Innovation Platforms for Agricultural Development

Evaluating the mature innovation platforms landscape

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2 With trust and a little help from our friends

How the Nicaragua Learning Alliance scaled up training in agribusiness

Dirk Hauke Landmann and Jean-Joseph Cadilhon

Will Nicaragua become the next basket case of failed agricultural development? Unfortunately, trends do not look promising. Nicaragua is the second poorest and one of the least developed countries in Latin America (The World Bank Group, 2014b). Its development story has gone through natural hazards and major upheavals in its society and political system. As a result, 42 per cent of the 6.08 million Nicaraguan population is still living in rural areas in 2013 (FAOSTAT, 2014) and 80 per cent of the poor live in the countryside (The World Bank Group, 2014a). Although agriculture is a main driver of economic growth, representing 22 per cent of Nicaraguan GDP, it is characterized by low productivity (FAOSTAT, 2014). The government has tried to strengthen the economy over the past 20 years by increasing exports and foreign direct investments but the strategy was not successful due to the 2008–2009 global financial crisis (The World Bank Group, 2014a). Furthermore, Nicaraguan farmers are generally not aware of business entrepreneurship and market dynamics (CATIE, 2008). Not being able to link themselves to markets or to build a robust business plan put farmers in weak positions when doing business with their input suppliers and produce buyers. It is this last challenge that partners involved in the Nicaragua Learning Alliance are trying to address.

On the brighter side, the Nicaraguan agricultural sector is well organized: 4,124 cooperatives were operating on agricultural topics in 2007, representing 62 per cent of all cooperatives in the country. They were spread out to cover all agricultural products and provinces (Lafortezza and Consorzio, 2009). The Nicaragua Learning Alliance (NLA) is a national IP that was founded in 2008. It has been able to leverage this dense network of cooperatives to strengthen the awareness of farmers' organizations and their members on agribusiness development in all types of agricultural products. Overall, the ten NLA members have trained representatives in 77 producers' cooperatives, who then trained a total of 19,347 households in Nicaragua thanks to a snowball training

mechanism, the trust developed in the project managers and the relevance of their training methods. Our case findings also show that the cooperatives trained by the NLA do recognize the Alliance, rather than other agribusiness training networks, as the provider of the applicable knowledge and skills they have learned. This case study uncovers how the NLA has organized its training process to reach so many final beneficiaries, and evaluates the alliance's setup in view of its expected outcomes in knowledge development.

More efforts needed to develop Nicaragua's agribusiness base

Agriculture accounts for 32 per cent of Nicaragua's exports and 32 per cent of its employment (Lafortezza and Consorzio, 2009). The agricultural labour force is dominated by men (92 per cent). Coffee is the most economically important product in the country's otherwise diversified agricultural production (Table 2.1). Coffee is also the product with the biggest export value, followed by beef, sugar, peanuts and milk products (FAOSTAT, 2014).

The agricultural sector has been heavily influenced by the country's turbulent history. The year 1979 marked the triumph of the Sandinista revolution, and the beginning of socialist reforms in which land distribution played a central role. Soon after taking power, the Sandinista government began seizing large farms and redistributing land among rural landless poor and organizing farmers into cooperatives.

However, the Revolution was short-lived and the socialist regime was replaced by a market-oriented government after just ten years. Consequently, many agricultural cooperatives were dissolved and farmers began cultivating their land individually. Nevertheless, many cooperatives still exist (Ruben and Lerman, 2005). Cooperatives are also geographically widely spread across the

Figure 2.1 Jesús Matamoros, smallholder coffee producer on 'El Plan' farm, community of Las Escaleras, Matagalpa, Nicaragua

Photo: CIAT/Adriana Varón

Table 2.1 Nicaraguan principal agricultural products and their share of agricultural GDP

Product	*Percentage of total agricultural GDP*
Coffee	20
Beans	14
Sugar cane	11
Maize	9
Rice	9
Nuts	7
Others	30

Source: Lafortezza and Consorzio, 2009

country (Lafortezza and Consorzio, 2009). Farmers have numerous motives for participating in these cooperatives: access to financial support and credit, extension agents, etc. According to the Central American Bank for Economic Integration (BCIE) (Table 2.2), there were 6,655 cooperatives in Nicaragua in 2007, 62 per cent of which were in the agricultural sector (Lafortezza and Consorzio, 2009).

Figure 2.2 Smallholder coffee producer José Pérez, his wife Gloria with children and grandchildren, 'La Loma' farm, community of Las Escaleras, Matagalpa, Nicaragua

Photo: CIAT/Adriana Varón

Table 2.2 Registered cooperatives in Nicaragua in 2007

Sector	*Total*	*(%)*
Agriculture	4,124	61.97
Transport	966	14.52
Multiple services	454	6.82
Fishery	366	5.50
Savings and credits	323	4.85
Multisectorial	106	1.59
Others	316	4.75
Total	6,655	100

