

Research Application Summary

Preparing graduates to improve institutional conditions for smallholder agricultural based innovation: experience from West Africa

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Abstract

The experience of CoS-SIS (2008-2014), an action research programme in West Africa (Benin, Ghana and Mali), could be of interest for Eastern, Central and Southern Africa. It focuses on implementing innovation platforms for improving the institutional arrangements that increase opportunities of smallholder farmers. In the countries where the programme is operating, it has been recognised as making a valuable contribution. The three partner universities in CoS-SIS are now involved in a curriculum development exercise that aims to build the insights and practices developed by the programme into their graduate studies. The paper describes the programme and its key outcomes, as well as the procedure followed in the curriculum development exercise.

Key words: Curriculum development, innovation platforms, West Africa

Résumé

L'expérience du CoS-SIS (2008-2014), un programme de recherche-action en Afrique de l'Ouest (Bénin, Ghana et Mali), pourrait être d'intérêt pour l'Afrique orientale, centrale et australe. Le CoS-SIS se concentre sur la mise en œuvre de plateformes d'innovation pour améliorer les arrangements institutionnels qui améliorent les opportunités des petits agriculteurs. Dans les pays participants, le programme a été reconnu comme ayant un apport précieux. Les trois universités partenaires de CoS-SIS sont maintenant impliquées dans un exercice d'élaboration de programmes qui vise à intégrer les idées et les pratiques développées par le programme. Le présent document décrit le programme et ses principaux résultats, ainsi que la procédure suivie dans l'élaboration du programme d'études.

Mots-clés: Développement de programmes académiques, plateformes d'innovation, Afrique de l'Ouest

Introduction

The CoS-SIS (2008-2014) is the second phase of an action research programme that features diagnostic studies, innovation system analyses and participatory field experiments with multi-stakeholder innovation platforms at the local, district and national levels. It is a partnership of the Université d'Abomey-Calavi (UAC), Benin; the University of Ghana (UoG) at Legon; the Institut Polytechnique Rural de Formation et Recherche Appliquée (IPR/IFRA), at Katibougou, Mali; and, in the Netherlands, Wageningen University (WUR) and the Royal Tropical Institute (KIT). It is funded (€4.5 million) by the Dutch International Cooperation.

Between 2002-2006, CoS-SIS experimented with an approach that is different from mainstream research. The approach focused on identifying and enabling institutional conditions for smallholder innovation rather than on technical innovations (Box 1). CoS-SIS supported university curriculum development, assisted national, sub-regional and African research organisations in strengthening their IAR4D programmes, and provided recommendations to key decision makers in agricultural domains, at the district and national levels, to redesign pathways for smallholder innovation.

Box 1. The enabling institutions that African smallholders require

Like all farmers, smallholders need (1) a 'voice': avenues and procedures for exerting influence on decisions that affect them directly; (2) services, such as access to production inputs, extension, information, and credit; (3) land tenure arrangements that allow investment in land and soil health; (4) regulatory frameworks that help protect farmers from corruption, cheating, land grab, profiteering and so on, and that encourage fair competition and level playing fields; (5) integrated value chains that give farmers access to markets and a remunerative share in value adding; (6) transparent and free information; and (7) infrastructure: (access) roads, irrigation and drainage, laboratories for produce testing, and facilities for seed multiplication.

The second phase of CoS-SIS' entry point is based on a thorough review of the international literature (Hounkonnou *et al.*, 2012) and on the outcomes of the first phase in Benin and Ghana (Röling *et al.*, 2004; Van Huis *et al.*, 2007). The conclusion from both is that the dominant perspective on developing and introducing technical innovations to increase yields at the farm level has led to neglect of the institutional conditions that enable farm innovation (Box 1).

Yet the history of industrial countries with highly productive farms shows that they developed institutional frameworks to support farming, including land tenure laws, control of corruption, farm organisations, etc., sometimes a century before productivity growth took off. A thorough scientific comparison of Africa and Green Revolution Asian countries (Djurfeldt *et al.*, 2005) to answer the question "If Asia could do it, why not Africa?"

suggests that an institutional rather than a purely technological answer is necessary. In this respect, the authors speak of ‘a pervasive bias against the small farm sector’ in Sub-Saharan Africa (SSA).

