

Agricultural innovation platforms in West Africa: How does strategic institutional entrepreneurship unfold in different value chain contexts?

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Abstract: Inspired by Innovation System theory, donors promote Innovation Platforms (IP) to enhance collaboration for development. However, the question arises whether this is the best approach to facilitate change. The article presents the experience of an action-research programme (2009-2013) on the value of IPs for creating institutional change for the benefit of smallholders, in various value chain contexts in West Africa. We analyse the cases from a dialectic perspective on institutional entrepreneurship. Results show: the open IP approach, with some clear principles and in-depth analysis of the antagonistic context, enabled the initiator-cum-facilitators to create a reasonably effective IP coalition that endorsed broker activities fit for the context. In a mature value chain, it was possible to mobilise incumbent actors, who perceived a mutual benefit in enhancing smallholder development. In the other cases, IPs were started at lower administrative levels, building discursive legitimacy and -appeal to mobilise smallholders and higher level authorities for institutional change. We note a researcher-initiated open IP approach is able to induce strategic action in-situ, but the approach has its limitation: In the time given, IPs could neither build a cooperative smallholder movement, nor interest private export companies to invest in smallholders; nor tackle misaligned political interests.

Keywords: Innovation platforms, Institutional entrepreneurship, dialectics, strategic choice, Sub-Saharan Africa

Introduction

Innovation system theory highlights the need for more communication and collaboration amongst heterogeneous groups of actors to enhance innovation and development (Lundvall, 1992; Clark, 2002). Within the agricultural sector, this new perspective gave rise to a wide variety of innovation brokerage and partnerships, initiated by researchers, extension officers, NGO's as well as private actors (Klerkx & Leeuwis, 2009; Spielman et al, 2010). To be able to deal with all kinds of opportunities and problems, development organisations in sub-Saharan Africa now tend to promote multi-stakeholder innovation platforms (IP) for coordinated learning and action. Through their diversified membership, IPs are assumed: (a) to provide a space to better negotiate and manage competing interests for the common good and for marginalised actors, enhancing transparency and accountability among the different actors in the value chain, and (b) to have access to distributed knowledge and networks, that enable them to see opportunities, and to mobilise allies and resources to endorse collective action (Brinkerhoff, 2007). In practice, there are various interpretations and forms of IPs and the question arises whether and how different types

of IP approaches are effective in creating innovation (Smits & Kuhlmann, 2004; Kilelu et al., 2013). This article aims to address these issues by answering a number of questions: What types of IPs emerge? How do these IPs manage to create institutional change? And what can we learn concerning the potential and limitation of the IP approach?

We explore these questions with the concept of institutional entrepreneurship, analyzing the experience of the Convergence of Science-Strengthening Innovation Systems (CoS SIS) programme in Benin, Ghana and Mali, funded by the Dutch department of development cooperation DGIS. The first phase of the CoS research programme ended in 2006, concluding that within the various value chains contexts in Benin and Ghana, resource-poor farmers had very small windows of opportunity, and that no substantial poverty alleviation could be achieved through technology development. This inspired CoS researchers to explore the possibility of stretching the windows of opportunity through institutional change (van Huis et al, 2007; Röling, 2010), and they formulated a CoS SIS research programme (2008-2013). This programme worked from an innovation system perspective, and engaged in action research on IPs (see Nederlof and Pyburn 2012; Hounkonnou et al. 2012 for an overview).

Theoretical framework

We conceptualise the COS SIS programme and their IPs as (a collective of) institutional entrepreneurs. Institutional Entrepreneurs (IE) are embedded actors, who leverage resources to create new or transform existing institutions (Dimaggio, 1988; Garud et al, 2007). Institutions are sets of rules that exist to reduce uncertainty in human interaction (North, 1990). They comprise of formal rules (e.g. laws, standards, policies) as well as informal norms and procedures (practices, codes of conduct). The literature distinguishes mature operational fields, emerging fields and mature fields in crisis, which provide quite distinctive institutional challenges, opportunities and resources for institutional entrepreneurship (Fligstein, 1997; Maguire et al, 2004; Battilana et al, 2009). Mature fields are characterised by a coherent discourse, widely diffused, accepted norms and procedures, a well-organised set of roles and stable relationships of cooperation and domination. In an emerging field, actors recognise some degree of mutual interest but there is still little coordinated action among them (Fligstein, 1997; Maguire et al, 2004).