Source: Lafortezza and Consorzio, 2009

Nicaraguan agriculture still has a significant potential to increase its production. This is particularly important considering agriculture is a major driver of the economy, both domestically and through exports. The government is targeting smallholders like José Pérez and his family (see Figure 2.2) because they produce most of the country's agricultural goods (The World Bank Group, 2012). Smallholder farmers in Nicaragua are still facing technical hurdles such as access to water and battling crop and livestock diseases, which lead to low productivity (CATIE, 2008). This low productivity in turn hinders public and private investments, technological innovation, business development services and access to rural finance. The socialist past also explains how Nicaraguan farmers and their organizations have rather weak skills in agribusiness management and development. As a result, they are not well equipped to link themselves to suppliers and customers in today's market-oriented system. International development partners such as CIAT, CARE, CRS and others realized that agribusiness training would be a better long-term strategy to empowering rural farming communities in Latin America than showering aid money on them. They thus created the regional Learning Alliance (LA)[1] for Latin America to foster agribusiness training among Latin American smallholder farmers. The Nicaraguan partners of the LA then went on to set up the NLA to reach this regional objective in Nicaragua (Lundy and Gottret, 2005).

How the NLA trained over 19,000 farmer households from beach to mountain in Nicaragua

Organization of the Learning Alliance

The development partners who were members of the regional learning alliance met to identify the topics for learning that would be relevant for most countries where they had activities in Latin America. Having identified agribusiness development as a useful training topic to empower smallholder farmers and their organizations, they developed a standardized training method that was then used in the different national platforms. The methodology utilizes an approach for

Figure 2.3 Cover pages of NLA guide no. 1 on self-evaluation for the management of rural associative enterprises and guide no. 2 on strengthening socio-organizational processes in farmers' groups

Source: CATIE, www.catie.ac.cr/es/

strengthening the socio-organizational and business management of rural agricultural enterprises. It includes a series of five methodological and training guides covering several topics (AdA, 2014a). The first two guides focus on the organizational skills of farmers' groups: self-evaluation provided for the management of rural associative enterprises and strengthening farmers' groups' socio-organizational processes (see Figure 2.3). The third and fourth training guides aim to deal with managing an agribusiness enterprise: strategic orientation with a focus on value chain and business plans development. Finally, the fifth guide targets farmers' organizations with training on strengthening of services.

The process of each learning alliance is structured in cycles (Figure 2.4) in which the alliance members and their partners follow the process along seven steps (AdA, 2014b):

1 identify what stakeholders want to learn at the end of the process (question of learning);
2 recognize the knowledge that currently exists that could provide an answer to the question (a good existing practice);
3 select the methods or tools identified as good practices to use or adapt (prototype) to answer the question of learning;
4 co-develop the prototype in practice that applies in the field, through training and personal guidance;
5 implement the developed prototype (field application);

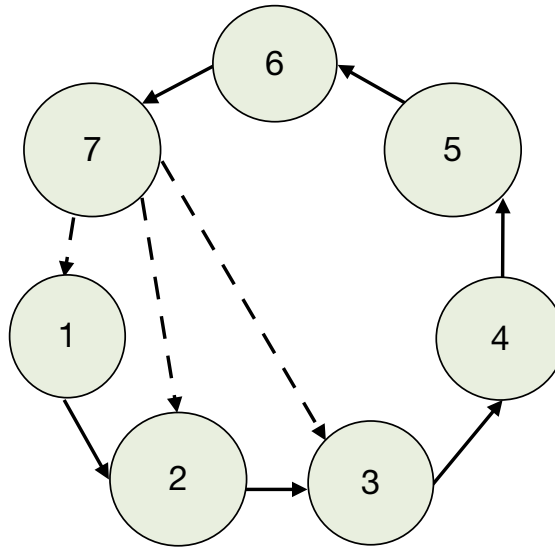


Figure 2.4 Learning cycle of the Learning Alliances
Source: AdA, 2014b

6 write workshops to reflect on the lessons learned and share the results with others (documentation and systematization of results);
7 identify empirical evidence for the conceptual development and recognize political implications, which will lead to improved practices and knowledge (selection of learning).

In Nicaragua a number of different NGOs came together to form the NLA with the International Center for Tropical Agriculture (CIAT). These included CRS, FUNICA, GIZ, LWR, OXFAM, SwissContact and VECO Mesoamerica. They were joined by CATIE, a research organization and FENACOOP R.L., a third-level national farmers' cooperative. The NLA completed three learning cycles between 2008 and 2013, with training activities and beneficiaries concentrated in the provinces of Matagalpa, Jinotega, Estelí, Madriz and Nueva Segovia (Figure 2.5).

The NLA used the dense network of NGOs and farmers' cooperatives in Nicaragua (Figure 2.6) to scale up its training on agribusiness development.

The NLA members listed above first constituted a working group. Each of the NLA members assigned and sent a representative, the project manager, who worked actively in the group to develop and improve training guides. The project managers then used these guides at the provincial offices of their organizations to train second-level cooperatives: unions or associations of farmers' cooperatives that operate at the local level in a given province.

This chain continued further, with second-level cooperatives training representatives of first-level cooperatives, who represent producers in rural areas. Finally, the first-level cooperatives replicated the training for their members: the individual producers. Sometimes, one or more of these levels would be skipped, depending on the configuration of local networks. To improve the guides during the process described above, the NLA's project managers had regular meetings to exchange information and experiences on how the trainings went.

