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## **Introduction**

### **Innovation platforms and agricultural development**

- 1 African agriculture, as in other developing countries, is confronted with a real problem of productivity. According to CORAF/WECARD (2011), levels of agricultural productivity in Africa, related to both soil and labour, are still well below those of other developing regions. African farmers therefore need to intensify their production systems and adapt to ongoing change in their production environment, which presupposes continuous innovation (World Bank, 2012).
- 2 Understanding the emergence of innovation systems is at the heart of research analysing technological change (Hekkert and Negro, 2009). Innovation platforms (IP) have been widely used as a tool to encourage agricultural innovation (Nederlof and Pyburn, 2012). IPs are equitable and dynamic spaces designed to bring together heterogeneous stakeholders to share their knowledge and find solutions to a common problem (ILRI, 2012). These heterogeneous stakeholders are more easily able to identify the innovations adapted to a given context than homogeneous groups like agricultural cooperatives which only include a single type of stakeholder.
- 3 The various promoters of agriculture in developing countries are continually seeking mechanisms to increase agricultural productivity through improved stakeholder organisation. The introduction of agricultural research in Sub-Saharan Africa was long

dominated by a top-down approach in which all the research operations were first performed in experimental stations (Wey *et al.*, 2010), and then transferred to the peasant context for adaptation, validation and dissemination (Lefort, 1988). This approach precluded an optimum exchange between the researchers and the end users of the tools: extension officers, producers, etc. (Dabiré *et al.*, 2012). Today, development partners are more aware of the importance of participative approaches, such as mechanisms contributing to boosting agricultural productivity. IPs are one of these approaches (Cadilhon, 2013).

- 4 Prior research on support for African agriculture through IPs demonstrated the positive role of this system in improving the production and income of small rural producers (Mapila *et al.*, 2011; Nyikahadzoi *et al.*, 2012). This study aims to validate the hypothesis according to which the Volta2 project IPs have had a positive effect on improving crop and livestock production in the four beneficiary villages in Yatenga province, northern Burkina Faso.