Like Benson (1977) and Seo & Creed (2002), we apply a dialectic perspective and focus on the dynamics between the context and the emergence and strategic action of IEs. External factors but also institutional gaps and internal tensions in the operational field induce institutional entrepreneurship. There are various forces, creating institutional contradictions and tension in mature operational fields (Seo & Creed, 2002), e.g.:

- Conformity undermining functional efficiency: Organisations gain legitimacy and resources by becoming isomorphic with the institutional environment, but this conformity hinders efficiency, as local problems require diverse and customised solutions (Dimaggio & Powell, 1983).
- Inter-institutional incompatibilities. Actors are embedded in pluralistic institutional environments that are often imbued with sharply inconsistent prescriptions, norms for action, supported by rational myths (Meyer and Rowan, 1997).
- Divergent interests. Actors have divergent interests and asymmetric power; hence institutional arrangements are the products of political struggles and strategic action (Seo & Creed 2002).

Gaps and contradictions in operational fields may lead to social upheaval, technological disruption, competitive discontinuity and regulatory changes that disturb the field-level consensus and call for new ideas (Fligstein 1997, Greenwood, 2002; Battilana et al, 2009: 74). Whether this condition leads to institutional entrepreneurship, depends on (Seo & Creed, 2002; Maguire et al, 2004; Battilana et al, 2009; Avelino & Rotmans, 2009):

- An actor's willingness (reflexive awareness and interest for change)
- An actor's capacity to create change, defined by one'sF
 - o Formal and informal authority and network position
 - o Access to critical resources
 - o Vision on the problem and possible solution.
 - o Personal psychology and skills

Whether and institutional entrepreneur is able to loosen potential allies from their embeddedness, to form a critical mass for change, depends on an actor's authority and network position; critical resources and the perceived legitimacy of the applied broker activities (vision and communication activities). Various studies found that divergent change is more likely to be initiated by actors at the periphery of a field, as they have more to gain and less to lose. However, when actors in the centre become negatively affected by ineffectiveness or institutional contradictions, they might also consider strategic change and have more power resources to create this (Battilana et al, 2009).

Research method

In 2009, the CIS SIS project initiated nine IPs in Benin, Ghana, and Mali to test the feasibility of the innovation system approach for creating institutional change to benefit smallholder farmers and processors. To explore the divergence of institutional entrepreneurship in different value chain contexts we selected four cases with distinctive field characteristics: a mature value chain with high involvement of the public sector (Cocoa, Ghana); a value chain in crisis due to misaligned interests (Cotton, Benin); a developing value chain (Palm-oil, Ghana), and an emerging value chain threatened by institutional incompatibilities (Dairy in Office de Niger (ON), Mali). The findings in this study are based on a longitudinal tracking of developments in the studied cases, i.e. an innovation-ethnography. The authors were the Research Associates (RA) facilitating the platforms. An events analysis was conducted during the period 2010–2013 to identify the choices made, the evolution of platform implementation, and the achievements over time. The information for this analysis was acquired through personal participation of the authors, informal interviews with platform members, as well as workshops in which platform members jointly reflected on the performance of the platform. Although the case study methodology does not allow for statistical generalization, it does allow for analytical generalization, i.e. using previously developed theory as a template for comparison and reflection (Yin 2003).

