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The Sub-Saharan Africa Challenge Program: An experiment in mainstreaming institutional learning and change

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The Sub-Saharan Africa Challenge Program (SSA CP) shows how the principles of institutional learning and change (ILAC) can be applied. This Brief outlines the basic components of the SSA CP and highlights various ILAC features of the Program. These include an innovation systems orientation; an approach to 'thinking globally and acting locally'; the location of research within a broader context of policy, market and institutional change; and an emphasis on collaboration and learning among program participants and with other agencies involved in agricultural research and development in Africa.

Introduction

Sub-Saharan Africa has the tragic distinction of being the only region in the world where overall food security and livelihoods are deriorating rather than improving. In a region where 70% of the population live in rural areas, a structural food deficit has persisted for more than 30 years, leading to the highest levels of per capita food aid in the world. Looking to the future, a number of factors (including climate change, population growth, poverty, declining soil fertility and availability of water, rural–urban migration, HIV/AIDS, gender biases against women farmers, weak infrastructure and markets, and counterproductive policies) will worsen the situation still further, unless major efforts are made to arrest these trends.

Moreover, problems at the farm level are becoming more complex, the global economic context is in a state of flux and the institutional environment within African nations is experiencing change. Africa needs to raise the productivity of its small-scale farmers at a time when world commodity prices are at an all-time low. Support policies, technical change and market efficiencies in more advanced countries have combined to increase competition in world markets and reduce the price of agricultural products. Limited government budgets will not support a return to the types of subsidies and market interventions that characterized the early part of the post-colonial period. Policies must therefore move away from price and market interventions and towards strengthening institutions, infrastructure and technical change processes if they are to foster profitable production and promote links between farmers and the urban and/or sub-regional markets. Such institutional innovations provide a new context for thinking about agricultural research and development.

Recognizing the implications of these challenges, the New Partnership for Africa's Development (NEPAD), established in 2001, set itself the goal of increasing agricultural output by 6% per year for the next 20 years. To flesh out a strategy for achieving this goal, the Forum for Agricultural Research in Africa (FARA) conducted an extensive consultation process between 2002 and 2004, with input from more than 100 scientists. This process identified numerous issues as potential constraints, with the following most frequently given highest priority: a) failure of agricultural markets; b) inappropriate policies; and c) natural resource degradation.

Those involved in the planning process agreed that addressing these three issues in isolation has failed to raise the productivity and profitability of African agriculture to a sufficient extent or in a sustainable way. Although the traditional approach to agricultural research and development has brought about significant advances, its fragmented and reductionist nature makes it unable to deal with complex challenges. A new paradigm is called for that can foster synergy among disciplines and institutions, along with a renewed commitment to change at all levels – from farmers to national and international policymakers. The Sub-Saharan Africa Challenge Program (SSA CP) is based on such a paradigm, entitled Integrated Agricultural Research for Development (IAR4D).

The IAR4D approach

The SSA CP has three major thrusts:

1. A set of principles for conducting research for development that squarely address the complexity and heterogeneity of farming systems in sub-Saharan Africa.
2. A new research agenda that recognizes the need for an integrated approach to research and addresses the interactions between natural resource management, production systems and agricultural markets and policies.
3. A focus on institutional change and new partnerships involving all stakeholders, especially smallholders and pastoralists, in addressing the problems of food production and maintaining the resource base for future generations.

The Sub-Saharan Africa Challenge Program

The proposal for the Sub-Saharan Africa Challenge Program (SSA CP) provides a detailed analysis of the current state of African agriculture and the complex causal dynamics that underlie rural poverty on the continent. Volume 2 of the SSA CP proposal contains dozens of papers and reference documents that elaborate on problems and promising solutions in both scientific and policy domains. These papers were highly influential in stimulating discussions at the 2003 formulation workshop. Since many readers of this Brief will be familiar with the challenges facing African agriculture, we will not discuss problem analysis in detail, focusing instead on the innovative set of interventions proposed under the SSA CP. All three volumes of the SSA CP proposal are available in electronic form on the FARA web site (www.fara-africa.org) and as a CD ROM by request to FARA (mjones@fara-africa.org).