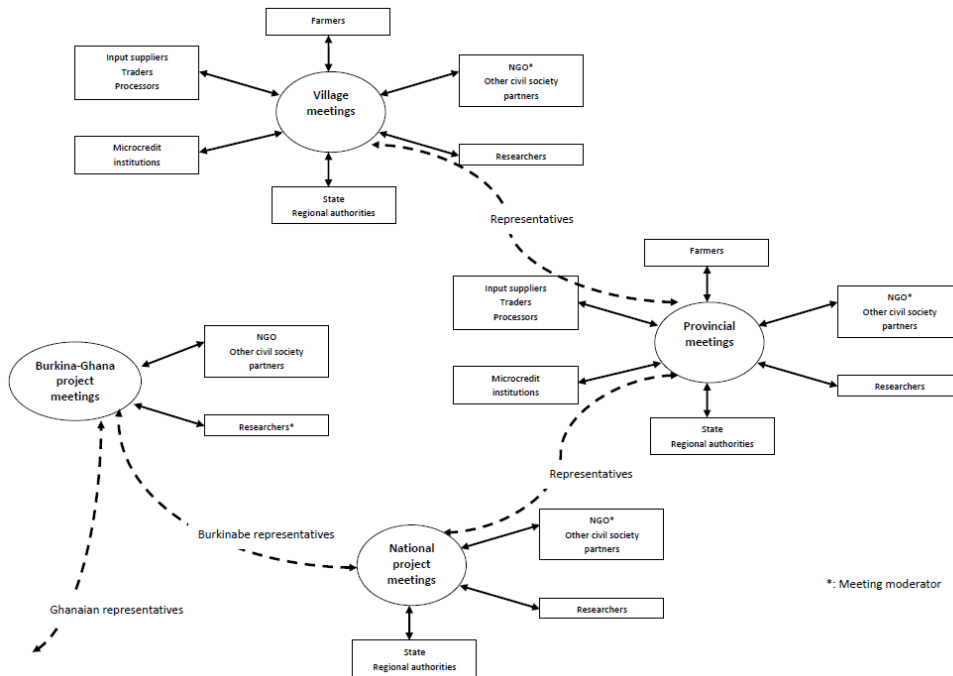
## Study context

- 5 This study is linked to the three-year Volta2 project launched in December 2010 and focused on the integrated management of rain water for crop and livestock agro-ecosystems in Burkina Faso and Ghana. The climate of the agro-ecosystem in the region of northern Burkina Faso is Sudano-Sahelian, alternating between a long dry season and a short wet season. The dry season runs from October to May, while the wet season extends from June to September. The rainfall is low and irregular totalling around 600 to 700 mm a year. The main crops are black-eyed beans, corn, millet and sorghum, while livestock mainly include sheep, goats and poultry, although some rural households also own a few cattle.
- 6 In short, the geophysical characteristics of Yatenga province are similar to the entire northern region of Burkina Faso. It is a naturally disadvantaged region with erosion that leads to a continuous loss of soil fertility, scarce and low level of rainfall, and disappearing fauna (Ripama and Sawadogo, 2009).
- 7 Launched as part of the VBDC (Volta Basin Development Challenge) programme, the overall aim of the Volta2 project was to improve rainwater management and small dams in Burkina Faso and northern Ghana in order to reduce poverty and improve the beneficiaries' means of subsistence and their resilience, while also taking into account the upstream and downstream stakeholders in the value chains. Four value chains were particularly relevant for the project beneficiaries at the site in northern Burkina Faso: black-eyed beans, corn, sheep and poultry. The upstream stakeholders are the various input and agricultural service suppliers, while the downstream stakeholders are mainly the traders in the products from the various value chains. The mode of governance of these value chains did not reveal any particularly evolved structure. By adopting the typology proposed by Gereffi *et al.* (2005), the marketing streams observed were more akin to direct sales between farmers and rural households purchasing foodstuffs, or a modular mode of distribution with small local entrepreneurs handling the distribution of the inputs, agricultural product collection and transformation, thereby providing the marketing link with urban wholesalers or other rural households.
- 8 The Volta2 project used the IPs, launched in June 2011, as the main development tool to achieve its targets. These targets set for 2013, two years after the project's launch, were

the improved management of natural resources (water and soil) for agricultural production as well as improved product marketing within the four value chains of black-eyed beans, corn, sheep and poultry. Through this project, the IP members wanted in particular to achieve improved access to inputs, credit, markets and information. Their aim was also to lift the level of production, facilitate water and soil management, improve skills and coordination of activities throughout each of the four value chains (Somé, 2013).

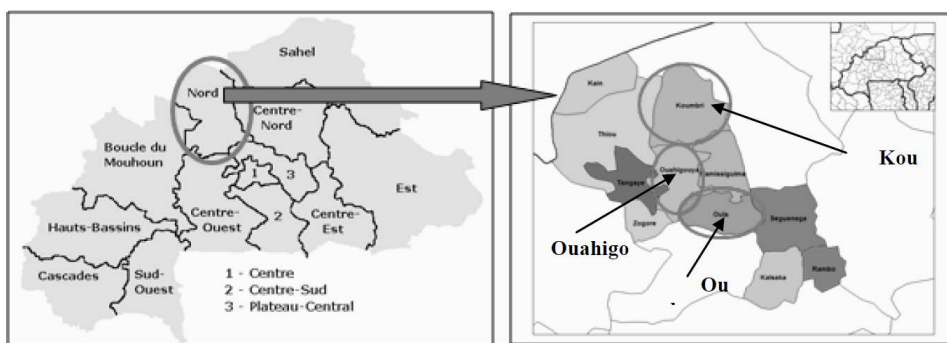
- 9 The potential IP members were identified at the start of the project in the target villages through a rapid assessment of the study region and stakeholder mapping (CPWF, 2010). The volunteer farmers interested in trying new water, crop and livestock management techniques came to the platform where they learnt to share their experience through innovative approaches. The village IPs were members of a main IP at the provincial level, which in turn was linked through the project to the IPs in the other Burkinabe sites (Centre region) and the Ghanaian IPs. Interaction within the IPs took the form of meetings at two levels. The first was at the provincial level bringing together the IP organisers and moderators, and representatives of the IPs in the province's various villages. The second level of meetings was in the project target villages at which the representative(s) having taken part in the provincial meetings were able to pass on the decisions and developments decided at that level. The members of the village IPs were all farmers, some of whom were also traders or processors. Alongside the IP members, other stakeholders representing the State, regional authorities, NGOs, scientists and microcredit agents were also involved in the IPs' operation.
- 10 The project meetings at the national level and those attended by the representatives of the Burkinabe and Ghanaian IPs were held with the representatives of the project institutional partners rather than with the representatives of the beneficiary farmers. The IP meetings at the village, provincial and country levels were facilitated by an employee of the NGO selected to be the main project partner in each country. In Yatenga province, the local development partners involved in the project were the local office of the Dutch NGO SNV and the national NGO FNGN (*Fédération Nationale de Groupement Naam*). SNV was tasked with coordinating the interaction between researchers and the rural communities while FNGN was responsible for training the farmers and moderating the village meetings. The Burkinabe research partners were for the most part researchers from the national research centre INERA (*Institut de l'Environnement et de Recherches Agricoles*). The project meetings attended by the representatives of Burkina Faso and Ghana were led by an employee trained in facilitation from one of the international agricultural research institutes that had instigated the Volta2 project. The structural organisation of the IPs at the various geographic levels of the project and the mode of interaction between the various stakeholders involved are shown diagrammatically in Figure 1 below.