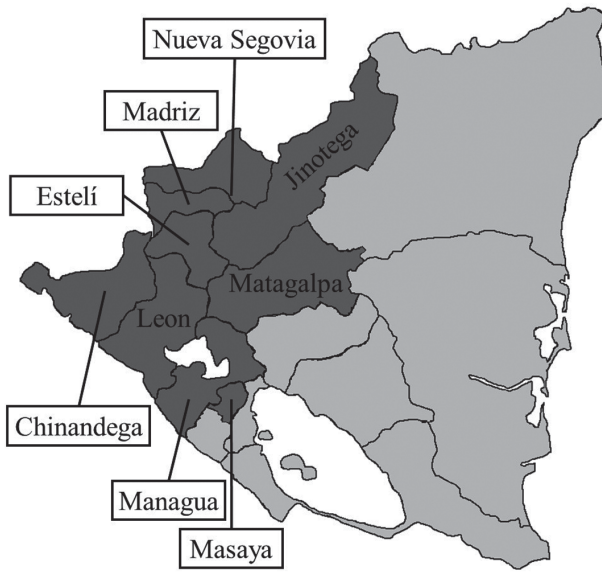


Figure 2.5 Provinces of Nicaragua where data collection occurred for this study
Source: Own graphic

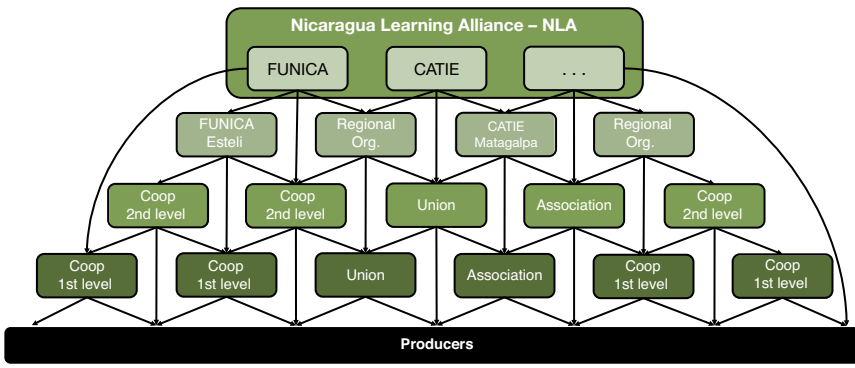


Figure 2.6 Structure of training process within the NLA
Source: Own research

NLA results: more than 19,000 farming households benefitted from agribusiness training

Because training is a development intervention with longer-term impacts than direct aid to help beneficiaries take active decisions on improving their lives, the NLA placed training at the forefront of its strategy and committed massive financial resources for it. The NLA members initially contributed USD341,740 to developing the first two learning cycles between 2008 and 2012. They also directly invested money to support 77 participating farmers' organizations. The first learning cycle included 26 producers' organizations and reached a total of 6,647 farming families producing coffee, cocoa, vegetables, basic grains, plantains, roots and tubers, milk and honey. Some 30 per cent of these participants and partners were women. The second and third learning cycles covered another 51 producers' organizations, representing around 12,700 families producing coffee, cocoa, vegetables, basic grains, dairy, honey, rice, banana, sugarcane, sesame and cashew nuts (AdA Nicaragua, 2012).

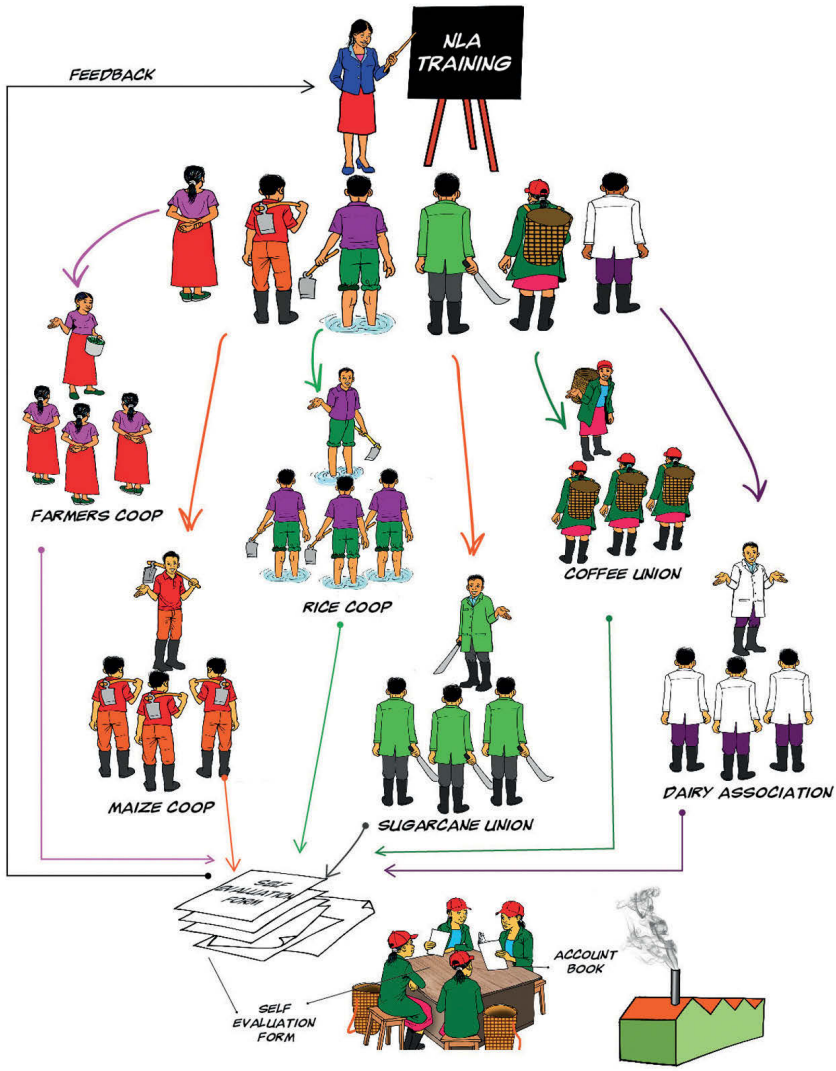
Some NLA members are still using the guides to train their partners outside of the official NLA learning cycles. The NLA distributed self-evaluation forms allowing every farmer who used the guides to measure his or her business against the status quo and detect the areas in which opportunities exist for improvements. CATIE also published a book in 2010 with reports from 23 partners participating in the NLA activities (Lorio *et al.*, 2010). It documents the success of the LA method in Nicaragua with respect to the guides used.

