Integrated Agricultural Research for Development (IAR4D) —Innovation Systems:

Innovation Platforms (IP) of Agriculture Value Chains and Food Systems

CORAF/WECARD Executive Secretariat
7, Avenue Bourguiba, BP 48- cp18523- Dakar Senegal
Telephone: 221 869 96 18 Fax 221 869 96 31
secoraf@coraf.org www.coraf.org

Published by:

CORAF/WECARD
7, Avenue Bourguiba BP 48 CP, 18 523 Dakar Senegal
email: secoraf@coraf.org
website : www.coraf.org

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Acronyms and Abbreviations

CORAF/WECARD	West and Central African Council for Agricultural Research and Development
CTA	Technical Center for Agricultural and Rural Cooperation
DONATA	Dissemination of New Agricultural Technologies in Africa
INERA	Institut de l'environnement et de recherche agricoles, Burkina Faso
IAR4D	Integrated Agricultural Research for Development
IARCs	International Agricultural Research Centers
IDRC	International Development Research Center - Canada
IP	Innovation Platform
M & E	Monitoring and Evaluation
NARS	National Agricultural Research Systems
NGO	Non-governmental Organizations
SRO	Sub-regional Organizations
SSA CP	Sub-Saharan Africa Challenge Programme
TFs	Task Forces
WAAPP	West Africa Agricultural Productivity Programme

Preface

This **Guide** is prepared based on the concepts, principles and practices of the innovation systems, with particular reference to integrated agricultural research for development (IAR4D) which uses innovation platforms (IPs) in agriculture value chains and food systems.

The contents of this **Guide** have been informed by the experiences and lessons learned from the IPs in agriculture value chains and food systems of CORAF/WECARD, National Agricultural Research Systems (NARS) and FARA projects, as well as the CTA's training. Successful creation and facilitation of IPs is governed by multi-stakeholder processes and the nature and complexity of agriculture value chains and food systems. Innovation platforms catalyze and facilitate collective actions through multi-stakeholder processes in value chains and food systems including the management of natural resources. The IPs have started to show development impact at local levels and contributed to improvements in rural livelihoods.

This Guide suggests some **guidelines** for the creation and facilitation of functional IPs in agriculture value chains and food systems.

1. Principles of Integrated Agricultural Research for Development (IAR4D)

A variety of Integrated Agricultural Research for Development (IAR4D) multi-stakeholder innovation platforms (IP), frameworks, and processes have been developed. Each IP is characterized by differences in individual circumstances, preferences, context, and specificity. Four "*defining principles*" are suggested for adopting IAR4D multi-stakeholder process in the context of innovation systems in agriculture; these are:

- the perspectives, knowledge and actions of stakeholders around a common objective
- learning which stakeholders acquire through collective actions or working together
- analysis, action and change across the economic, social, environmental, livelihoods and welfare of end users and consumers
- analysis, action and change at different levels of spatial, economic, and social organization

Adherence to these principles is measured by the degree to which the following "process principles" have been achieved.

i. Existence of an IP that serves as the environment to diagnose problems, explore opportunities and investigate solutions. The diverse social and economic IP actors are facilitated in order to bring about mutually desirable changes through competence and skills enhancement

ii. Incentives to jointly innovate through learning by doing to address constraints and opportunities based on system or value chain analysis, to identify priority entry point(s) and this defines the type of IP(s)

iii. Non-linear collective and collaborative interaction and relationship building among IP actors instead of the linear researcher-extension-farmer technology transfer model

iv. Research for development that addresses priority key constraints and opportunities agreed by IP actors

v. A process that is multidisciplinary based on participatory approaches and dissemination pathways such as those influenced by markets

vi. Institutional, organizational and technical capacity strengthening for IP actors through competence and skills enhancement, and systemic experiential learning and sharing of best practices.

2. Innovation Platforms

Innovation platform has been defined in many ways. It comprises stakeholders and or collaborators of diverse social and economic actors and the institutions that govern their behaviour, all working towards a common objective. The platform adopts innovation as a systemic and dynamic institutional and or social learning process and recognises that innovation can emerge from many sources, complex interactions, and knowledge flows.

Innovation consists of three basic elements; (i) *technological* including new varieties or breeds and soil or water management practices; (ii) *organizational* in terms of organizing and delivering knowledge in new ways; and (iii) *institutional* in terms of rules, cultures, values, norms, behaviour, policies and laws.

The Pillars of the IP (Figure. 1) and the Frameworks (Figure. 2) were developed to inform IP stakeholders about perspectives and the thinking needed to establish the IPs. The IP tools (Figures. 3, 4, 5, 6, & 7) are used to demonstrate how IP activities are organised to facilitate interactions and relationships that enhance performance and institutional change. The IPs also enhances the skills of NARS to review and analyse quantitative and qualitative information and data in a systematic and dynamic way to generate and document innovations. Through this process, NARS contribute to the generation and dissemination of knowledge, and hopefully impact on rural livelihoods, especially of the poor.