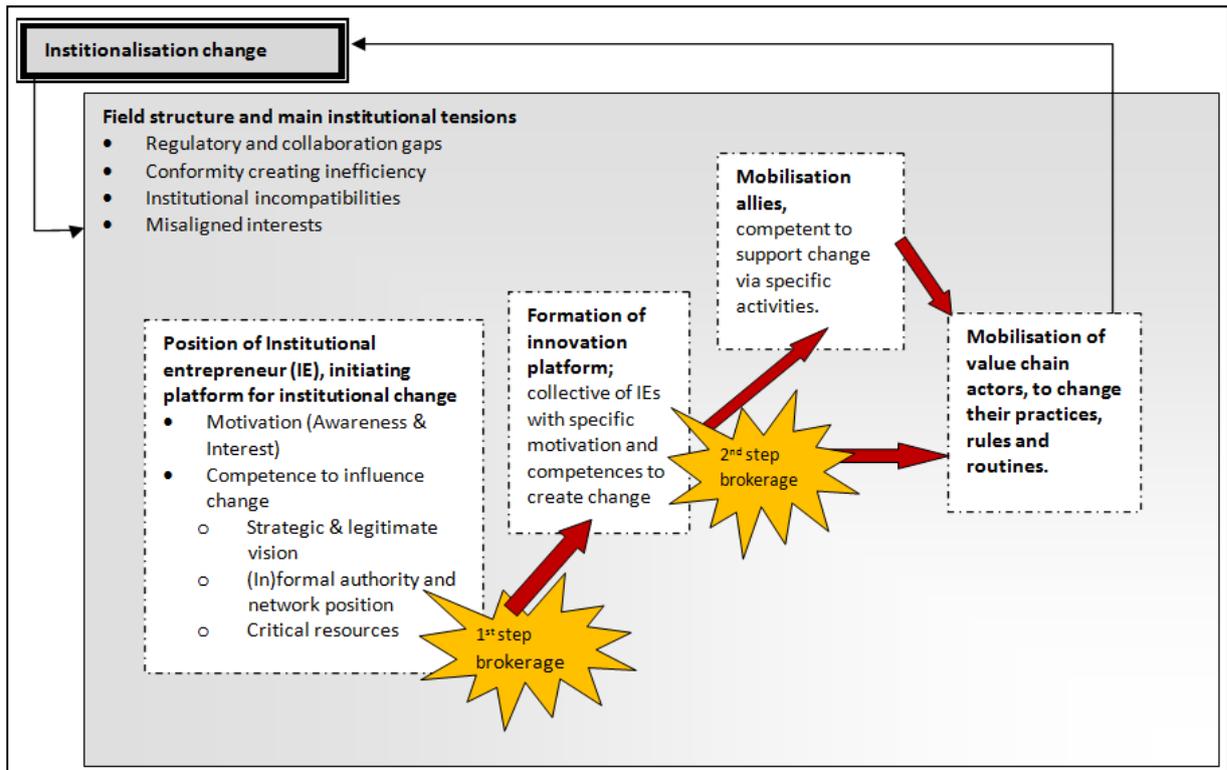
Findings

The formation of Innovation platforms

The CoS-SIS programme can more or less be conceptualised as a two-step process of institutional entrepreneurship (refer to figure 1). In a first long preparatory phase, programme leaders managed to acquire funding and build relationships with national research institutes and policy makers in the various countries, to identify three agricultural value-chain domains of national interest in each country. Then they recruited part-time RAs, knowledgeable about the respective domains, to execute scoping studies and subsequently act as IP initiators-cum-facilitators. The studies provided an initial multi-scale analysis of histories, contexts and issues of concern for smallholder development. They were followed by in-depth diagnostic studies (Jiggins, ed., 2012). A stakeholder-analysis was applied to (a) identify all relevant actors for a workshop to improve the problem analysis and proposed actions, and (b) invite actors, critical for and willing to join an IP to execute the envisaged action. The platforms were to start with a core group of empowered farmer representatives, and *flexibly involve* higher level actors up to 8 or 9 members critical to the implementation of the prioritized platform tasks. Organisations were asked to delegate personalities "who were open-minded, and not self-centred, able to think outside the box, and not likely to disrupt the process". In this way, the CoS SIS leaders, together with the RAs acted as institutional

entrepreneurs, introducing new arrangements of communication and collaboration within the respective value chains.