Methodology

CoS-SIS as a research programme is demonstrating, through a comparison of eight cases across three countries, that multi-stakeholder platforms of key actors in an agricultural domain, carefully facilitated and informed by scoping studies and diagnostic studies of smallholder constraints and opportunities, can engage in institutional experiments that lead to substantial changes in policy, rules, governance, price setting, etc. Box 2 gives a brief description of some of the issues that the programme addresses.

Box 2. Some of the institutional issues addressed by CoS-SIS

Benin: The integrity of the oil palm seedling distribution system needs to be improved so as to ensure that smallholders end up planting genuine hybrid (Tenera) seedlings, and not ordinary (Dura), or worse infertile trees. Since the seedlings all look the same, a system of certification, regulation, etc., is required. CoS-SIS is working with national oil palm research at Pobè, the source of Tenera seedlings, to establish a trustworthy system of distribution, but the issue is also relevant in Ghana and also applies to cocoa seedlings.

Ghana: The price farmers receive for their cocoa beans has been independent from world market prices since colonial times. This has allowed various governments to pay farmers as little as 30% of FOB with the result that many farmers stopped growing the crop. Since the turn of the century, Government has increased the price to 70% of FOB, to which farmers responded by doubling production. Yet price formation remains an in-transparent process. It includes ‘free’ mass spraying of farms with pesticides of which the costs are deducted from the price paid to farmers. The CoS-SIS platform of key actors in the cocoa industry undertook a major study of price formation and, on the basis of these studies, was able to influence government decisions with respect to the price paid to farmers, the time of price announcement, and the pesticide-spraying programme. The platform has become a legitimate voice that represents the industry.

Mali: Two of the CoS-SIS domains operate in the Office de Niger, a huge irrigation scheme that uses fresh water from River Niger water to produce rice. The scheme has been devolved and the irrigation authority no longer takes responsibility for maintenance of tertiary canals and animal corridors for pastoralists’ herds, and for ensuring the local observance of rules and regulations. Farm plot size is gradually decreasing as plots are continually split and become fragmented. Farmers are diversifying, among others into keeping cattle and dairy farming. But the rules do not allow this. As a result, the farm communities in the scheme have been plagued by conflict and litigation about cattle, the destruction of crops and irrigation structures they cause, about access to water, etc. The CoS-SIS platform has undertaken an exercise by which the terms of the official Contrat Plan, the set of rules and regulations that guide farm operations in the scheme, are translated into the local languages, explained and discussed. Better understanding, by the officials participating in the platform, of the perspectives and needs of the settlers leads to adjustment of the rules and regulations in the Contrat Plan. As a result, in the participating villages, conflict and litigation have all but disappeared, options for producing livestock fodder for stall-feeding have been explored and dairying is becoming recognised as a legitimate option. Mayors in neighbouring villages want the programme to be expanded and the Office de Niger wants to incorporate the platform into its structure (which is being resisted by those who believe its independence is its strength).

The impact of this work is now making itself felt, first, in the fact that the partner universities are embracing an initiative that translates the approaches used in CoS-SIS into a graduate school curriculum; second, in the readiness of national agricultural research organisations to engage in capacity building that will allow the CoS-SIS approach to add value to their research work and improve the disappointing impact of technology transfer strategies; and, third, in the extent to which the temporary platforms initiated through CoS-SIS are being built into the institutional infrastructures in a number of the domains in which CoS-SIS works.

Approach

Apart from being a research programme that seeks to develop convincing evidence for the pathways for smallholder farm development, CoS-SIS has also demonstrated that research practices are an indelible ingredient in a programme that focuses on institutional change. These research practices include domain selection, scoping and diagnostic studies, participatory experiments with farmers and key stakeholders in a domain, and of course monitoring and evaluation. To be more precise, CoS-SIS engages in the activities listed in Box 3.