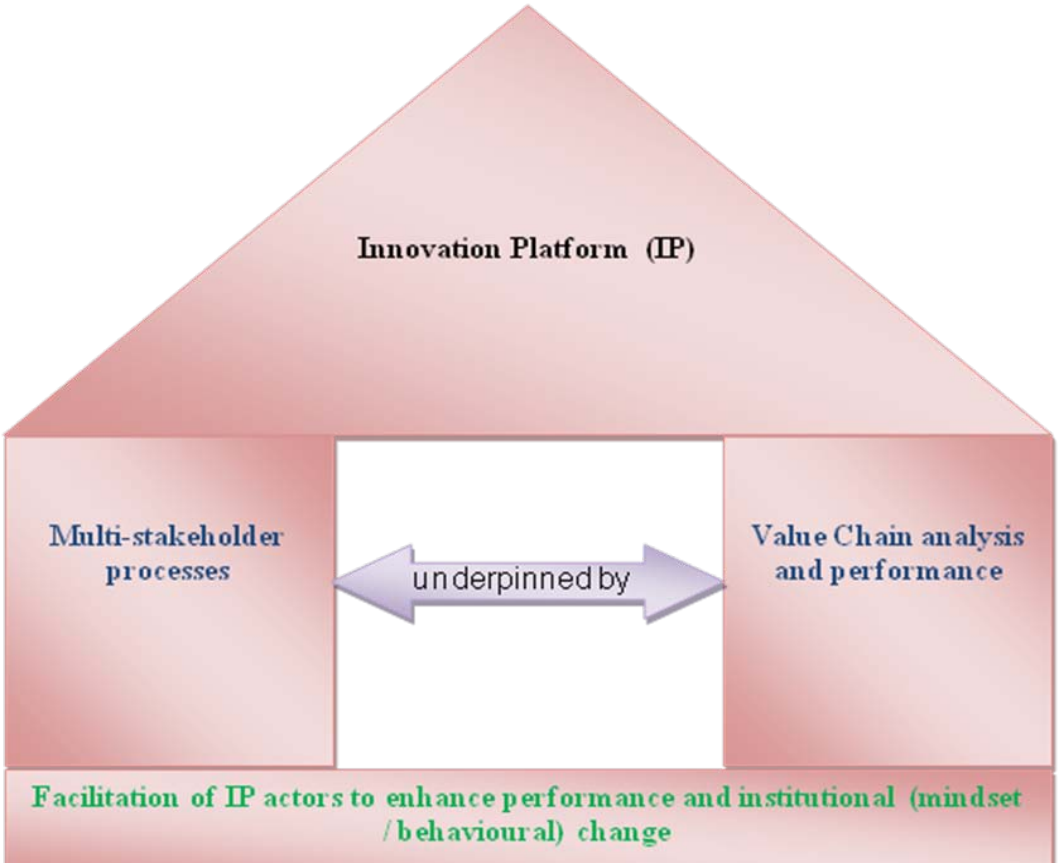

Figure 1 Key Pillars of Innovation Platforms

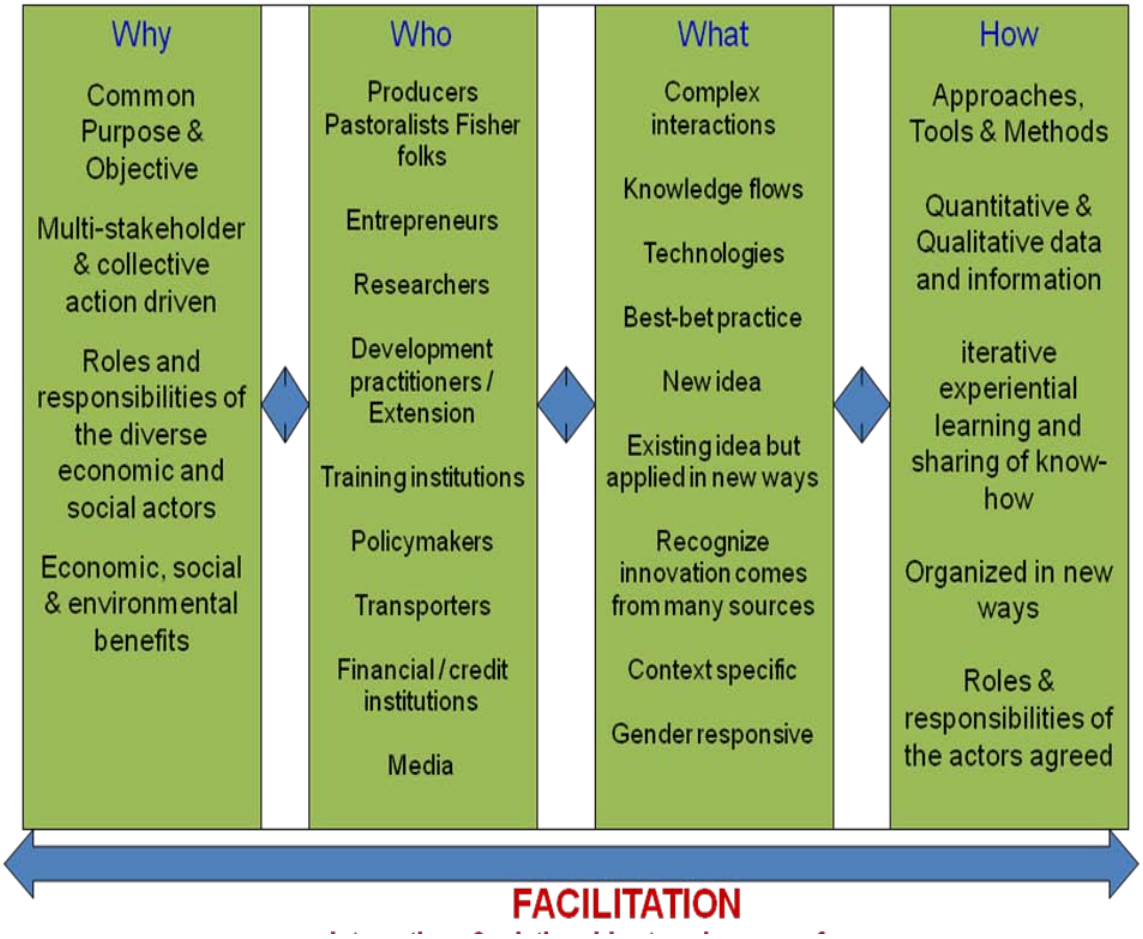

Figure 2 Framework for Multi-stakeholder Innovation Platform Processes

2.1 Key drivers of an Innovation Platform

Innovation platform is a tool for managing the multi-stakeholder process in value chains. IP uses a combination of joint learning systems and approaches to catalyze the robust engagement of relevant stakeholders at each stage of the process. In this regard, the following complex specific participatory approaches, dissemination pathways and functional learning tools and approaches are adopted.

- i. *participatory approaches and collective action tools* such as participatory research and extension approaches, participatory development management, participatory varietal selection, participatory gender user analysis, participatory learning and action research, participatory agro-ecosystem management, farmer field schools, and demonstration plots.

- ii. *dissemination pathways* that include farmer-to-farmer learning, farmer collective action, market led technology adoption, and participatory market chain approach.

- iii. *functional learning* through systemic joint analysis, documentation, and experiential learning and information/knowledge sharing among platform participants.

2.2 Factors contributing to the success of Innovation Platforms

The success of an innovation platform depends largely on the harmonious interaction between several factors; the most important of these factors include

- Farmers and or entrepreneurs at the center of the IP and with whom consensus is achieved;
- Measurable quantitative or qualitative power relations and interest of IP stakeholders.
- Trust, confidence and understanding among stakeholders of the IP;
- Good leadership and facilitation skills by the IP stakeholders and the facilitating institution and focal person(s);
- Facilitating and managing perceptions, competing interests, risks, availability and access to resources, and lack of incentives among the diverse social and economic interests of stakeholders of the IP;
- Equity and timely access to resources, buy-in, commitment and ownership by downstream IP stakeholders;
- Time and availability of individuals and groups, especially the private sector
- Catalysts and or Champions of change
- Participatory and or collective action approaches and use of learning tools;
- Dissemination pathways in particular, market-led pathways;
- Reliable information communication, and networking and learning skills by stakeholders of the IP;
- Functional learning through joint analysis, documentation, and learning and sharing of best practices.

2.3 Types of Innovation

Innovation results in *products* and *process* innovations which can be grouped into the following types:

- technological innovations
- institutional innovations
- market innovations
- policy innovations.

3. Innovation platforms in agricultural research for development