Figure 1: Process of embedded Institutional Entrepreneurship in CoS SIS programme



Quite different types of platforms emerged. The field structure of the value chain and the main problems experienced by the smallholders determined the vision framing of the RAs, when recruiting members for the IP. The RAs were not very powerful institutional entrepreneurs: they had some funds to pay for meetings and small training sessions (critical resource), and the formal authority to execute action research, but they had no authority to establish new formal policy arrangements. However, they enjoyed some discursive legitimacy as they cared for the smallholders (normative appeal) and appeared knowledgeable about the respective domains. IP members noted they appreciated the problem analysis and the composition of the invited IP group “as it is a group, competent to perform the task” and “it allows me to provide the services, our office is usually not capable to provide”. In most cases, it was the strategic vision and open communication approach, in which actors were invited to critique proposals and adapt IP action priorities for smallholder benefit, which led to the emergence of various types of IPs (Table 1). All IPs included representatives of the smallholders, the public sector, some NGO’s and one or two actors from the for-profit private sector. However, most private sector actors preferred not to share their inside information in an IP, nor to explicitly invest in smallholder development. To allow open collegiate information exchange and collaboration actors preferred IP participants from similar levels of action and social position. As a result, IPs comprised national level *or* local/district level actors. The exception was the IP of the developing palm-oil value chain. As no palm-oil business services existed in the producer area, the palm-oil IP consisted of local smallholders and national level regulatory authorities.

Table 1: Field structure, vision and mobilisation of allies for smallholder-beneficial institutional change

Field structure and main institutional problems			
<i>Cocoa value chain Ghana</i>	<i>Cotton value chain Benin</i>	<i>Palm-oil value chain Ghana</i>	<i>Dairy/Livestock integration at ON Mali</i>
<p>In 2007, Cocoa is important for livelihood (30% population), GDP (8.5%), export earnings (33%) and government revenue from taxes and levies (16.4% FoB price); hence government platform (COCOBOD) arranges credit, pest spraying gangs, farmer price, export marketing, etc. SAP induces gradual reforms allowing some Licenced Produce Buying Companies (LBC), less extension, Cargill processing, but still quality and price control by government. Large margin between farmer and export price means it is not lucrative for farmers to invest in cocoa production or smuggle cocoa to Ivory Coast. (Quarmin et al, 2012)</p> <p><i>Inefficiency and some misalignment of interests</i></p>	<p>In 2002, cotton production accounted for 13% GDP, 45% fiscal returns, and 80% export revenue. In line with Structural Adjustment Policy (SAP), government liberalised input supply for cotton. Commercial input traders pay for political and administrative support, to earn profit via input supply. Individual rent-seeking behaviour. Reduced world market prices, with increased input prices, and delayed delivery inputs make farm produced cotton by smallholders unviable. (Togbé et al, 2012)</p> <p><i>Misalignment of interests</i></p>	<p>In Ghana there are 2 types of palm-oil production: industrial production for export and traditional smallholder production for the local market. Traditionally, palm-oil production was no concern of the Min of Agr., and received no extension services, input subsidies etc. Now that world market prices rise, government earmarked palm-oil as domain for strategic development. However smallholders have no access to the export market, due to poor production and processing techniques, and they lack the institutional support needed to improve it (Osei-Amponsah et al, 2012)</p> <p><i>Gaps in institutional arrangements</i></p>	<p>In 1994 the parastatal organisation Office de Niger (ON), responsible for the agr. service delivery and infrastructure in the irrigated rice-producing area, dropped livestock from its mandate. Farmers were supposed to specialise in irrigated crop production. Nevertheless the migrated farmers continued the tradition to invest their profit in livestock, as security capital. Roaming livestock engenders crop- and infrastructural damage, and costly juridical conflicts. The presently promoted dairy production is hampered by crop damage conflicts, missing livestock infrastructure, and lack of farmer expertise in intensive livestock production. (Doumbia et al, 2012)</p> <p><i>Institutional incompatibilities</i></p>
1st step brokerage: Strategic vision framing plus networking with respected smallholder representatives plus regional or national actors critical to the implementation of the envisaged task by RAs			
<p>To enhance equitable, effective value chain governance with good incentives and information access for farmers, stimulating production with less waste (link national interest to reduce inefficiency with smallholder interests)</p>	<p>Institutional change needed to solve problematic input supply and low margins for farmers, to ensure future of cotton value chain (taking position in problematic situation of misalignment).</p>	<p>New processing techniques and value chain organisation are needed to conquer export markets (identifying institutional gaps to overcome).</p>	<p>To create space for dairy development, livestock farmers, village communities, and local authorities have to establish new farm practices and natural resource use conventions (resolving incompatibility).</p>