Through IAR4D, the SSA CP aims to transform the way that sectors and institutions approach agricultural research. Among other things, this will entail a shift from narrowly focused sectoral concerns to cooperative, gender-sensitive, integrated approaches, including public–private sector linkages. The Program will be characterized by a collaborative effort among researchers (national, regional and international), extension agencies, policymakers, the private sector and civil society. The approach will embrace an institutional innovation process in which participatory, action-oriented methods drive research for development to solve critical problems.

The IAR4D paradigm draws on successful experiences in Africa with integrated natural resource management (INRM), which takes a systems approach to managing the interactions between soils, water, pests and human interventions in agriculture (IAR4D also draws on Farming Systems Research, Ecosystem Science, Sustainable Development, Participatory Research, Livelihood Analysis and Knowledge Management). IAR4D goes beyond INRM, however, to encompass the domains of policies and markets and the effects these have on the productivity, profitability and sustainability of agriculture. Taking all these factors into account, the IAR4D agenda will focus on four objectives:

- to develop technologies for the sustainable intensification of subsistence-oriented farming systems;
- to develop smallholder production systems that are compatible with sound natural resource management;
- to improve the accessibility and efficiency of markets for smallholder and pastoralist products; and
- to promote the formulation and adoption of policies that encourage innovation and will lead to improved livelihoods for smallholders and pastoralists.

These four research domains should not be seen as separate areas of intervention, because the interactions between them are as, if not more, important than the domains themselves. In particular, it is clear that intensifying agricultural production will only benefit the farmer if there is an accessible market, while natural resource management interventions and the policy sphere affect each of the other challenges in very influential ways. There are, therefore, quite deliberate overlaps in the actions proposed.

Integrating research and action in these four domains already represents an improvement on current practice, but the IAR4D approach calls for an even broader scope of work. Four additional mechanisms or 'support pillars' are required to promote this new way of doing business and the out-scaling (to neighbouring villages or similar agro-ecosystems) and up-scaling (to connect with local, national and international governments and institutions and the private sector) of program outcomes. Figure 1 depicts the relationship among the various components of the IAR4D model and shows the components of the four support pillars.

Implementing IAR4D through the SSA CP

Because IAR4D represents a significant change from past approaches, it will be implemented in the SSA CP through a two-step process congruent with the principle of 'learning by doing'. For the first phase, pilot learning sites (PLS) have been selected by the three African sub-regional organizations: Conseil ouest et centre Africain pour la recherche et le développement agricoles (CORAF), the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) and the Southern African Development Community–Food and Natural Resources (SADC–FANR). One site per sub-region has been chosen, each characterized by a different but complementary set of constraints to sustainable development: the Kano–Katsina–Maradi transect in Niger and

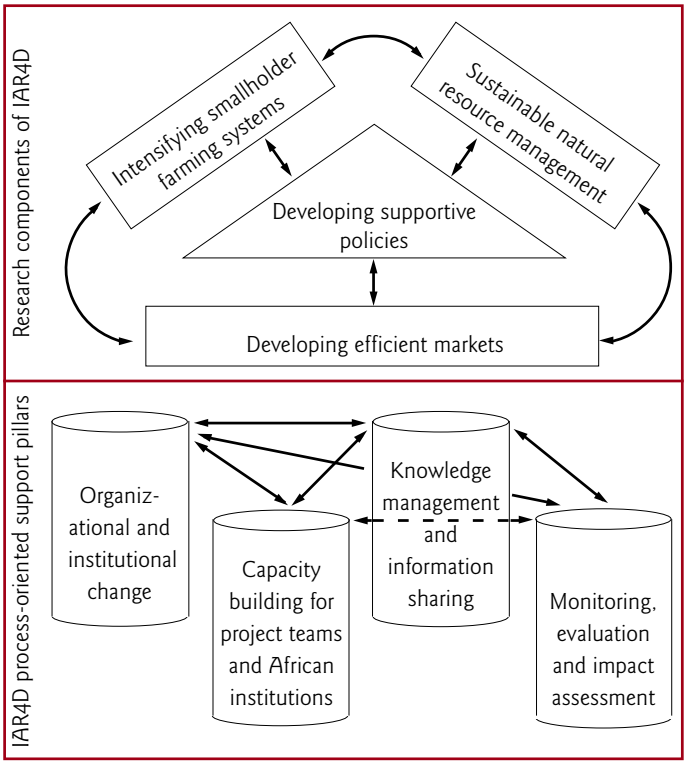

Figure 1. Activity domains of the Sub-Saharan Africa Challenge Program/Integrated Agricultural Research for Development

Nigeria; the Lake Kivu region in the Democratic Republic of Congo, Rwanda and Uganda; and a corridor from southern Malawi through central Mozambique into northeastern Zimbabwe. In each site, the most serious constraints faced by local communities have been identified and research hypotheses have been formulated to address these constraints.