Figure 1. Mode of interaction between the stakeholders in the Volta2 project innovation platforms



- 11 This study focusses on the activities of the Volta2 project in Yatenga province, northern Burkina Faso. Another study demonstrated that the project IPs already established in northern Ghana had also had a positive impact on the beneficiaries in improving agricultural product marketing (Zewdie *et al.*, 2015).
- 12 This study was conducted in three communes and involved four villages: Koura Bagre and Ziga in Oula commune, Bogoya in Ouahigouya commune and Pogoro Silmimosse in Koumbri commune (Figure 2). The study lasted six months from April to September 2013, including two months of field surveys from mid-May to mid-July.

Figure 2. Administrative map of Burkina Faso and Yatenga province.



### Data collection

- 13 To validate the research hypothesis for this study concerning the positive effect of the Volta2 project IPs on the beneficiaries' agricultural production, field data was collected by a variety of means. Discussion groups were organised with the IP members in each of

the four villages involved to clarify the local context and the platform structure. Then, three individual survey questionnaires were completed with the following stakeholders: 57 IP members (that is, all the members) of whom seven were women, 12 key stakeholders selected from among the 57 IP members, including one woman, and nine moderators or facilitators (all men) charged with organizing the various IP support activities across the entire Yatenga province.

- 14 Three different survey instruments were used depending on the respondent’s level of knowledge about how the IP worked. The questionnaire for the IP members was above all based on Likert scales (Likert, 1932) to collect quantitative data about the members’ perception of the way in which their IP worked, their interaction with the other IP members, and the results of this joint action. This quantitative data was then used for the statistical analysis described in this article. To survey the IP key members and moderators who were more aware of the IP’s operation, the two questionnaires used contained a greater number of open questions in order to collect qualitative information about the way in which the project IPs operated in the four target villages. All the survey instruments and the quantitative data collected are available online (Cadilhon *et al.*, 2013). Table 1 below shows the types of questions asked and the way in which the responses to these questions were quantified using a Likert scale from 1 to 5 in which 1 was the perception “Strongly disagree” and 5 the perception “Strongly agree”.