Formation of Innovation Platform for smallholder-inclusive institutional change

<p><i>National level IP</i></p> <p>Farmers are represented by charismatic village chief cum vice president Cocoa-Coffee-Sheanut Farmer Association and related cocoa input company, farmer-based marketing company Kuapa Kokoo.</p> <p>Other members: the Ghana Cocoa Board (COCOBOD) with representatives of its research institute CRIG and Quality Control Company officers at national and regional level, researcher from Ghana Standards Authority; and the advisor of the Minister of Finance and Economics.</p> <p><i>Not interested:</i> Private export companies.</p>	<p><i>Three collaborating local level IPs</i></p> <p>Farmers are represented by experimenting farmers plus a big farmer who is member National Agricultural Chamber.</p> <p>Other members: Agricultural extension office (CeRPA/CARDER), municipality, cotton revival project (PARFCB), northern cotton research centre (INRAB), cotton fibre processor N'Dali.</p> <p><i>Not interested:</i> Association of private cotton ginners and traders (IAC); National Development Organisations.</p>	<p><i>Mixed IP: district level and national level actors</i></p> <p><i>District level</i> Smallholder farmers, small-scale processors and mill owners who are also members of Kwaebibrim District Assembly. Other: District Officer Ministry of Food and Agriculture (MoFA), scientists.</p> <p><i>National level</i> Ghana Export Promotion Authority (GEPA), Ghana Standards Authority (GSA), Ghana Regional Appropriate Technology Industrial Service (GRATIS), and the Environmental Protection Agency (EPA).</p> <p><i>Not interested:</i> Export companies</p>	<p><i>Local level IP</i></p> <p>Farmer repr.: five dairy village cooperatives.</p> <p>Other members: Local livestock production service (SLPIA), milk factory owner, organization of veterinarians, ON Niono area officer, General Secretary of Niono municipality, and NGO Faranci providing training and assistance in law and farmer organization.</p>
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The IP mobilization of allies and value chain actors to enact change

The second step of institutional entrepreneurship concerned the strategic action of the IPs to overcome the identified tension in the value chain. It took some time before IP members gained trust in each other and understood the role they could play, but the first information sharing and networking activities helped to create mutual trust, confidence and focus. At this stage we see that the different types of platforms (composition and task) engaged in different types of broker activities mobilising critical allies to create and support change and/or directly persuading value chain actors, notably smallholders, to change their practices.

Mature value chains

We first look at the two long-standing export sectors that emerged in the colonial period, became state controlled after independence, and are in a process of liberalisation since the IMF and World Bank enforcement of Structural Adjustment Policies (SAP) in the 1980s.

National Cocoa IP, to reduce inefficiency

The Ghanaian government decided to liberalise the cocoa sector at a gradual pace and still retains important control via COCOBOD (Ton et al, 2008). In this sector the high-level IP members easily recognised the critical importance of smallholder production for value chain success and government revenues; hence they used their power to improve governance efficiency, increasing financial incentives plus input supply transparency needed to stimulate smallholder production. The IP members were high-level advisors and policy officers, who had the authority to study issues at hand and prepare decisions to be ratified by the directors.