At the time of writing, pilot learning teams are being formed at each site to pursue the research hypotheses. These comprise representatives of stakeholder groups, including members from a variety of scientific disciplines (biophysical and social) and from diverse institutions (national agricultural research institutes, universities, centres of the Consultative Group on International Agricultural Research or CGIAR, advanced research institutes, extension agencies, the private sector and non-governmental, community-based and farmers' organizations). The teams will have overall responsibility for identifying, developing and promoting adoption of innovations that emerge from their pilot learning sites.

The three teams will begin their work with participatory problem identification with farmers. The problems will be addressed by task forces, who will pay particular attention to involving women – especially those who have been marginalized in past development efforts. Regardless of the particular focus of activities, all projects will include measures to meet the four overall interacting SSA CP objectives, i.e. intensification, natural resource management, policies and markets. Task forces will not only address matters of science, but will also focus on the institutional changes needed for effective functioning in IAR4D. Facilitation and mentoring services will be provided from the outset to ensure the teams work across disciplinary and institutional boundaries, and to foster broad changes in the institutional context. Team interventions will be driven by local needs, but they will draw on a significant amount of available knowledge and best-bet technologies, even while generating new methodologies and practices.

The research conducted at the pilot learning sites will be organized to ensure that results can be out-scaled into neighbouring commu-

nities and scaled up from local and national to international levels. Figure 2 illustrates the range of organizations and the roles they will play in scaling IAR4D up and out. The SSA CP will need to balance local tailoring of solutions with extrapolation of insights to other settings. This will require dissemination of information and capacity building to bring all players up to speed. Implementing and internalizing the IAR4D approach will draw on the innovation systems approach (Clark, 2001) and the principles of institutional innovation, self-directed learning and value addition that are intrinsic to the INRM framework (Campbell and Hagmann, 2003). As the African agricultural research community engages in mutual learning and dissemination of results, it should become a more interactive, interdependent and vibrant body of professionals with continental impact and recognition.

Given the magnitude of the constraints to agricultural development, the innovative nature of IAR4D and the complexity of change dynamics, it will take at least 5 to 10 years to demonstrate the full impact of this new approach. However, experience (e.g. that of the African Highlands Initiative) suggests that within 1 or 2 years, tangible benefits will already be flowing from the work of the pilot learning teams. A preliminary evaluation of the Phase I work will be undertaken after the first year of operations to document the validity and challenges to implementing IAR4D in the initial three sites. Documentation of methodological innovations will also be included as part of this evaluation. Lessons learned will strengthen the approaches of the first three pilot teams, and contribute to the design of Phase II of the Challenge Program, in which it is hoped to launch an additional six pilot teams.

Participation in the SSA CP is open to all stakeholders engaged in agricultural research for development in sub-Saharan Africa. Consistent with its mandate as the apex body for agricultural research in Africa, FARA will be responsible to these stakeholders for the overall conduct of the SSA CP. This will ensure the involvement of a broad range of institutions including advanced research institutions from the North and South, CGIAR centres, community-based organizations, farmer organizations, national agricultural research institutions, non-CGIAR international and regional agricultural research institutions, non-governmental organizations, private enterprise, sub-regional research organizations and other players in the production-to-consumption chain.

ILAC features in the SSA CP

Innovation systems orientation: The SSA CP is centred on a critique of the reductionist 'technology bullet' approach to problems in African agriculture. The IAR4D agenda meshes interventions in the agro-biophysical domain with those that address political, economic and social constraints. The focus on fostering organizational change and collaboration also aims to strengthen links among diverse institutions in the agricultural sector. In fact, part of the research agenda itself will be to improve understanding of how the four domains of research and diverse institutional players interact to facilitate or limit the development process, and what interventions are most effective at relaxing constraints.