The NLA was thus successful in training a large number of individual Nicaraguan farmers by using the dense network of agricultural cooperatives, to which a majority of farmers are affiliated (Figure 2.6). But the question still remains: did all this training by the NLA and its network of participating cooperatives contribute to real agribusiness development of smallholder farmers? If yes, then how did this impact come about?

Research model and method to understand how IPs work

To understand how the NLA works and how it manages, or not, to reach expected training outcomes, this case study combines three different approaches to form one model (Cadilhon, 2013). The overall logic of the model is borrowed from the Structure–Conduct–Performance (SCP) Model coming from industrial organization theory. Applied to IPs, our model assumes that the structure of the platform impacts the conduct of its members that in turn impacts the performance of the platform.[2] In other words, how an IP is organized directs how its members interact and do business together, which over time determines how successful the IP is at fulfilling its objectives. Our model also borrows some insights from New Institutional Economics. This theory recognizes the existence of complex and sometimes nebular types of multi-stakeholder entities (platforms, groups, institutions, organizations) within societies and markets.

NICARAGUA LEARNING ALLIANCE



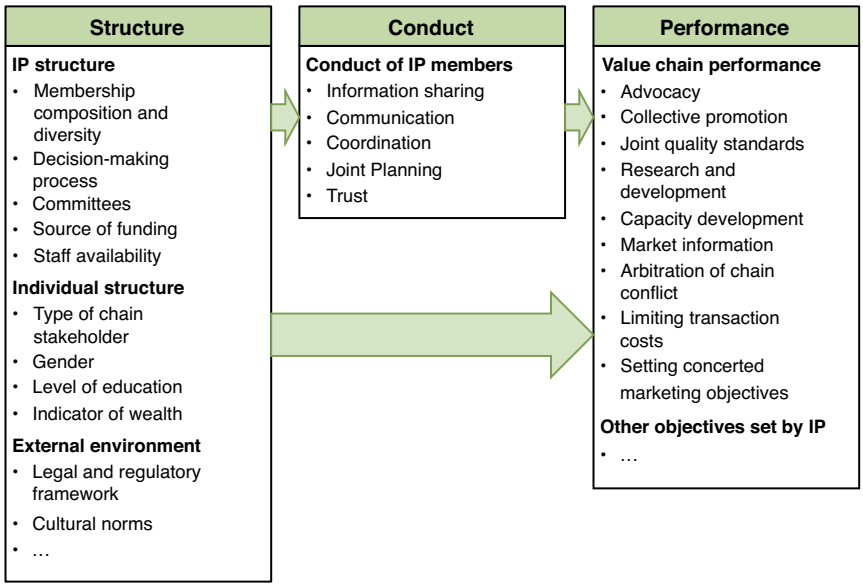


Figure 2.7 Elements of a theoretical model to monitor and evaluate the performance of IPs in a value chain context

Source: Cadilhon, 2013

Finally, the variables used to measure structure, conduct and performance in our model are adapted from the marketing research and business relationships literature to fit IPs (Figure 2.7).

In this model, some elements characterize how IP members act. These elements are defined as information sharing, communication, coordination, joint planning and trust. The elements characterizing the performance of national-level platforms such as the NLA are advocacy, value chain development, nurturing smaller platforms and capacity development (Cadilhon, 2013).

Although three-quarters of the survey respondents were men, the total farmer membership of the organizations the respondents represented was made up of 69 per cent men and 31 per cent women producers. Three cooperatives interviewed were women-only; all the others were mixed-gender cooperatives. Appendix 2.1 shows the main characteristics of the individual survey respondents and the farmers' organizations they represent. It is worth highlighting two points: the majority of farmers' organizations were involved in several agricultural products and the most important source of funding for the respondents' organizations came from NGOs. Appendix 2.2 details all the descriptive tables of the quantitative data we collected.