**Table 1** Statements used to quantify the perceptions and attitudes of the 57 IP members and nine moderators using the Likert scale

Statements	Number of respondents	Likert scale				
		1	2	3	4	5
My plant and animal production has increased	57					
My total quantity of products sold annually is increasing	56					
My knowledge of my activity has improved in the past two years	57					
My production system has improved in the past two years	57					
My total production has increased in the past two years	57					
The Innovation Platform has had a positive impact on my production activity	57					
My meat and/or milk production per animal is increasing	57					
My plant production per unit of surface area is increasing	56					
The joint planning of activities with my partners in the value chain has improved in the past two years	37					
The Innovation Platform has had a positive impact on planning my activity with my partners	57					
To what extent do you agree that the improvement in plant and animal production is closely linked to the existence of the Innovation Platforms in this community?	9					
To what extent do you agree that the improvement in plant and animal production is closely linked to the existence of joint planning of activities between platform members throughout the value chain?	9					

Likert scale: 1 = Totally disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly agree

- 15 The questionnaire used for IP members had three main sections linked to the structure, management and performance of the IPs, based on an analytical framework developed to assess the IPs’ performance (Cadilhon, 2013). The individual survey was followed by

further group discussions in each village to understand how the IP members perceive the IPs and their impact on their activities. The majority of the interviews and group discussions were conducted in French through an interpreter.

- 16 Some questions about the platform structure aimed at identifying the individual characteristics of the members, including age, gender, IP membership seniority, level of education, frequency of attendance at IP meetings and wealth indicators. The following indicators were used to differentiate between households' level of wealth: means of locomotion used, number of head of livestock, and the surface area of cultivated land. Other questions, addressed to all interviewees, sought to identify the IP structure through its mode of operation including the decision-making process, the existence of smaller committees, the source of funding, the legal and regulatory framework, etc. The data about behaviour, or the way in which the IP members participate in the platform activities, was collected using individual surveys of the platform members and observations during meetings. The questions about behaviour within the platform sought to get the members' opinion about the way in which the IP facilitated member interaction. To assess the behaviour indicators, the individual questionnaire was mainly based on a ranking using a Likert scale from 1 to 5 for statements representing various types of stakeholder behaviour in a group situation. These types of behaviour had already been identified in the literature about IPs (Cadilhon, 2013) making it possible to identify any variability in the stakeholders' opinions (see Table 1 for several examples and Cadilhon *et al.* [2013] for all the statements used). In order not to draw out unnecessarily the statistical section of this article, the results described here focus on joint planning between stakeholders.
- 17 The indicators measuring the IP's performance were collected using three types of questionnaires. The Volta2 project IPs had set targets for the end of 2013. During the individual surveys, the IP's performance in achieving its targets was assessed by asking the respondents to rank on a Likert scale of 1 to 5 the extent to which they agreed with the statements describing various aspects of the pre-established targets (Table 1). This study was focused on improving crop and livestock production for the project beneficiaries. This target was not measured directly through a quantitative approach in the field, but rather by asking the farmers how they perceived this improvement. The option to use subjective perception of the agricultural production performance rather than an objective measurement could be a source of bias in the research method. However, this method was selected because of a lack of resources to implement a sampling and analysis protocol for the crop and livestock production results when conducting the assessment study. The comparison of the quantitative results from the surveys of the 57 members based on Likert scales with the qualitative results of the surveys of the key IP members and moderators nonetheless indicates convergence in the perceptions of all the stakeholders involved with regard to the IP's performance in improving agricultural production.

## Data analysis

- 18 The data was analysed using the SPSS software. First, we conducted a factor analysis to reduce the number of variables describing joint planning and increase in agricultural production to a few main components (Téno *et al.*, 2013). This led to the creation of two

new variables to cover all the variability from the various statements describing the “joint planning” and “agricultural production improvement” indicators.

- 19 The aim of this regression was to link the structural and behavioural elements of the IP members with the new *FAC1\_3* dependent variable called “agricultural production improvement”. The discussion groups enabled us to choose the following variables to reflect the IP’s structural components: gender (*Gender*), age (*Age*), seniority in the IP (*Senio\_IP*), level of education (*High\_ed*), participation in IP meetings (*Ptici\_ip*), main source of income (*Prin\_sr*) and average income (*R\_year*). The results of the discussion groups with the IP members having shown that it was difficult to get a reliable estimate of household income, the income dimension was incorporated into the model using the principal source of income in the form of a two-category variable: 1) agricultural activity and 2) non-agricultural activity. Seniority in the IPs was also a two-category variable 1) joined the IP at its start in 2011 and 2) joined the IP in 2012. Two aspects of member behaviour were used as explanatory variables in the regression: the variable from the factor analysis of the joint planning of activities between members in the sector (*FAC1\_1*) and the ranking accorded to the statement “The agricultural extension officers generally provide information that is relevant to my needs and production calendar” (25c). Thus, the theoretic model of our regression is written:
- 20 
$$FAC1_3 = a + bGender + bAge + bSenio\_IP + bHigh\_ed + bPtici\_IP + bPrin\_sr + bR\_year + bFAC1\_1 + b25c + u$$
- 21 All the compliance tests (Table 2) revealed that the data used for the above multiple regression model matched the linear regression hypotheses.