Thinking globally and acting locally: The overall agenda of the SSA CP is vast and complex, but the design is based on a set of simple principles: start small; start where the needs or opportunities are greatest;

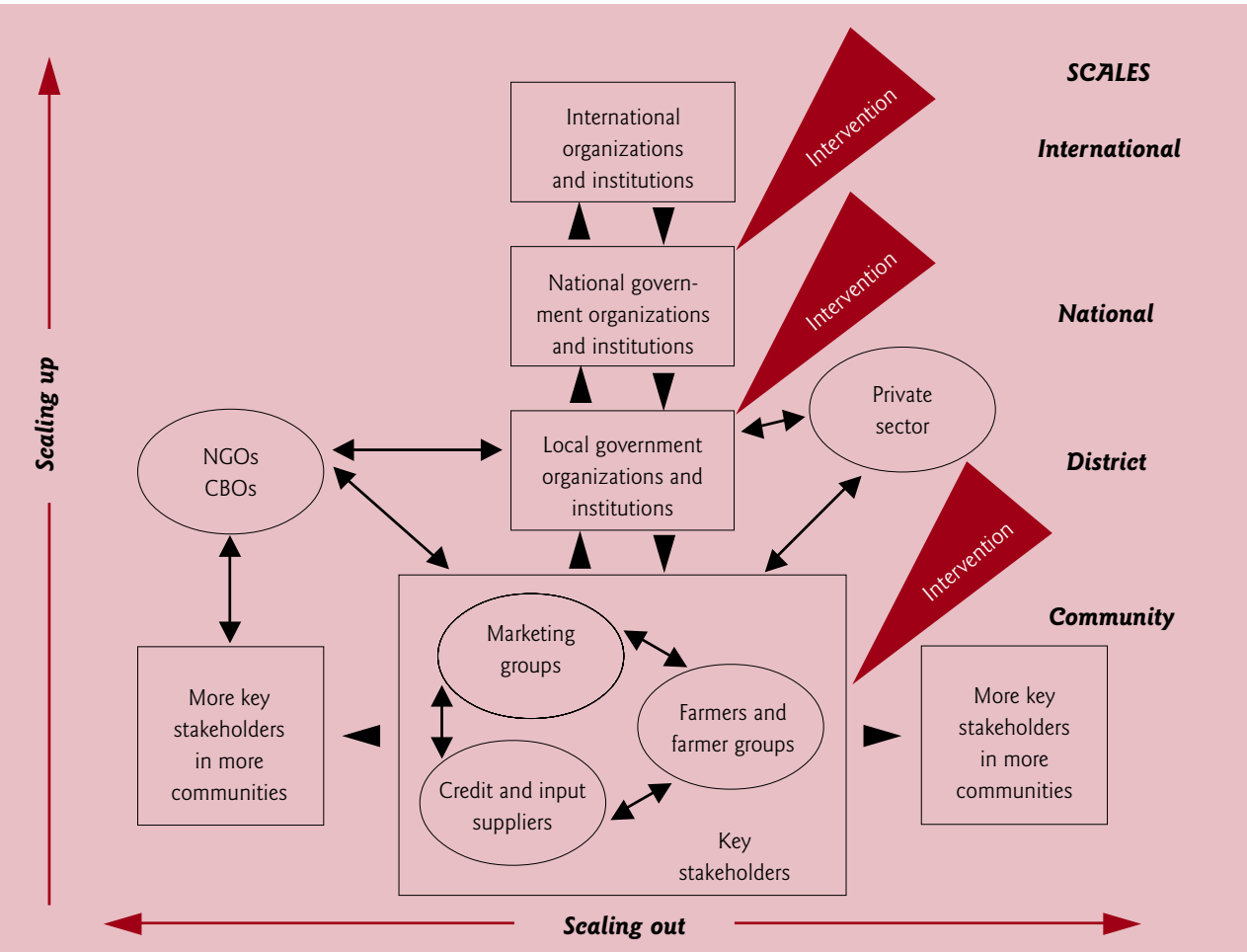

Figure 2. Major components of scaling IAR4D up and out

keep a sharp focus on what is required to resolve the problem; and treat all interventions as learning experiences. Given the great variety of opportunities and constraints at each of the learning sites, each team – in collaboration with local stakeholders – will conduct a participatory diagnostic process to identify a number of 'entry points' for launching research related to the four intervention domains. In this way, the research program will keep a systems perspective while taking tangible steps to address perceived problems.