Box 2.1 Research methodology

In this study, we concentrate on trust as the indicator of platform conduct. Our analysis also focuses on capacity development to evaluate the NLA's training performance. We gathered both qualitative and quantitative data. We interviewed 20 key informants, held five focus group discussions with individual farmers and observed meetings of various actors in the agricultural sector (Landmann, 2015). By mixing introductions from NLA members, random sampling and snowball sampling, we managed to complete 90 individual surveys: 38 respondents represented a farmers' organization involved in the NLA network; another 52 representatives of farmers' organizations not involved in the NLA network represented our control group for the quantitative data. We then analysed the quantitative data using descriptive statistics procedures, analysis of variance, factor analysis and regression analysis. We used the qualitative data to triangulate the results from the statistical analyses so as to validate our theoretical model.

The Central American Bank for Economic Integration (BCIE) undertook a comparable study of Central American farmers' organizations. It collected data from 63 representative Nicaraguan cooperatives (Lafortezza and Consorzio, 2009). Our data sample shows similar results to the BCIE study in terms of main commodities produced and exported by the cooperatives, and in terms of gender balance in the farmers' organizations. Differences are found mainly in the size of the interviewed organizations whereby our study also includes some second-level and first-level cooperatives with more than 10,000 members. Moreover, 35 per cent of the BCIE sample had not received any training whereas all the farmers' organizations in our sample were connected to a training partner. Despite these differences, the overall similarities allow us to consider that our sample is representative of the farmers' organizations in the provinces where the NLA is active.

The NLA is as good as other networks in agribusiness training to farmers

Statistically speaking, there was no significant difference in the conduct and performance of NLA network members as compared with the control group. Thus, despite all the money and efforts invested by the NLA members into the learning alliance, participating in the NLA learning cycles did not give beneficiaries an advantage in strengthening interactions between network partners nor in improving skills in agribusiness management.

The reason for this lack of difference is the current structure of Nicaraguan agriculture. Agricultural cooperatives are a very common way for farmers to

organize themselves. Many farmers are members of more than one cooperative undertaking different activities: e.g., financial support or credit, production of different agricultural goods, multi-sectorial cooperatives. All the first-level cooperatives interviewed were working directly or indirectly with other partners such as second-level cooperatives, third-level cooperatives, national associations, unions, farmers' field schools, NGOs, research institutes, private sector players such as traders, exporters or processors, and with governmental institutions such as INTA, MAGFOR or MEFCCA. All key informants and farmers involved in the focus group discussions confirmed they participated in more than one organization conducting training. Furthermore, 78 per cent of individual respondents said their organization was participating in more than one group or learning network.

Because of the abundant supply of agricultural development partners, the NLA was not alone in training farmers nor did it impact their behaviour significantly. So were the NLA's massive funding and intensive activities a waste? The next section reveals the costly though intangible factor that cements the entire learning alliance network together and contributes to its success: trust.

Foster trust for long-term success in agribusiness training

Trust building is a complex and integral part of sustainable business relationships (Laeequddin *et al.*, 2010). Trust is often fostered by many components and actions of the business partners such as regular physical and institutional interactions, expectations fulfilled, a recognized brand name, a written contract. Although the NLA is not a supplier–customer business relationship, it is attempting to develop the agribusiness mentality of beneficiary organizations, so it is relevant to study effects of trust in this IP (Cadilhon, 2013).

The relationship built between NLA members and their network of farmer's organizations often consisted of more than just the training guides of the learning cycles: there was also co-funding and other technical training provided. All these other activities and more frequent physical meetings with the project manager from the NLA members contributed to building up the trust between the NLA members and the farmers' organizations they work with directly. This can help explain the findings reported in Tables 2.3 and 2.4. Although there was no statistically significant difference in the NLA's overall performance on agribusiness training, there were significant differences when going deeper into the local networks involved.

Representatives of farmers' cooperatives active at the second level of the network were getting training directly from the project manager of the NLA member. They tended to agree more that their knowledge and skills in agribusiness had improved thanks to their connection to the NLA when compared with representatives of farmers' cooperatives in a similar position within the network but who were not being trained by an NLA member. First-level cooperatives, who got trained by the second-level cooperatives rather than by

Table 2.3 Appreciation of capacity development performance by second-level cooperatives

Level	Second-level cooperative	
Element	Performance–capacity development	
Statement	6. In the past six years, we have gained knowledge and skills applicable in my activities from NLA stakeholders.*	
NLA-connection	*Not a member/no connection*	*Member/connection*
Mean*	2.40	4.43
Standard deviation	1.52	.53

* Scale: 1 = strongly disagree; 2 = disagree; 3 = undecided; 4 = agree; 5 = strongly agree. Means are statistically significantly different at a 1% level.

Source: Own data collection and analysis

Table 2.4 Appreciation of capacity development performance by first-level cooperatives

Level	First-level cooperative	
Element	Performance–capacity development	
Statement	6. In the past six years, we have gained knowledge and skills applicable in my activities from NLA stakeholders.*	
NLA-connection	*Not a member/no connection*	*Member/connection*
Mean*	3.50	4.42
Standard deviation	1.73	.58

* Scale: 1 = strongly disagree; 2 = disagree; 3 = undecided; 4 = agree; 5 = strongly agree. Means are statistically significantly different at a 5% level.