## Results

### Quantitative results of the regression analyses

- 22 Table 2 below shows the results from the regression analyses.



Model summary						
Model	R	R <sup>2</sup>	adjusted R <sup>2</sup>	Standard error of the estimate	Durbin-Watson	
1	.736 <sup>a</sup>	.542	.439	.71110487	2.101	

ANOVA <sup>a</sup>						
Model		Sum of squares	Df	Average square	F	Sig.
1	Regression	23.973	9	2.664	5.268	.000 <sup>b</sup>
	Residual	20.227	40	.506		
	Total	44.200	49			

Coefficients <sup>a</sup>							
Model	Non-standard coefficients		Standard coefficients Beta	t	Sig.	Collinearity statistics	
	B	Std. Error				Tolerance	VIF
(Constant)	.580	1.290		.450	.655		
Participation in IP meetings	.447	.151	.343	2.951	.005	.846	1.182
Seniority in the IP	-.554	.288	-.216	1.925	.061	.909	1.101
Average annual income in dollars	.001	.000	.262	1.834	.074	.561	1.783
Main source of income	-.984	.481	-.284	2.044	.048	.593	1.687
Joint planning of activities with value chain stakeholders	.356	.111	.379	3.199	.003	.816	1.226
Age	-.014	.010	-.177	1.386	.173	.701	1.426
Gender	.414	.354	.132	1.169	.249	.897	1.115
Highest level of education	-.086	.299	-.050	-.287	.776	.375	2.668
The agricultural development service officers usually provide information relevant to my needs and production calendar	.204	.161	.174	1.266	.213	.606	1.651

a. Dependent variable: improvement in agricultural production

Variance homogeneity test			
Non-standard residuals			
Levene statistics	df1	df2	Sig.
1.752	5	31	.152

Normality tests						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Non-standard residuals	.110	50	.180	.958	50	.071

a. Lilliefors significance correction

23 In the discussion section, these quantitative results of the regression analyses are discussed by triangulation, or in other words, by comparison and the search for synergies with the qualitative data collected in the field, mainly during discussion groups meeting in the four target villages. The validity of these results about the operation of the agricultural innovation platforms and their impact on improving agricultural production is subject to other empirical validation exercises using the approach proposed by Cadilhon (2013).

## Obstacles and solutions

- 24 This study encountered several difficulties and limitations that need to be clearly identified to improve the validation of the results obtained. The Likert scales used to collect data were difficult to use for some respondents who struggled to align their perception on these scales. The problem was solved and a response obtained by reformulating the question.
- 25 The survey protocol did not include project non-beneficiaries as the initial purpose was to validate the quantitative approach described here across a homogeneous population of beneficiaries. We attempted to compensate for the lack of counterfactual elements by making greater use in our analysis of the qualitative data collected from the various discussion groups and surveys with the IP moderators. Future IP studies should include project non-beneficiaries in order to identify better the IP results going beyond the direct project beneficiaries.
- 26 A bias may have crept into the survey through the interpreter translating the questions into the local language. We sought to reduce this bias by discussing the various points in the questionnaire with the interpreter before and during the interviews whenever doubt arose.