Local cotton IPs cotton, to create bypass and create space in structured field

In Benin, the government withdrew subsidies and public services in line with SAP, so farmers faced increased input costs and dwindling cotton world market prices (Togbé et al, 2012). Input traders paid political parties and government officers to obtain recognised trader's positions, which led to corruption and individual rent-seeking. The interests of the Association of cotton ginners and traders (IAC) plus their high-level informal alliances sharply diverged from the smallholder interests. It was impossible to mobilise the IAC constituency, so the RA opted for a multipronged approach: to create a local level IP to work on a concrete technical (by-pass) solution for the farmers (use of local extracted Neem oil as an alternative pesticide), while making sure some respected good-hearted actors with higher-level political influence, also joined. Though political matters were not explicitly discussed in IP meetings, the membership of the Farmer-cum-Secretary of the Agricultural Chamber and the highly respected cotton extension officers motivated them to join informal, confidential coalition efforts to get a respected input trader back in business and highlighted the precariousness of the situation at high-level meetings. In 2013, the President of Benin withdrew the authority of IAC to arrange the input supply, and used the military to directly deliver the required fertiliser and pesticides to the farmers. The discursive legitimacy of the IP and its influential members might have played a role in this change. However, the main input trader has a dominant position in the world market for West-Africa, and now obstructs the country's access to critical inputs.

Emerging value chains

The IPs of the emerging smallholder export sector of palm-oil in Ghana and emerging dairy sector in ON, Mali, also used a two-pronged approach, but enjoyed more enthusiasm and cooperation from higher level administrative authorities than the cotton IP in Benin. In both IPs, the smallholder representatives together with expert members first researched the institutional constraints at the local level, to subsequently organise awareness-campaigns, to persuade smallholders to change their practices. To back-up the change process, the IPs networked with higher level authorities to align formal institutions.

Mixed level palm-oil IP, to establish new rules and procedures e.g. for emerging opportunities

In the palm-oil sector, the IP first invited the Environmental protection agency to study the health and environmental effects of tyre burning (fuel for palm fruit processing). The active involvement of smallholders in the research, the evidence-based proof of toxicity, the profitable solution (use the processing waste as alternative fuel) and large awareness campaign, inspired quite some smallholders to stop toxic tyre-burning. Others followed when several local chiefs heard the message and decided to set sanctions of tyre burning.

The IP was less successful in its activities to ensure smallholder access to the lucrative export market. A PhD guided smallholder experiments to improve palm fruit storage and processing techniques to attain a better quality, but they did not manage to interest an export company. Due to out-dated equipment and labour intensive processing techniques, the cost price was too high. Various international export companies constructed their own mills, but seemed not eager to provide small mill-owners with equipment. Encouraged by the Ghana Export Promotion Authority (GEPA), the smallholder representatives have started to organise short training on business and cooperative management. If smallholders accept to organise themselves in cooperatives, GEPA promises to allocate part of its export promotion fund to them, so as to enable the purchase of new processing equipment.

Local Dairy IP, to tackle institutional incompatibilities for livestock keeping

In Office de Niger, IP members gathered the legal texts and had in-depth village discussions on the applicability of and adherence to natural resource use conventions, traditional conflict mediation, and costly formal adjudication. During these meetings villagers acknowledged that collective respect of traditional institutions for natural resource use and conflict mediation could solve their problem. Both investigations engendered clear recommendations for behavioural change; hence the IPs organised large public meetings and action theatre in an attempt to persuade farmers to adapt practices. To align the formal procedures, the IP organised a workshop for higher level authorities, and followed their advice to engage a juridical consultant for preparing legal adjustments. Meanwhile they nurtured personal contacts with high-level authorities, who seemed willing to ensure ratification of the proposed legislative changes.