Source: Own data collection and analysis

the project manager from an NLA member, reported a smaller effect of the NLA on their improved knowledge and skills in agribusiness since the NLA activities started.

Short reckonings make long friends: satisfactory financial dealings also helped sustain trust between partners. Many cooperatives interviewed saw financial support as a basic need that had to come with technical training to be successful, reflecting the fact that the majority of organizations interviewed had NGOs as their main source of funding. This has to be taken critically because financial support should not be indefinite. Rather, the main objective is to have successful producers' groups that are not overly dependent on external financial support (Lundy and Gottret, 2005).

One important element of trust in a business relationship is the personal relationship developed between representatives of organizations doing business

together. The effect of having a dedicated project manager involved in the relationship on trust building is illustrated by the counter-example of one of the NLA members: the national-level farmers' cooperative FENACOOP. Like the other NLA members, FENACOOP duly appointed a project manager in charge of representing the cooperative and working with the NLA. However, due to financial issues, the project manager was made redundant and nobody took over his tasks. The cooperative had to leave the NLA in the middle of a learning cycle and it discontinued teaching the modules to its network of local-level farmers' cooperatives. Conversely, the NGO FUNICA and the local research institute CATIE were some of the most active members of the NLA and adopted and extended all the guides within their networks. FUNICA's and CATIE's project managers worked very closely with their clients whether they were in a learning cycle or not. As FENACOOP stopped teaching the guides to their partners the trust in FENACOOP did not increase and the knowledge about agribusiness through the guides did not improve within its network. These are the reasons why the FENACOOP partners disagreed with statements related to 'increased trust in NLA products' (Table 2.5) and 'NLA's success' (Table 2.6) when compared with cooperatives working with other NLA members.

Finally, trust is often built from seeing expectations and commitments delivered by the business partner. Farmers in the focus group discussions said that they had more trust in the NGOs than in the government because the former were more reliable and had more financial resources that could be given to the cooperatives (INTA, 2011).

We also imputed our quantitative data in a regression analysis to show how structure variables had an impact on developing trustful relationships (Table 2.7). The regression results confirmed that the proximity of the farmers' organization with the NLA member within the network has an impact on trust: cooperatives active in the network at national and regional levels have

Table 2.5 Appreciation of trust on products provided by different NLA members

Element	Conduct–trust	
Statement	8. Our trust on products provided by the NLA/our organization has increased.*	
NLA-member	*Mean*	*Standard deviation*
FUNICA	4.21	.70
CATIE	4.43	.53
CRS	4.00	.63
FENACOOP	2.67	.58

* Scale: 1 = strongly disagree; 2 = disagree; 3 = undecided; 4 = agree; 5 = strongly agree. Means are statistically significantly different at a 1% level.

Source: Own data collection and analysis

Table 2.6 Appreciation of the success of different NLA members

Element	Conduct–trust	
Statement	13. The NLA is known to be successful at the things it tries to do.⋆	
NLA-member	*Mean*	*Standard deviation*
FUNICA	4.57	.51
CATIE	4.29	.49
CRS	4.18	.60
FENACOOP	3.33	.58

⋆ Scale: 1 = strongly disagree; 2 = disagree; 3 = undecided; 4 = agree; 5 = strongly agree. Means are statistically significantly different at a 5% level.

Source: Own data collection and analysis

developed a more trusting relationship with their NLA counterpart than cooperatives further down in the network at village and community levels. This positive impact of the position of the organization within the network on trust could be explained by the higher frequency of meetings with the project manager from an NLA member for the national and regional cooperatives, in line with similar results on inter-personal trust in the literature on marketing business relationships (Laeequddin *et al.*, 2010). The negative sign of the regression coefficients for the variables related to source of funding (where NGO funding is always the base for the scale) also confirmed that NGOs helping their network partners with funding were more likely to develop trust from their partners.

A second regression model (Table 2.8) showed that, for the cooperative representatives interviewed, factors representing 'trustful relationships' and 'trustful contracts' both had a positive impact on the factor representing 'innovation'. This provides further empirical backing of the importance of trust within the NLA network to reach one of its learning outcomes: improved innovation capacity in agribusiness. However, the lack of statistical significance of the variable 'Connection with NLA' in both regression models also confirmed that the NLA had not had a significant impact on developing trust or improving agribusiness skills of farmers' cooperatives compared with other learning mechanisms in the Nicaraguan agricultural sector.