- 27 The assessment team was introduced by the Volta2 project partners, which may perhaps have influenced the project beneficiaries' responses.
- 28 The small number (57) of Volta2 IP members may have been a drawback in the analysis of the quantitative data. However, we were able to survey all the participating members and partners supporting the project, thereby establishing a complete census of the project stakeholders in Yatenga province. Further, all the statistical tests pointed to the robustness of the results obtained.
- 29 Another limitation derives from the short lifespan of the Volta2 IPs. They were only set up in June 2011 in Yatenga province, only two years before our assessment. This short operational timeframe of the IPs may have made it difficult for the respondents to make a correct assessment of the impacts of the IP on their activity. With so little hindsight, we are therefore unable to claim to having assessed the concrete results achieved by the IP. Nevertheless, the relations identified by the statistical analysis of the results obtained, and their validation by the results of the discussion groups and other qualitative surveys pave the way to other future research on the way in which IPs can support sustainable agricultural development.
- 30 Finally, from a theoretical point of view, our analysis concentrated on joint planning as a component in the behaviour of the IP members. Similarly, the performance of the Volta2 IPs was limited to agricultural production improvement indicators. However, these platforms had also set their sights on other targets listed earlier and not covered in this study.

## Discussion

- 31 The results of the regression model (Table 2) show that three variables are statistically significant with a high level of probability of 5% or less in explaining the improvements in livestock (sheep or poultry) or crop (black-eyed beans or corn) production among project beneficiaries. These quantitative results are interpreted jointly with the qualitative data collected in the field.

### Joint planning of activities contributes to improving agricultural production

- 32 According to the regression results, joint planning of activities by value chain stakeholders contributed significantly (level of 1%) to improving agricultural production. The platform members interviewed confirmed the IP's role in planning their activities. The IPs created closer working relations among members in the same village through an exchange of information, planning and solving shared problems together. The fact that the IP members work together to find solutions to their problems is one of the main goals presented in the definition of IPs (ILRI, 2012). The platform members who also participate in other groups or associations state that the IP makes them work together in an integrated manner in a network of mutual aid. This way of working is very different from the way the farmers used to work through their participation in other types of village groups, such as Burkina Vert, an association focused on combatting desertification and climate change; OCADES (*Organisation Catholique pour le Développement et la Solidarité* or Caritas Burkina Faso); or the KOOm association for the self-promotion of women in

Burkina Faso. The 12 key members interviewed referred to the way in which the IPs have helped them manage their activity better in a more concerted manner through the training courses provided to them, such as techniques for accessing markets, grouped selling, inventory credit system (or WRS - warehouse receipt system), etc. In the same way, through their various meetings, IPs have also introduced their members to new partners, such as micro-credit institutions, livestock and agricultural services, veterinary services and the IP members in other villages. In this way, the IPs have demonstrated to their members the importance of maintaining links with all these partners and with each other, as all these stakeholders can be mutually useful to each other.

- 33 Some members mentioned that the IP taught them that working together was an effective way of mutually improving their activity and income. All the members are important to each other and none can develop independently. Thus, they must ensure information and experience is shared better in their activities to be mutually useful to each other and so to grow their activities together. The IP members stated that joint activity planning had enabled them to understand that they could immediately call the veterinary service when their animals were sick, which they used not to do because of the lack of connection with the veterinary services. When contact is made earlier, sick animals can be treated in time thereby reducing livestock mortality rates. Through IP meetings of farmers and traders, the farmer members learnt that they had to prepare for the sale of their products, even before producing them, by contacting the traders in advance to find out what their needs are. This has reduced the uncertainty around product market values at harvest time, and so has contributed to improving production, as farmers can now produce with less fear as to the potential market outlet. This improvement in market access corresponds to an important function of the IPs referred to by Hekkert and Negro (2009).
- 34 IP members also learnt that they had to plan their activities with institutions, such as the agricultural and plant protection services of the Ministry of Agriculture in order to access inputs and other useful services. For example, the IP converted producers to using improved seed, and encouraged them to combine improved and traditional seed for their crops. Some producers claimed that improved seed was beneficial when the rain was good and also meant the crop stover could be used for livestock feed. But under drought conditions, improved seed was less beneficial than traditional seed. So producers tried to combine both types of seed to improve their chances of success given the uncertain meteorological context. Producer adaptability encouraged by the IPs confirms the hypothesis put forward by Nederlof and Pyburn (2012) that farmers must intensify their production systems to adapt to the constant changes in their production environment.

