequate information flow for decision making for agricultural development. The creation of the RAILS platform strengthens the desire for improved interaction on the Innovation Platforms for effective learning and innovation among stakeholders.
The FARA Innovation Platform is a framework for action by stakeholders who wish to promote a participatory integrated approach to agricultural research and development. This approach enhances partnerships and social inclusion in the development process. It seeks to provide actors opportunities to enhance their livelihoods through engagement in socially and economically beneficial activities that should guarantee wealth creation and improved social economic wellbeing of stakeholders.

As a framework, the Innovation Platform is a living system; that is, it lends itself to continuous improvement as new knowledge and ideas emerge to enhance the existing situation. It is intended to be dynamic rather than be a rigid or static approach. Consequently, the future of FARA Innovation Platform should be bright as it lends itself to continuous refinement to meet specific emerging needs for partnership to enable Africa's agriculture drive the continent's economic growth and sustainable development.

Therefore, FARA and its development partners expect that the Innovation Platform approach can be implemented comprehensively or as a whole as well as in components as was the case in the learning experiences from the different FARA program initiatives.

The crucial issue is that the implementation process should, at all times, incorporate the key pillars or guiding posts of the approach; such as integration, inclusivity, partnerships, interactions, shared learning from each other by actors or stakeholders, co-creation of socio-economic benefits for stakeholders and other partners.
The primary goal for adoption of the approach is to create wealth for the actors and this must continually be kept in proper perspective at all times for the framework to continue to be attractive for use by all concerned.
References


NEPAD, 2013: African agriculture, transformation and outlook, 72 p


Janet Shapiro “Monitoring and Evaluation” www.hixnet.co.za

PCMI “Monitoring and Evaluation” http://www.pcmi.co.uk/CMS/monitoringevaluation
Agricultural Innovation System (AIS): “A set of interrelated components (i.e., individuals, organizations, public agencies or institutions) working through collaboration and competition to generate, diffuse and utilise knowledge and technology that have (economic) value within the agricultural sector.” (Sumberg 2005)

System Innovation: “A (re-)configuration of ‘hardware’ (the bio-material dimension: e.g. technical devices, physical practices, bodily skills), ‘orgware’ (the social dimension: relationships, institutions, organisational forms) and ‘software’ (the symbolic dimension: knowledge, meanings, visions, discourses) (Leeuwis 2013)

Knowledge: is the set of concepts, meanings, skills and routines developed over time by individuals or groups as they process information.

Technology: is defined as the sum of knowledge — of received information — which allows things to be done. It is a flow of new knowledge.

Invention: delivers new technology/knowledge as solution to a problem — things new to the world.

Innovation: Innovation refers to the use of existing or new knowledge, technologies or inventions to generate socio-economic benefits for users. (Fatunbi 2014)

Innovations: Products arising of innovation process and may be technological, social or institutional. This may be a new production method, a new working modality of an institution to enhance effectiveness, or new ways of organization by stakeholders or stakeholder group.

Innovation processes: Activities and processes associated with the generation, dissemination, adaptation and use of new technical, institutional and organizational knowledge, skills, and resources to the benefit of all stakeholders in the partnership (adapted from Adekunle and Fatunbi 2012:)

Innovation platform: “a physical, virtual, or physico-virtual network of stakeholders which has been set up around a commodity or system of mutual interest to foster collaboration, partnership and mutual focus to generate innovation on the commodity or system” (Adekunle and Fatunbi 2012).
Strategic Innovation Platform (SP): Innovation Platforms set up at higher levels of governance and management hierarchies, where strategies are determined for the development of agriculture in the domains of coverage. Strategic Innovation Platforms could be set up at national or sub-national levels covering regions, districts, local governments or prefects. (Adekunle, A A, A.O Fatunbi and M P Jones 2010)