Figure 3 presents a conceptual framework for the establishment of an innovation platform showing a three phase process with multiple steps. This framework informs the creation of a researcher-managed knowledge generation and dissemination IP. A Researcher-managed IP is facilitated through the active participation of relevant interest groups and stakeholders at the early stages of development of practical and most cost effective technology, innovations and best practices. The IP process for any given constraint or opportunity should be evidence-based analysis to determine the priorities that need to be addressed. Priorities which are segments of the system and or value chains are the entry point(s) of the stage(s) of the development process of IP technology or best practices. All the entry points are interconnected and linked throughout the innovation process through experiential learning and sharing. The IPs should be dynamic and be able to facilitate interests, interactions, and relationships taking into account perceptions, competing interests, risks, access to resources, and incentives among the diverse social and economic interests of IP stakeholders. The process should ensure forward and backward linkages between each entry point or segment of the technology and or best practices under development or dissemination. The phased innovation platform process is illustrated in Figure 3 and is described as follows:

Phase 1 encompasses two main stages. During the first stage, the interested R&D institutions begin the process of identifying and establishing a research theme and stakeholder roles. During this process, capacity strengthening of participating organizations is undertaken including researchers from NARS, International Agricultural Research Centres (IARCs), FARA and sub-regional research organizations (SROs), development agencies (extension services), NGOs, staff of Ministries of Agriculture and representatives of National Farmer Organizations, where they exist, and wish to participate. Shortly thereafter, Task Forces (TFs) are identified in the geographical areas where interventions are likely to occur.

During the second stage of Phase 1, local stakeholders including farmers and farmers' groups, agricultural extension agents, input dealers, NGOs, and district or local government authorities are invited to actively participate. This process seeks to achieve a common understanding of challenges/opportunities, existing linkages, interests and ideas for intervention through systems and value chain analysis and identification of opportunities for action.

Phase 2 confirms the roles of partners; bye-laws were agreed upon, and objectives are defined. This promotes deepening understanding of priorities and development as well as implementation of an action plan. Research activities, which ultimately result in technology development, are initiated on a participatory basis. Participatory learning through assessment of performance and progress also takes place. At the same time, input and output markets including financial opportunities are assessed and linkages established. During the IAR4D process, continued learning occurs and becomes part of a monitoring and evaluation system that assesses learning from process and practice. Field days were organized for learning, and for assessment of performances.