### **Positive impact of participation in IP meetings on boosting agricultural production**

- 35 Our regression shows that the members' participation in the IP has a positive effect (statistical level of 1%) on the perceived increase in their agricultural production as measured on the Likert scale. According to the platform members, this link is attributable to improved skills that differentiate the way in which the IPs work compared with the other types of groups. The Volta2 IP placed considerable emphasis on its members' skills. The IP meetings provided a forum for the exchange of information and knowledge between the various platform participants, which is a crucial function of any network (Hekkert and Negro, 2009). The IP meetings provided the members with a variety of

training sessions about agricultural production, new livestock feeding and husbandry techniques, market access, composting, construction of pens, etc. The IP meetings also helped bring the members of the same village closer together and to facilitate the villagers' access to the various agricultural development services. This improvement in the platform members' human and social capital therefore contributed to increasing agricultural production.

## Conclusions

- 36 This article presents the results of field surveys of the stakeholders involved in the Volta2 innovation platform project, which aimed to improve the beneficiaries' crop and livestock production. The quantitative results obtained by regression combined with the qualitative data collected in the field allow us to conclude that there has been an improvement in the project beneficiaries' human and social capital through new growth prospects of their partner network, technical training in the areas of production and marketing, and access to agricultural development services. This has therefore empowered the producers to seek solutions to their problems with the assistance of the various partners and in so doing contribute to improving their agricultural production.
- 37 These results corroborate those of other studies identifying IPs as an efficient tool for supporting a complex, multi-stakeholder system for developing agriculture and the value chains in developing countries. Similar studies will need to be carried out, in particular taking into account the project non-beneficiaries in order to gain a better understanding of the impact of an IP project on the beneficiaries and their activities. There is nonetheless a problem surrounding the future benefits of the Volta2 project IPs, given the short project lifespan. The project moderators encouraged these IPs to join existing institutions or those already having some legal entity (Somé, 2013). This aspect needs to be increasingly taken into account when launching similar projects in order to provide sufficient time for the beneficiaries to take better ownership of the complex operation of IPs so that they are in a position to continue the activity beyond the project's conclusion.

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## BIBLIOGRAPHY

Cadilhon, J.J. (2013), "A Conceptual Framework to Evaluate the Impact of Innovation Platforms on Agrifood Value Chains Development", *A paper prepared for the 138th EAAE Seminar on Pro-poor Innovations in Food Supply Chains, Ghent, Belgium, September 11-3, 2013.*

Cadilhon, J.J., Téo, G., Mariami, Z.A. (2013), *Questionnaires et Données pour la Validation Empirique d'une Approche Conceptuelle pour Evaluer l'Impact des Plateformes d'Innovation sur le Développement de Chaînes de Valeur Agro-alimentaires au Ghana et au Burkina Faso*, ILRI, Nairobi. <http://cgspace.cgiar.org/handle/10568/33829>.

CORAF (2011), *Analyse des Mécanismes de Diffusion des Technologies Agricoles Améliorées et Innovations dans l'Espace CEDEAO. Rapport de Mission*, CORAF, Dakar.

CPWF (2010), *Project Proposal, Volta Basin Development Challenges of the CPWF*, CGIAR Challenge Program on Water and Food (CPWF), Ouagadougou, Burkina Faso.

Dabiré, D., Andrieu, N., Triomphe, B. (2012), "Bilan des Dispositifs de Recherche en Partenariat au Burkina Faso. Partenariat, Modélisation, Expérimentations : quelles Leçons pour la Conception de l'Innovation et l'Intensification Ecologique ?" *Article published after the ASAP seminar in November 2011 in Bobo-Dioulasso, Burkina Faso.*

Gereffi, G., Humphrey, J., Sturgeon, T. (2005), "The governance of global value chains", *Review of International Political Economy*, Vol. 12, pp. 78-104. doi: 10.1080/09692290500049805.