Box 3. CoS-SIS activities

- Identify key constraints that smallholders experience.
- Identify and diagnose the institutional reasons for these constraints at the local and higher system levels.
- Identify key actors, networks and mechanisms that maintain the constraints, as well as entry points for bypassing or transforming the institutional context.
- Assemble platforms of the key actors in a domain (CIGs) who can be expected to engage in institutional change.
- Enable the platforms to experiment with new institutional arrangements.
- Institutionalise achievements in university curricula, the programmes of research institutes, government policies, the structure of agricultural industries, enterprises and services, and value chains.
- Research on the processes of change and the work of the CIGs by real-time monitoring and a modified form of causal process tracing, based on declared theories of change.
- Ensure that the Programme's outcomes are internationally published, and shared with government agencies and policy makers.

In CoS-SIS, a great deal of this work was carried out by Ph.D. students who receive a year of academic training in various disciplines, emphasising especially the integration of bio-physical agricultural sciences and social sciences such as economics, anthropology and innovation system thinking. The facilitation of the platforms, and further research of actor networks, institutional constraints at higher levels, etc., was carried out by post-doc officers in academic departments, research organisations, government offices and NGOs, who were seconded part-time to work for the programme. They also received training especially in social sciences and institutional analysis.

As a result of these practices, CoS-SIS has learned a great deal of what is required in terms of capacity building for a programme aiming at institutional change to create enabling conditions for smallholder productivity growth and ultimately national food security and sovereignty.

Towards curriculum development. The Programme works intensively with a large group of people in research organisations, academic departments and others. The CoS-SIS Ph.D. students are supervised by professors and senior scientists from partner universities and national agricultural research organisations. Senior officials, researchers, but also farmers and extension workers, participate in the platforms that CoS-SIS has facilitated to experiment with institutional change. The Programme's management, in each country, is the responsibility of a Programme Management Team (PMT), of which the chairperson is a very senior academic or research official (e.g., Dean, Provost, or Managing Director). Its members are key representatives of public and private organisations, including farmer organisations. The day-to-day running of the Programme in each country is in the hands of National Programme Coordinator, a respected professor/researcher in the partner organisation. As a result of this involvement and enhanced by the Programme's investment in interaction among academics, researchers, officials, donors, etc, during international seminars and conferences, where they were exposed to the progress being made by Ph.D. students and post-docs, the achievements and problems of the Programme are widely recognised and understood. It is on this basis that the need for curriculum development (and capacity building in agricultural research organisations) emerged.

Curriculum development was initiated by the three National Programme Coordinators, i.e., the authors of this paper. This initiation involved a great deal of strategic networking in universities to prepare the ground for the procedural battles, which are the hallmark of successful curriculum development. The detailed protocols and academic programmes were prepared, first, in an international workshop with the three countries, and, subsequently in national workshops in which the general ideas were specified to concrete nationally relevant proposals.

Initially, proposals for a curriculum looked like a wish list of all the courses taught by everyone participating in the exercise. The organising committee then designed the 'CoS-SIS cycle' (Figure 1), which summarises and links the main activities.

Emerging Issues for Curriculum development

Curriculum development is still going on. But there is a great deal of interest. In Benin, the medical faculty and the business school is involved, together with the Faculty of Agriculture. In Ghana, the curriculum is developed within the School of Agriculture and Consumer Studies, and takes into consideration the detailed procedural complexities of a long-established and proud academic institution. Unfortunately, the current political instability in Mali, and the rapidly changing staffing of various organisations involved, has prevented active work in that country. The following issues need consideration:

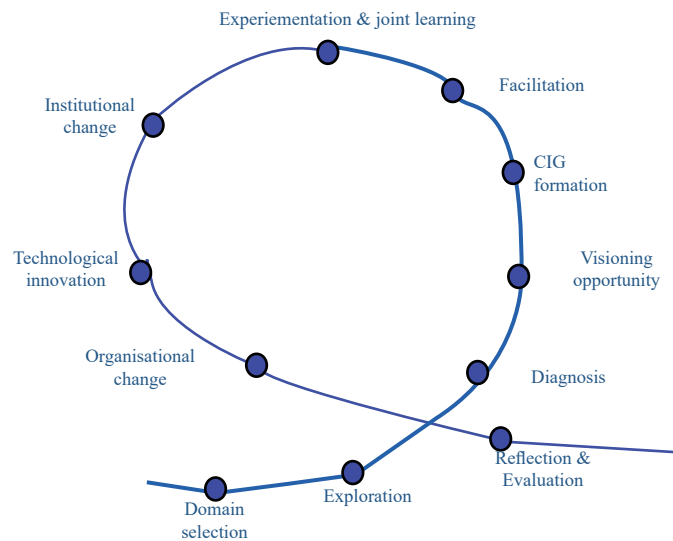


Figure 1. The CoS-SIS Cycle

source: CoS-SIS Curriculum Development team, 2013

Course participants. The curriculum development exercise aims at a full-fledged MSc-level programme, which produces graduates that can be employed in IAR4D and other programmes of regional and national research organisations, national governments, NGOs and private companies. These MSc programmes are jointly produced by different departments in the University, each contributing towards the common sections on methodology, skill building, fieldwork and substantive subject matter courses. It is the intention that the courses are also accessible for students from other MSc and undergraduate programmes, depending on interest. One of the CoS-SIS post-doc researchers has claimed that many MSc and undergraduate research-based theses, which are now only produced for academic purposes, could effectively be used to produce scoping, diagnostic or monitoring information for action programmes.

Recognition of degrees. CoS-SIS has experienced that multi-disciplinary research work (including Ph.D. theses) can make career advancement difficult for the researcher because he or she is not a ‘real’ soil scientist, sociologist or economist and his or her publications do not count in the disciplinary performance required by the research institute, academic department, or accreditation organisation (such as CAMES in the francophone countries). CoS-SIS has found that, over the years, understanding has grown. A typical example is a case in Ghana, where the researcher, working for an agricultural research organisation, found his career being blocked even though he had an outstanding publication record. Now his formal position has been recast to be more in accordance with the new demands for development relevance made upon the research organisation. But this issue is likely to continue to plague multi-disciplinary research and publications.

Some of the training needs identified. One of the issues in developing a curriculum is the selection of the kind of skills and competencies that a graduate of the curriculum is

expected to have. During the CoS-SIS programme we identified a number of them, briefly described in Box 4.

Box 4. Three examples of skills and Competencies for graduates based on CoS-SIS experience

Ability to take the perspective of (a category of) smallholder farmers (M/F) and to understand the constraints and opportunities for farm development from their perspective.

This is not only an attitudinal issue, but very much also an issue of logistics and methodology of field research and of interacting with communities. Graduates must also recognise the conflicting pressures on them when they work for organisations, while trying to maintain the trust of rural communities.

Choice of a domain for development activity. Scientists tend to select ‘sites’ for research based on representativeness of biophysical or agro-ecological characteristics. However, domains for institutional development need to be selected on totally different criteria, such as the domain being a meaningful arena for development among stakeholders in the domain, and development in the domain having prospects of being institutionalised at the national level in existing budget lines, job descriptions, etc.

Scoping studies are an essential ingredient in institutional development. The neglect of the small farm sector in many SSA countries means that not much good information exists on which to base interventions and select entry points for development programmes. It is not just a question of identifying what institutions are not there (see box 1), but especially also of understanding the institutional mechanisms (market failures, profiteering, corruption, lack of inclusiveness, etc.) of the institutions that are. We have observed that it is all too easy to regurgitate the traditional litany of woes (‘farmers have no money’, ‘farmers are backward’, ‘farmers need modern technologies and machines’). A good scoping study is like the work of an entrepreneur who is exploring the opportunities for a business venture. Scoping includes examining the (international and national) markets and their dynamics; it includes understanding the agro-ecological constraints and their change under the impact of climate change; it includes seeing the potentials and drawbacks from the perspective of the farmers to be involved. Scoping not only requires biophysical competencies, but especially also the ability to analyse the institutional context, and the power issues involved in the ‘creative destruction’ of current practices and vested interests. We found, on the one hand, that it is not difficult to identify ‘low hanging fruits’ with great potential, but on the other, that scoping is very difficult to do well. It requires researchers to stray out of their disciplinary box, it requires that they identify with people not of their class or ethnicity, and it requires the kind of creativity and imagination that allows them to vision scope for change.

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