Phase 3 allows IPs to assess the performance of innovations in terms of new policies, new institutions, capacity needs, technologies developed, market linkages, and information and knowledge flows.

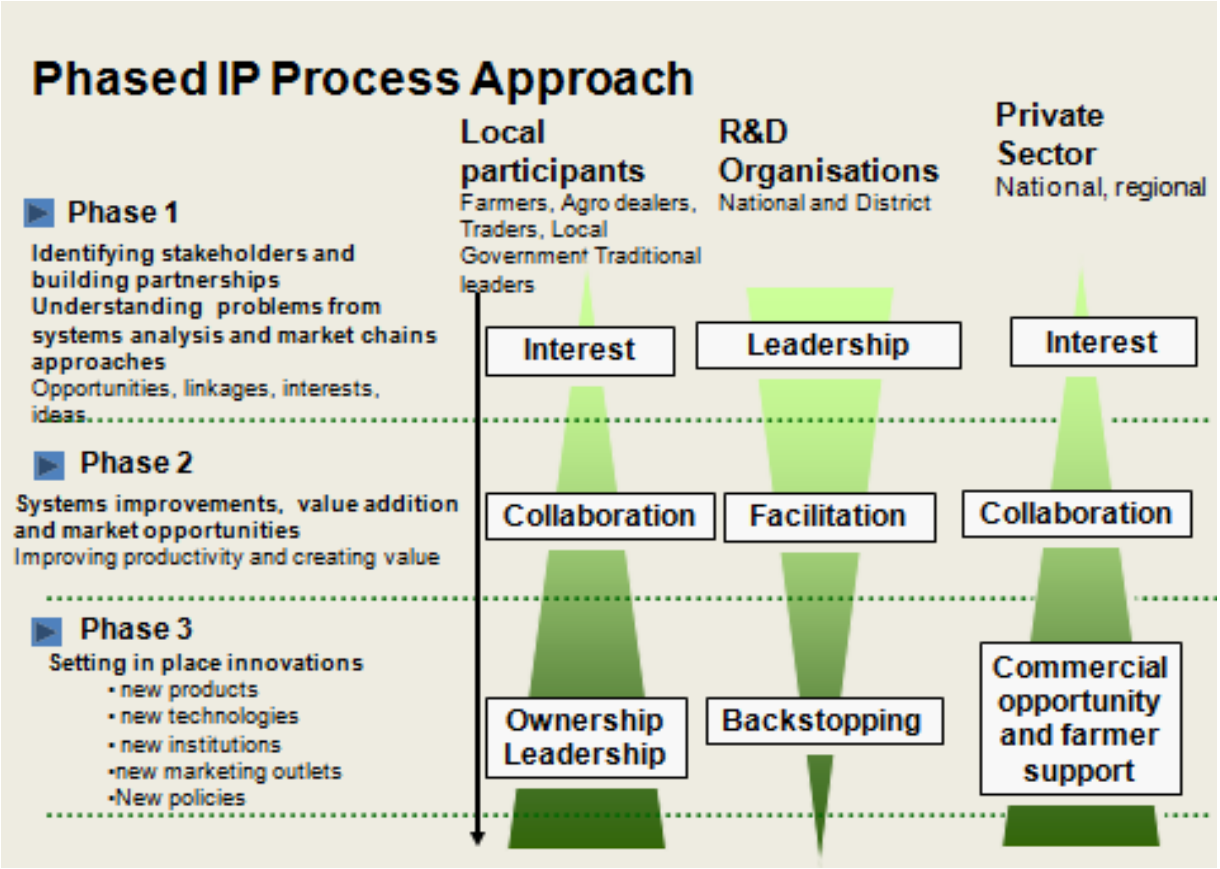

Figure 3 Conceptual Framework for establishment of Innovation Platform and functioning at Sub-Saharan Africa Challenge Program (SSA CP) sites

3.1 IAR4D Innovation Platform process and key steps of the SSA CP

Phase 1 – stage 1
Preparatory phase for IP formation *- Engagement*

Establish existing situation

Policies, institutions, capacities, existing plans and ongoing initiatives

Capacity building, supporting, lobbying and backstopping

FARA/SRO/Participating IARCs, NARS and other/national support groups

Identification of areas, site selection and process facilitation

IP task forces

Phase 1 – stage 2
Engagement with stakeholders *– seeking a common understanding of opportunities for agricultural development*

Creating a common vision, understanding and vision, buy-in and trust

Deepening discussion through awareness raising and knowledge inputs

Prioritization of constraints and opportunities, deepening understanding around common priorities

Value chain and systems analysis

Identification of opportunities for action

Phase 2
Action planning – *deepening understanding around common priorities*

Development of district and community level action plans

Clarifying and agreeing roles of different stakeholders

Participatory learning and action research – *through multi-stakeholder action*

Technology development, adaptive research backed by strategic research, if necessary

Assessing input and output markets including financial opportunities

Participatory learning

Assessment and learning from process and practice [Monitoring and Evaluation (M&E)]

Assessment of performance and progress

Use of Field days and interactive media

Learning lessons and adapting for improvement of process and practice

Policies, institutions, capacities, technologies, markets, information flows

Phase 3
Adapting and re-planning – *reassessing priorities, plans and activities*

Improving innovations

Policies, institutions, capacities, technologies, markets, information flows

Next cycle (Phase 1-3)
Engagement, action planning, participatory learning, assessment, adapting and re-planning

4. Innovation platform for agricultural research and learning.

Figures 4, 5, & 6 show innovation processes in successful dissemination and adoption of agricultural best technologies, innovations and best practices, through learning and sharing among the stakeholders of an innovation platform. Facilitation of the IP (Figure. 4) requires value chain analysis (Figure. 5) to identify priority entry point(s). The number of IPs for a value chain depends on available human, material, and financial resources. The entry points of the IP for a particular value chain must be linked through networking and experiential learning and sharing among IP stakeholders, and should provide feedback to research on adjustments required in the research agenda.