Hekkert, M.P., Negro, S.O. (2009), "Functions of Innovation Systems as a Framework to Understand Sustainable Change: Empirical Evidence for Earlier Claims", *Technological Forecasting and Social Change* Vol. 76, pp. 584-594. doi: 10.1016/j.techfore.2008.04.013.

ILRI (2012), "What are Innovation Platforms?" *Proceedings from the International Livestock Research Institute (ILRI) Internal Meeting on Innovation Platforms, Nairobi, 6-7 December 2012*, ILRI, Nairobi. Kenya.

Lefort, J. (1988), "Innovation Technique et Expérimentation en Milieu Paysans", *Les Cahiers de la Recherche Développement* Vol. 17, pp. 1-10.

Likert, R. (1932), "A technique for the measurement of attitudes", *Archives of Psychology* Vol. 22, pp. 5-55.

Mapila, M.A.T.J., Kirsten, J.F., Meyer, F.H. (2011), "The Impact of Agricultural Innovation System Interventions on Rural Livelihoods in Malawi", *Development Southern Africa* Vol. 29, pp. 303-15.

Nederlof, S., Pyburn, R. (eds.) (2012), *One Finger Cannot Lift a Rock: Facilitating Innovation Platforms to Trigger Institutional Change in West Africa*, KIT Publishers, Amsterdam, Netherlands.

Nyikahadzoi, K., Pali, P., Fatunbi, A.O., Olarinde, L.O. *et al.* (2012), "Stakeholder Participation in Innovation Platform and Implications for Integrated Agricultural Research for Development (IAR4D)", *International Journal of Agriculture and Forestry* Vol. 2, pp. 92-100. doi : 10.5923/j.ijaf.20120203.03.

Ripama, T., Sawadogo, S.P. (2009), *Recensement Général de la Population et de l'Habitation (RGPH) de 2006; Monographie de la Région du Nord*, Ministry for the Economy and Finance, Ouagadougou, Burkina Faso.

Somé, H. (2013), "Developing rainfed crop-livestock value chains through Innovation Platforms: experiences with rural communities in the Volta Basin", CPWF Volta Brief, CPWF, Ouagadougou, Burkina Faso.

Téno, G., Cadilhon, J.J., Somé, H. (2013), "Impact of Volta2 Innovation Platforms on Improvement and Increase of Crop and Livestock Production in Four Villages of Yatenga Province, Northern Burkina Faso", *A presentation to the Volta Basin Development Challenge Final Scientific Workshop, Ouagadougou, Burkina Faso, 17-19 September 2013.*

Wey, J., Dongmo, A.L., Dugué, P., Nopelba, O. *et al.* (2010), "Expérimentation d'une Méthode de Recherche Action", in Seiny Boukar L, Boumard P. (eds.), *Savanes Africaines en Développement : Innover pour Durer. Actes du Colloque, Garoua, Cameroon, 20 -23 April 2009*, PRASAC, N'Djamena, Chad.

World Bank (2012). *Agricultural Innovation Systems: an Investment Sourcebook*. The World Bank, Washington DC, United States.

Zewdie, A.M., Cadilhon, J.-J., Werthmann, C. (2015), "Impact of innovation platforms on marketing relationships: the case of Volta Basin integrated crop-livestock value chains in Ghana", *African Journal of Agricultural and Resource Economics* Vol. 10, pp. 328-342.

## ABSTRACTS

Innovation platforms are a development tool used increasingly to support the stakeholders in complex systems for agricultural development in developing countries. This article presents the results of a study measuring the impact of innovation platforms on improving agricultural production for the beneficiaries of a project in Yatenga province, northern Burkina Faso. This innovation platform was installed in 2011 as part of the activities of the Volta2 project, operating jointly in Burkina Faso and Ghana. The results of surveys using Likert scales to quantify the project beneficiaries' perceptions and qualitative surveys of the various partners revealed that there was an improvement in agricultural production. This improvement has been attributed to the Volta2 project's innovation platforms, which enabled an increase in the beneficiaries' social and human capital, empowering them to seek and find local solutions adapted to their problems.

## INDEX

**Keywords:** innovation systems, agriculture, productivity, Burkina Faso

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