Operational Innovation Platform (OIP): Innovation Platforms that are set up at grassroots levels, with different focus from strategic platforms. Membership of Operational innovation platforms target frontline staff from organizations which facilitate operations at the grassroots levels of their organizations. Operational Innovation Platforms respond to the strategies set by strategic innovation platforms and transform the strategies into operations which lead to higher impact. (Adekunle, A A, A.O Fatunbi and M P Jones 2010)

Innovation Cluster (IC): A group of Operational Innovation Platform set up at the community or grassroots level. Innovation Clusters may have the similar agencies or common memberships and may be set up to facilitate operations along different commodity chains (Adekunle, A A, A.O Fatunbi and M P Jones 2010)

Platform Innovation Broker: Persons or organizations that, from a relatively impartial third-party position, purposefully catalyze innovation through bringing together actors and facilitating their interaction.” (Klerkx and Gildemacher 2012) The Platform Innovation broker (also called Champion) is the person responsible for connecting local and higher platform levels for a period before leaving local stakeholders take on this role.
Annexes

Annex 1: Stakeholder Roles

Stakeholders on the Innovation Platform are both the representative of the partner institutions as well as the actors on the platform.

Innovation Platform Partners are representatives of various institutions whose mandate impacts on the agenda or purpose of setting up the IP. As the main objective is to enhance knowledge and skills for increased agricultural productivity resulting in socio-economic benefits, the key partners are usually Research, Extension Service, Input Supply, Marketers, Transporters, Policymakers, Processors, Farmers’ organization, NGOs, Credit Providers, and Information Service Providers. They generally provide strategic direction to the IPs in trying to ensure that their actions meet with the strategic positioning required for agriculture development in that country.

Specifically,

1. The Agricultural researchers on the Innovation Platforms are to ensure that the technologies and innovations practiced on the platform are technically up-to-date to bring about the desired result or outcomes. They also observe and note the challenges with these technologies and the general situation with a view to refining and restructuring the institutions research direction and approach to guarantee that the research outputs would meet the needs of the actors in the field.

2. The Extension Service roles are to ensure that the technologies and innovations are technically feasible and relevant, socially acceptable and inclusive and that the methodologies for promoting learning and adoption are suitable as well as guide the processes that will facilitate that the actors received the outmost benefits from their efforts.

3. The Inputs Suppliers partner on the platform to guide about the available inputs as well as learn about the required one and where they may be needed so as to enable them to appropriately support increased productivity efforts and enhance their businesses.
4 Marketers guide actions on the platform to ensure that what is produced meets the requirements of the consumers. They also provide guidance to stakeholders on the various regulations that might enhance or impede actual marketing of produce and products of the IPs.

5 The roles of NGOs on the platform would vary depending on the area of focus of such NGOs. It could be to facilitate approaches that would enhance skills in participation and social inclusion, empowerment with micro-credits, group dynamics, etc.

6 The Policymakers' role is advisory to ensure that no policies of government are breached as well as to be informed and to learn new ways to reform policies and ensure that policies address the reality of the situations on ground.

7 Credit service providers like banks and micro-finance institutions play the role of learning and ensuring the provision of support to address the real needs on the ground. Their services become more targeted and results oriented.

8 The information service providers ensure appropriate interactions on the platform and proper communication of platform activities to the outside world using appropriate media.

9 The farmers or producers' organization ensures proper organization of their members to ensure that they derive the most benefits from participation in the platform activities.