Figure 6 shows the minimum steps needed to set up the innovation platform while Table 1 indicates the critical roles played by relevant actors at each entry point. Some of these IP stakeholders are involved in two or more entry points while others are active at only one entry point. The AfDB supported project on Dissemination of New Agricultural Technologies in Africa (DONATA) is scaling up—and out the IP model.

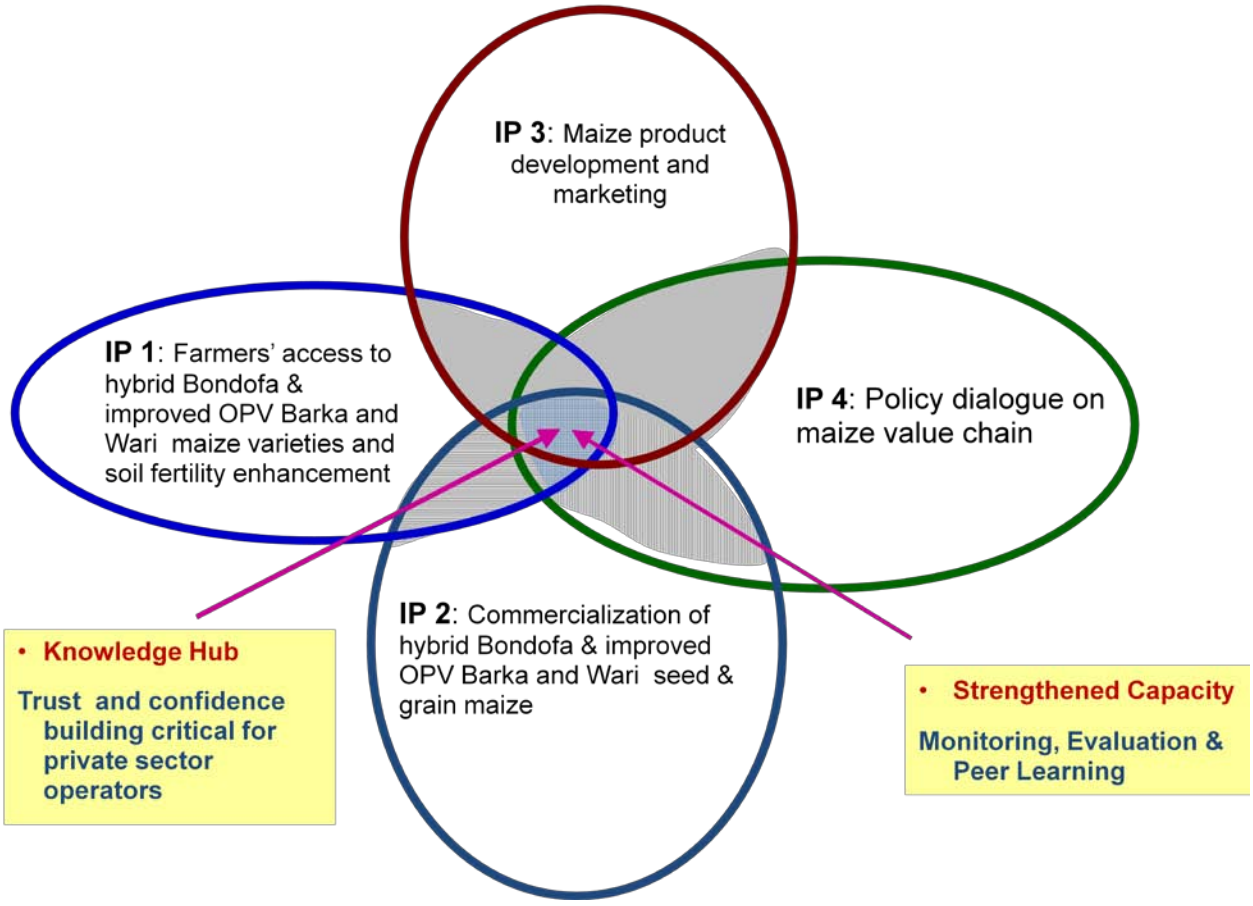

Figure 4 Innovation Platform (IP) for the maize value chain in Burkina Faso

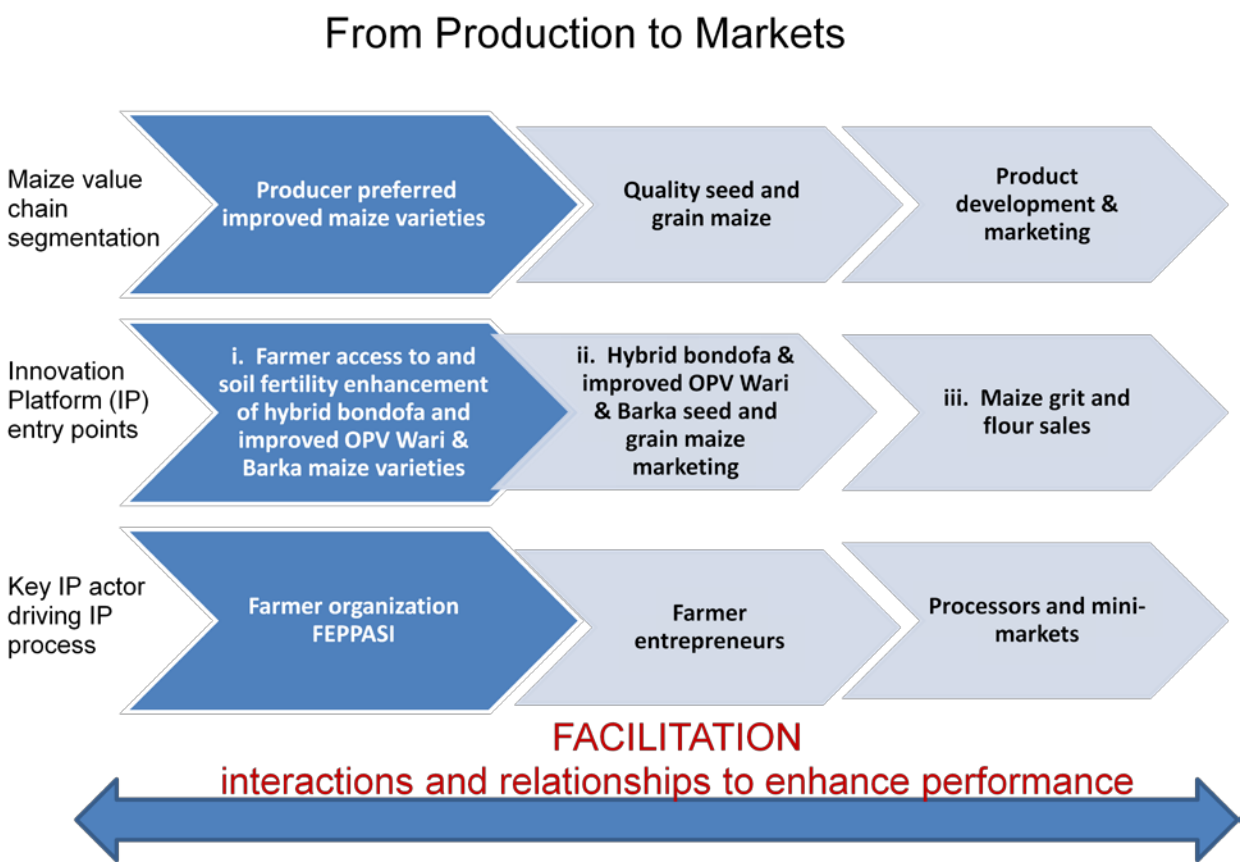

Figure 5 Analysis of the IP for the maize value chain in Burkina Faso

Table 1: Actors and roles in the maize value chain IP in Burkina Faso

Stakeholders	*Key role*	***IP 1 entry point:*** *quality seed &, fertilizer access by farmers*	***IP 2 entry point:*** *Quality seed & grain maize business*	***IP 3 entry point:*** *Product development & marketing*	IP 4: ***entry point:*** Policy dialogue on maize value chain at regional level
IP Focal Person / Coordinator	Managing the IPTAs and accounting for funds	INERA	INERA	INERA	
Farmer organization	Promoting seed and grain maize production by FEPASSI extension agents	FNZ / FEPPASI	FNZ / FEPPASI	FNZ / FEPPASI representative	