Analysis and discussion

Within the innovation system literature there is a debate whether to promote IPs or more distributed, flexible, opportunity-capturing types of brokerage. Whilst the concept of Multi-stakeholder Innovation Platform seems clear and self-evident, there are various interpretations and ways of operationalising an IP. Many donor-funded projects use IPs mainly to up-scale technical research efforts, while others apply a more flexibly opportunity and problem-driven approach. This research demonstrates the strategic entrepreneurship dynamics of a researcher-initiated open IP approach for pro-poor value chain development (Table 2.). Application of core IP design principles engendered quite different forms of institutional entrepreneurship, in different field structures. CoS SIS programme leaders and RAs reflexively articulated a platform composition and brokered activities, fit to tackle the prime institutional tensions constraining smallholder development. Value chain actors, invited to join the IP, made their own assessment whether to join or not. Many joined, as they were aware of the institutional constraints for smallholder development (normative appeal), and appreciated the research competence of the RA as well as the competences of other key actors, mobilised by the RA. Others felt they had to prioritise their personal or business interest.

Table 2: Field-dependant strategic IP composition and brokerage

Structure value chain with institutional tension			
Cocoa Ghana: Mature field with inefficiency and some misaligned interests	Cotton Benin: Mature field with misaligned interests	Palm-oil Ghana: Emerging field with gaps in institutional arrangements	Dairy Mali: Emerging field in mature domain with Institutional incompatibilities
In field, 1st step brokerage created different IP composition and 2nd step broker activities			
Composition IP National level platform	Three collaborating local level IPs	Mixed IP: district level and national level actors	Local level IP
2nd step brokerage by IP <i>National level</i> High-level policy officers took the lead in the creation of change as they <i>had the formal authority to prepare policy</i> for national decision-makers such as the minister or COCO-BOD directors.		Government authorities <i>provide critical resources</i> (knowledge, contacts export companies; maybe investment fund and equipment in future)	
District/local officer level	Together with the Farmer-cum-Secretariat of the agricultural Chamber, extension took the lead in the <i>informal networking and advocacy at higher level</i> public officers to stimulate action for change		Local officers active in <i>networking, awareness raising and collaboration with higher level government officers</i> , with the position to adjust the formal juridical framework
Smallholder level Main role of farmer representatives was to put issues on the IP agenda	Farmer representative engaged in <i>development of bypass</i> (alternative pesticide)	Smallholder representatives took lead in <i>awareness-campaign against tyre burning, and training of farmers in business management and processing cooperatives</i> .	Smallholder representative actively involved in <i>awareness-raising</i>

From the case studies we learn that in mature export value chains, it is most effective for researchers to enhance smallholder development through national level IPs. High-level IP members have the formal authority to formulate new rules and norms, beneficial for smallholders. However the cotton case showed that, when corruption and rent-seeking behaviour prevails, an IP needs to focus on non-sensitive local activities and can only informally network to give voice to concerns at a higher level. The influence of the IP, to make a difference for smallholders, mainly derives from the 'normative appeal' to care for the poor. This is also the case for the influence exerted by IPs in emerging value chains. In emerging or developing value chains, IPs seem most effective when they can solve a concrete-felt problem of the smallholder through their contacts with national researchers and authorities, who are able to provide the necessary knowledge and services. Due to the history of the farmer organisation in West-Africa, smallholder capacity building for collective processing and marketing, however, is a delicate, strenuous and slow process. And linkages with private output traders are a must, but require careful preparation and mediation. Emerging value chains that encounter institutional incompatibilities may require different types of IP approaches, depending on the balance of interests and power relations.

From these cases we conclude that an open, flexible IP approach has the potential to develop into strategically, effective institutional entrepreneurship. A thorough systemic analysis should guide the broker activities. Other types of partnership approaches might also create good results, so

more comparative research is needed to gain more in-depth insight. Spontaneous, private actor brokerage may be as effective as well as orchestrated IP intermediation. The cases suggest that it is critical that institutional entrepreneurs should be highly motivated; reflexively study the tensions in the context; develop a vision and communicative strategy, and act out to mobilise the right allies and resources to create change. The promotion of a small, flexible IP approach with some core principles might help to create momentum and collaborative drive, but needs strategic elaboration in-situ.

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