10 The Innovation Platform actors are those members of the platform who are directly involved in the application of knowledge and skills gained on the platform to resolve the challenges faced or those who explore the opportunities identified to increase agricultural productivity and their socio-economic well-being.
Annex 2: The Role of the Public Sector in Innovation Platforms

The public sector institutions are, in most cases the prime movers in the establishment of Innovation Platforms; especially research and extension institutions. They guide actions on the platforms to ensure that they conform and comply with government policies and regulations. They also learn and use the knowledge gained to reform existing policies and influence future policy formulations. As the key prime-mover of the IPs, they also provide some funding to facilitate activities on the platform. Such funds could come in form of grants or brokering favourable credits from credit/financial institutions to support the activities of the platforms. This was the case when FARA initiated the set-up of Innovation Fund for Agricultural Transformation (IFAT) for the IP activities in Sierra Leone. The public sector is also expected to provide moral support to the activities of the platform as they solidly use agriculture to promote socio-economic development of the society. This it could do through liaison with the IP management to promote the IPs as vehicles for agricultural transformation and development like was the case in the promotion of Training and Visit (T & V) Extension in the past for which the World Bank loans were sourced to promote and institute the system across many African countries.
The Forum for Agricultural Research in Africa (FARA) is the apex continental organization responsible for coordinating agricultural research for development (AR4D) in Africa so as to increase its efficiency and effectiveness. It serves as the entry point for agricultural research initiatives designed to have a continental reach or a sub-continental reach spanning more than one sub-region.

FARA serves as the technical arm of the African Union Commission (AUC) on matters concerning agricultural science, technology and innovation. It provides a continental forum for stakeholders in AR4D to shape the vision and agenda for the sector and to mobilize them to respond to key continent-wide development frameworks, notably the Comprehensive Africa Agriculture Development Program (CAADP) of the African Union (AU) and the New Partnership for Africa's Development (NEPAD).

**FARA’s vision:**
Reduced poverty in Africa as a result of sustainable broad-based agricultural growth and improved livelihoods, particularly of smallholder and pastoral enterprises

**FARA’s mission:**
Creation of broad-based improvements in agricultural productivity, competitiveness and markets through strengthening of the capacity for agricultural innovation across the continent

**FARA’s value proposition:**
Strengthening Africa’s capacity for innovation and transformation by visioning its strategic direction, integrating its capacities for change and creating an enabling policy environment

FARA’s strategic direction is derived from and aligned with the Science Agenda for Agriculture in Africa (S3A), which is, in turn, designed to support the realization of the CAADP vision of shared prosperity and improved livelihoods.

**FARA’s programme is organized around three strategic priorities (SPs), namely:**

- **Visioning Africa’s agricultural transformation through foresight, strategic analysis and partnerships** to enable Africa to determine the future of its agriculture, using proactive approaches to exploit opportunities in agribusiness, trade and markets, taking the best advantage of emerging sciences, technologies and risk mitigation practices and approaches, and harnessing the combined strengths of public and private stakeholders.
• **Integrating capacities for change** by making different actors aware of each other’s capacities and contributions, connecting institutions and matching capacity supply to demand, so as to create consolidated, high-capacity and effective African agricultural innovation systems that can use institutional comparative advantages to mutual benefit while strengthening individual and institutional capacities.

• **Enabling environment for implementation**, initially through evidence-based advocacy, communication and widespread stakeholder awareness and engagement to generate enabling policies and institutions, then by ensuring the stakeholder support required for the sustainable implementation of program for African agricultural innovation.

Key to these outcomes is the delivery of three important results, which respond to the strategic priorities expressed by FARA’s clients. These are:

*Key Result 1:* Stakeholders empowered to determine how the sector should be transformed and to undertake collective actions in a gender-sensitive manner

*Key Result 2:* Strengthened and integrated continental capacity that responds to stakeholder demands in a gender-sensitive manner

*Key Result 3:* Enabling environment for increased AR4D investment and implementation of agricultural innovation systems in a gender-sensitive manner.

FARA’s development partners are the African Development Bank (AfDB), the Canadian Department of Foreign Affairs, Trade and Development (DFATD), CGIAR, the Danish International Development Agency (DANIDA), the UK’s Department for International Development (DFID), the European Commission (EC), the governments of the Netherlands and Italy, the Norwegian Agency for Development Cooperation (NORAD), the Australian Agency for International Development (AusAID) and the World Bank.