Agri-businesses	Contracts to supply maize to local markets and national food reserves. Developing maize & millet based products for the local market	ATCB, Association Provinciale des commerçants de céréales	ATCB SONAGESS CICB	ATCB, CTRAPA Djigui Espoir, Association Femme-Enfants plus, Etablissement Sapientia, CERFAS (La Céréalière du Faso)	
Transporters	Facilitating collection and delivery of seed & grain maize and inputs & products	Association des transporteurs de la Sissili	Association des transporteurs de la Sissili	Transporteurs de Ouagadougou	
Public Extension	Improving the technical skills of FEPPASI extension agents Assessing consumer preferences for maize & millet products	SNCVA (Extension)		Anthropologist/Sociologist	
Research	Training of extension agents and champion farmers Assessing nutritional changes in households	INERA	INERA	Nutritionist -- Département de la technologie alimentaire (DTA)/IRSAT, INERA	
Policy	Enhancing trust and confidence building among IPTA actors	Local Government	Local Government	Direction de la nutrition du Ministère de la santé	Haute Commissariat, civil society, heads of technical services & roads
Media	Sensitization and information dissemination among IPTA actors; Promoting the visibility of IPTA along maize value chain	ONG CREDO La RED/Sissili AIB	ONG CREDO La RED/Sissili AIB	National TV, national radio Burkina, Sidwaya (national state daily journal)	
Retailer / Consumers	Feedback on perceptions and consumer behavioural changes			Mini-markets / Superette	