Science and research are essential, but are not the drivers: The CP appreciates the potential for increasing agricultural productivity through technological interventions. However, improved technologies are only one tool in an array of possible interventions. IAR4D promotes the concept that technological change will follow much more easily when conducive policies and market opportunities can be developed.

Institutional learning and change is critical: Institutional theory defines the term 'institution' as 'cognitive, normative and regulative structures and activities that provide stability and meaning to social behavior' (Scott, 1995). In this sense, institutions comprise the 'taken-for-granted' context in which work is done. They help to define roles and guide expectations and interactions, but may also constrain actors from changing their behaviour. The SSA CP targets two types of institutions: organizational structures per se, and the 'rule systems' that govern interactions among diverse agencies working in the agricultural sector. The Program aims to improve the performance of African national agricultural research and extension systems and the way research organizations interact with stakeholders such as policymakers, extension agents, entrepreneurs and, of course, farmers. Policies, markets and legal frameworks are regarded as institutions and changing them (and the way they foster sustainable intensification of agriculture) is an important part of the IAR4D agenda.

ILAC at the micro-scale: The CP targets the way stakeholders interact with one another at the individual level. Subtle biases and differences in problem perception can escalate into significant obstacles to collaboration across disciplines, organizations and sectors. Thus the Program will pay attention to team building and to fostering dialogue among stakeholders at all levels. Mutual understanding is seen as a prerequisite for joint learning, which, in turn, paves the way for change. The incentive structures of participating institutions may also require refining to ensure that scientists are rewarded for initiating and sustaining successful partnerships.

Collaboration: From its inception, the SSA CP design process has been a collaborative one. The 2-year planning phase drew on extensive inputs from hundreds of scientists and other stakeholders, and the work at pilot site level will continue this tradition, involving male and female farmers and pastoralists, entrepreneurs, NGOs and community-based organizations, researchers, extension agents, politicians and policymakers. The scaling up and out of successful innovations will also rely on collaboration between pilot sites and with organizations and other stakeholders not directly involved in Program initiatives. Collaboration among pilot learning team members will also be essential; indeed, if they are not able to model collaborative practices, the credibility of the SSA CP will be called into question. The Program will explicitly target resources to support collaboration at all levels, and will document lessons learned so that effective processes can be replicated elsewhere.

Learning: The innovative nature of IAR4D means that many of its features have to be tested and evaluated under different circumstances. In the context of the SSA CP, the term 'pilot' (referring to the learning sites and teams) is not used in the conventional sense. Rather, the term highlights the explicit intention of the Program to catalyse and capture lessons – not only about problems, but also about the implementation of IAR4D concepts and practices in the field. Participatory monitoring and evaluation (M&E) systems will be put in place to promote continual feedback for learning and performance improvement. M&E will be applied to both research interventions and to the processes followed by the pilot learning teams and the Program overall. Provision has been made for technical training and skills development for team members as the need arises. Finally, the SSA CP will devote considerable resources to documenting and publicizing its work.

Further reading

Campbell, B. and Hagmann, J. (2003). Rising to the challenge of poverty and environmental sustainability: Towards a conceptual and operational framework for INRM. Keynote Paper 1, Building Sustainable Livelihoods through Integrated Agricultural Research for Development, Reference Materials from the Consultative Programme Development Process for the Sub-Saharan Africa Challenge Programme. Accra, Ghana: Forum for Agricultural Research in Africa (FARA).

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Scott, W.R. 1995. Institutions and Organizations. Thousand Oaks, USA: Sage Publications.

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CGIAR

The Institutional Learning and Change (ILAC) Initiative is hosted by IPGRI, a member of the Consultative Group on International Agricultural Research
www.cgiar-ilac.org

The Institutional Learning and Change (ILAC) Initiative seeks to improve the relevance and effectiveness of agricultural research programs in contributing to sustainable poverty reduction. Hosted by the International Plant Genetic Resources Institute (IPGRI), the ILAC Initiative is supported by The Rockefeller Foundation, The Ministry of Foreign Affairs of the Netherlands and The Federal Ministry for Economic Cooperation and Development of Germany, and works with research centres and programs affiliated with the Consultative Group on International Agricultural Research (CGIAR). ILAC Briefs are issued to stimulate dialogue and disseminate ideas and experiences that researchers and managers can put to use in strengthening organizational learning and performance improvement in their own work. An ILAC Brief may introduce a concept, approach or tool; it may summarize results of a study; or it may highlight results of a recent event.