Suggestions for improvements of the NLA learning cycles

One technician from a governmental institution (who asked to remain anonymous) said that the NLA training guides and their content were very good. However, he mentioned that the way they were taught to farmers was not very successful: the language of the NLA guides was not adjusted to the regional dialect, thus making the training less relevant. Furthermore, the

Box 2.2 Coffee producers' cooperative learns how to manage its books and reputation from NLA partners

In 2006 29 smallholder coffee producers from a Jinotega community formed the '19 de Julio' cooperative to commemorate the Nicaraguan independence date. At first, the cooperative was disorganized: members lacked knowledge on fundamental management processes. Worse, lack of trust between cooperative members and managers, and other economic and social problems, contributed to worsening the disorganization. Having realized the magnitude of its organizational problems, the cooperative was invited to join the NLA learning cycles by CATIE, the national-level research centre. This had a major influence in optimizing their strategic planning and reorganization. CATIE and the second-level agricultural cooperative Union of Jinotega Agricultural Cooperatives (UCA SOPPEXCCA) were both involved in providing training to the representatives of the primary cooperative, with the main goal of improving the living standards of farming families. UCA SOPPEXCCA also supported the 19 de Julio cooperative and its individual members with financial and technical help to strengthen its development. The training provided led to major changes in the cooperative's practices in coffee production and commercialization, enterprise organization, strategic orientation, communication and administration, and dealing with social and environmental issues.

Oscar Antonio Guzmán, a member of the cooperative's executive board remembers: 'Recently, we have been privileged to be trained; we have learned how to produce better on our farms and how we should manage the cooperative better. Because beforehand, we did not know how to manage the register books and now we are doing this by ourselves.'

As a result of the NLA's training, better management has increased members' trust in the cooperative process. They are now able to sell their goods to the international coffee market and the membership has increased to 37 individual members. Ada Lila Lumbi, a female member since 2007, reflects: 'I obtained my land plot through a credit from SOPPEXCCA. From there to now I've seen changes in my life: I've obtained a bit more income. My family has four boys and whatever problem that I have, I consult my cooperative.'

Adapted from Lorio *et al.* (2010, pp. 21–24).

Table 2.7 Regression analysis of selected structure indicators on the factor 'trustful relationships'

Dependent variable: Factor: trustful relationships	*Unstandardized coefficients*		*Standardized coefficients*	*t*	*Sig.*	*Collinearity statistics*	
	B	*Std. Error*	*Beta*			*Tolerance*	*VIF*
(Constant)	.293	.990		.296	.768		
Level of education★[a]	–.302	.123	–.281	–2.464	.016	.587	1.702
Years working for the organization[b]	.025	.014	.162	1.752	.084	.891	1.123
Percentage of male producers that are members of your organization or influenced by it★	.015	.005	.288	2.919	.005	.783	1.278
Position of the organization inside the network★[c]	–.197	.088	–.260	–2.230	.029	.564	1.774
Connection with NLA[d]	–.279	.211	-.138	–1.321	.191	.699	1.430
Did you ever leave a group/IP/cooperative?[d]	–.349	.216	–.160	–1.612	.112	.780	1.282
Active as a producer★[d]	.824	.384	.294	2.146	.036	.407	2.460
Active as a trader★[d]	–.689	.337	–.273	-2.047	.045	.428	2.335
Active as a funding agency★[d]	1.411	.665	.212	2.123	.037	.768	1.303
Active as a financial organization★[d]	.668	.246	.314	2.710	.009	.568	1.761
The most important source of funding is operation generated cash★[d]	–.525	.238	–.235	–2.204	.031	.675	1.482
The most important source of funding is the government[d]	–.579	.429	–.135	–1.349	.182	.764	1.309
The most important source of funding is membership fees★[d]	–.908	.316	–.290	–2.870	.005	.748	1.337
The most important source of funding is credits by the private sector[d]	–.418	.300	–.139	–1.396	.167	.768	1.302
Have you ever shared business/production information with others?[d]	.687	.405	.174	1.698	.094	.724	1.381
The most important channel of communication is the mobile phone[d]	–.839	.465	–.398	–1.805	.076	.157	6.376
The most important channel of communication is the computer[d]	.139	.469	.066	.296	.768	.152	6.575
The most important channel of communication is meetings	–.174	.478	–.074	–.363	.717	.183	5.467

★ Variables with significant influence on the Factor: Trustful relationships.
R-Square = 0.488; Adjusted R-Square = .350; Significance = 0.000; level of significance $p < 0.05$.
[a] Scale: 1 = Primary; 2 = Secondary; 3 = Technical certification; 4 = University; 5 = Postgrade; 6 = PhD. [b] Scale: Years in numbers. [c] Scale: 1 = National organization; 2 = Regional organization; 3 = Cooperative 3rd level; 4 = Cooperative 2nd level; 5 = Cooperative 1st level. [d] Scale: 0 = No; 1 = Yes.

Source: Own data collection and analysis

Table 2.8 Regression analysis of selected structure and conduct indicators on the factor 'innovation'