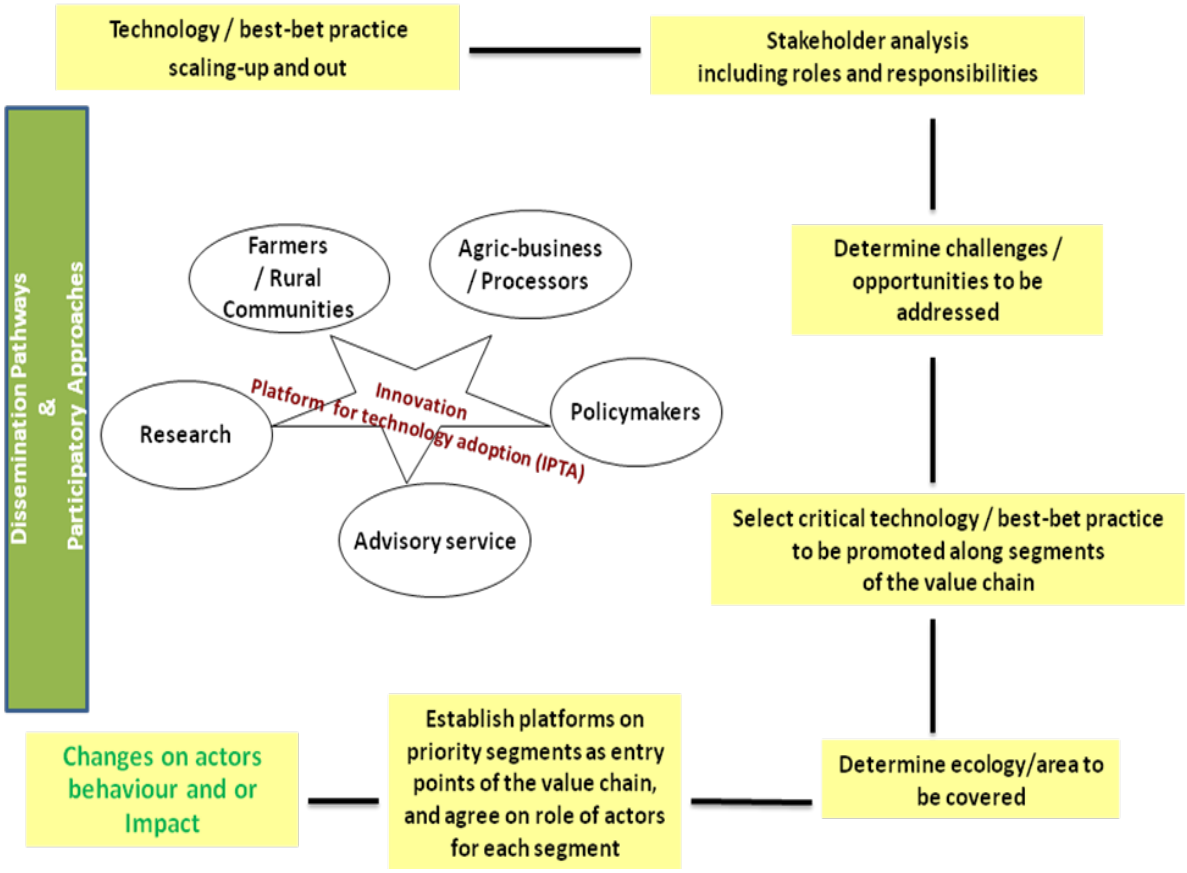

Figure 6 Setting up an Innovation Platform (IP)

5. Success stories of the maize value chain Innovation Platform in Burkina Faso

Experiences of the innovation platform for the maize value chain in Burkina Faso illustrate case studies of successes achieved through the efficient management of the IP. In this section, we reproduce comments, by stakeholders of the maize value chain innovation platform, describing typical experiences and economic benefits of engagement in IP in Burkina Faso

> 1. "We used to conduct isolated small scale tests with *Institut de l'environment et de recherche agricoles (*INERA). When we adopted the IP in 2008 through INERA facilitation, we had more interactions with all relevant stakeholders on the maize value chain and within 2 years, we inspired commercial production of certified seed maize among farmers. Today, we are witnessing the emergence of seed maize farmer entrepreneurs each producing 2 tonnes of quality seed maize per ha". *Dagano Moussa Joseph, President of the farmer organization*—Nian Zwè (FNZ) ex FEPASSI, *Province de la Sissili, Burkina Faso*.

2. “We have reached a stage of our evolution (FNZ) whereby farmer households are at the level of entrepreneurship skills development in seed maize production and commercialization of grain maize. Our challenge is the governance of producer entrepreneurship”… *Dagano Moussa Joseph, President of the farmer organization*—Nian Zwè (FNZ) ex FEPASSI, *Province de la Sissili, Burkina Faso*.

3. “Before our engagement with the IP process, processors and maize farmers had mistrust and lack of confidence over the prevailing grain maize price. When we engaged in the IP process, we agreed to conduct joint analysis of a fair profit margin for both parties based on our respective investments. Evidence showed that both parties are making profits on their investments and processors are making a difference of only FCFA 1.00 over and above the profit margin of the producers”…*Biago Samssonna, President de ATCB (Processor organization of Burkina Faso)*

4. “I cultivated 5 ha of hybrid maize Bondofa because I know that I have a reliable market and will make a profit. I will therefore be able to afford hybrid seed for subsequent seasons” …certified seed producer -- *Zogdia Moctare, Burkina Faso*

5. “Last year, the seed certification service tested my seed maize harvest and reported 98% germination and I was very happy and proud, and made money” *...certified seed producer -- Alaji Nabii Sayoba, Burkina Faso*

6. “I joined the IP to improve my skills on maize production in order to increase my yields. I used to harvest 10 bags of 50 kg grain maize per ha, which increased to over 50 bags of 50 kg grain maize per ha and now, my yields are 5-6 tonnes grain maize per ha” *…emerging seed maize farmer entrepreneur -- Daouda, Burkina Faso*

7. Within 2 years 1,245 ha, including 85 ha of certified hybrid and OPV seed maize, were cultivated by farmers of FNZ and average yields of 3.5-4.5 tonnes per ha was obtained across IP at different localities/communities*…DONATA/INERA*

8. “We should institutionalize learning visits because this makes us visualize and learn practical skills on the functioning of the IP in value chains including interactions and relationships between and among platform stakeholders; and the expected outputs and outcomes”….. Dissemination of New Agricultural Technologies in Africa (*DONATA) Focal Persons of Cote d’Ivoire, Mali, Congo Brazzaville, Sierra Leone, Senegal, Liberia, Benin, Chad, Gambia, Guinea Conakry, Niger.*

9. I am convinced that innovation platform facilitates better organization of stakeholders in value chains and the adoption of technology with great potential to contribute to wealth creation……. I am inspired to discuss with my colleagues in Government the issue of organizational convergence using innovation platform to break the barriers to institutional convergence” *Minister of Science, Technology & Innovation, Burkina Faso.*

10. “Establish IPs in rice, maize, cowpea, shea butter, onion, and livestock & meat through WAAPP.” *Ministerial Directive by Ministry of Science Technology & Innovations and Ministry of Agriculture to INERA & SNVACA.*

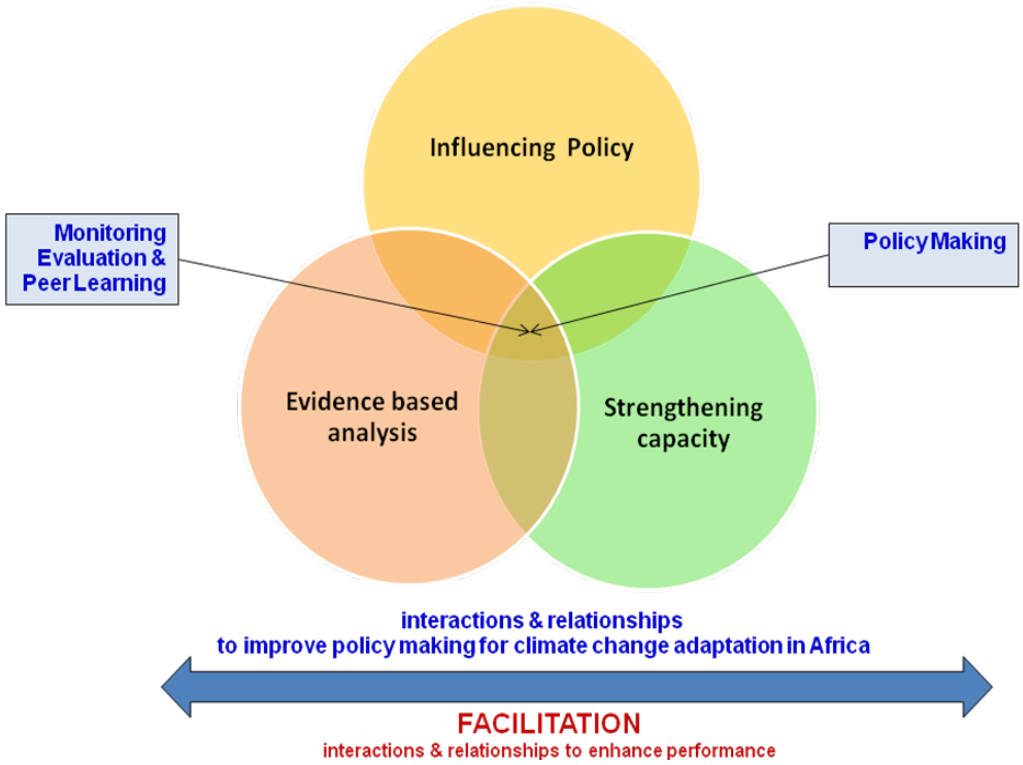

Figure 7 Policy Dialogue Innovation Platform.

6 Innovation Platform for Policy dialogue

Figure 7 illustrates how policy dialogue processes that lead to robust policy making and implementation can be organized and facilitated. Efficient and effective policy making requires generation of evidence based information and data that is processed into knowledge based tools and products for the benefit of communities and the society. It was observed that when policy makers observe significant changes in sustainable rural livelihoods as a result of productivity enhancing actions, they respond positively. Therefore, to enhance implementation of policy decisions, facilitated policy processes are needed to actively engage a wide range of stakeholders in the analysis and formulation of policies. The CORAF—IDRC supported project (AfricaInteract) on informed policy making in climate change adaptation is testing this model IP.