Dependent variable: Factor: innovation	*Unstandardized coefficients*		*Standardized coefficients*	*t*	*Sig.*	*Collinearity statistics*	
	B	*Std. Error*	*Beta*			*Tolerance*	*VIF*
(Constant)	–1.709	.907		–1.883	.064		
Years working for the organization★[a]	.044	.013	.294	3.381	.001	.914	1.094
Connection with NLA[b]	.249	.177	.124	1.405	.164	.885	1.129
Position of the organization inside the network★[c]	–.131	.065	–.178	–2.010	.048	.883	1.132
1. We usually share information about production with other stakeholders[d]	.172	.117	.130	1.467	.147	.881	1.135
11. The NLA/our organization exchange information about their ongoing activities with us[d]	.208	.123	.167	1.690	.095	.711	1.407
13. We plan our activities together with the NLA/our organization according to our production potential and customer demand★[d]	–.260	.115	–.224	–2.265	.026	.707	1.415
14. Our viewpoints are taken into account by the NLA/our organization when they plan their activities[d]	.028	.142	.022	.201	.842	.558	1.791
15. Joint planning of activities with the NLA/ our organization has improved in the last six years★[d]	.447	.126	.378	3.541	.001	.607	1.646
10. We prefer to have long-term relationships[d]	–.174	.125	–.127	–1.387	.169	.828	1.208
Factor: Trustful relationships★	.252	.096	.248	2.613	.011	.771	1.298
Factor: Trustful contracts★	.230	.091	.231	2.532	.013	.834	1.200

★ Variables with significant influence on the Factor: Innovation.
R-Square = 0.480; Adjusted R-Square = .404; Significance = 0.000; level of significance $p < 0.05$.
[a] Scale: Years in numbers. [b] Scale: 0 = No; 1 = Yes. [c] Scale: 1 = National organization; 2 = Regional organization; 3 = Cooperative 3rd level; 4 = Cooperative 2nd level; 5 = Cooperative 1st level. [d] Scale: 1 = strongly disagree; 2 = disagree; 3 = undecided; 4 = agree; 5 = strongly agree.

Source: Own data collection and analysis

contents of the guides were applicable to the whole country of Nicaragua, not necessarily accommodating regional niche products. Cooperative representatives and farmers confirmed this latter statement. Aware of these problems, FUNICA has already modified its training guides to address these criticisms.

Some farmers and cooperatives declared that they would like to share information and experiences with each other using the NLA's learning methods but within the same level of the network rather than receiving training from, and extending training to organizations from the network's upper and lower levels respectively. Sharing experiences among farmers' cooperatives at the same level within the network would optimize the method and increase the benefits for the potential participants in this dialogue. Likewise, some cooperatives at first and second levels would like to participate in smaller platforms to improve their performance.

Although the NLA was supposed to be open to the public and private sectors (Lorio *et al.*, 2010), its members currently only consisted of NGOs or research organizations with a similar status in the Nicaragua agricultural development sector. Including representatives of the government- and private-sector-sponsored agribusiness learning programmes within the NLA would help it increase its coverage and incorporate successful learning processes already tested in other national IPs. This would also make the NLA fit better the definition of an IP (Homann-Kee Tui, 2013): a space for different types of stakeholders to get together to solve common problems.

Another criticism of the NLA was that its final beneficiaries were not really those who defined the platform's main goals and methods for achieving them. Indeed, the NLA was part of a bigger platform, the regional learning alliance, where the main goals were set by international development partners and all the participating national learning alliances such as the NLA. The NLA thus used a downstream structure for training where final beneficiaries had little say in what they were going to be taught.

Finally, the NLA's future was still subject to obtaining external funding, as mentioned cursorily in the NLA's strategic planning document (AdA Nicaragua, 2012). Each learning cycle depended on the NLA's donors and how much financial support each NLA member was offering. FENACOOP, for example, had to change their financial planning mid-cycle and the NLA project manager inside FENACOOP left. The fact that FENACOOP stopped working with the NLA because of a funding decision was the reason why FENACOOP was not rated as positively as other NLA members by its partners in the field.

The NLA has already started responding to the feedback it has gathered through its evaluation process and is now addressing all these criticisms. The 2013–2016 strategic plan called for the alliance to adapt better to the needs of the farmers. Furthermore, smaller regional platforms were being fostered and should get more responsibility to tackle the needs of the farmers that are uniquely specific to the different regions of Nicaragua. The NLA also wanted

to strengthen its financial situation and develop guides for financial issues at the production level (AdA Nicaragua, 2012).

Lessons learned for other IPs

Although the NLA was not significantly different from other Nicaraguan development networks in achieving positive results in agribusiness skills developed, overall, the levels of agribusiness skills have been increasing in Nicaragua thanks to all the available training initiatives. All these networks have benefitted from the strong cooperative structure in Nicaraguan agriculture and its long tradition of technical training to cooperative members down to the individual farmers. The NLA, governmental organizations, the private sector and other development networks were making the most of this situation to streamline their innovation processes through the cooperative network. Other IPs active in countries with similarly strong networks reaching down to individual farmers should tap into them to foster innovation rather than creating redundant parallel networks.

This study has also showed the importance of the personal involvement of a project manager designated by the NLA member to take part in physical meetings with other NLA members and their target audience in the network. The further away the target audience from the source of learning, the lower the perception of the usefulness of the learning mechanism in building skills. Other IPs should take note of this finding emphasizing the role of a dedicated physical IP facilitator to create a trustful environment between platform members, which will be conducive to information shared and innovations fostered.

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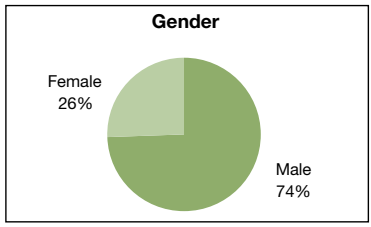
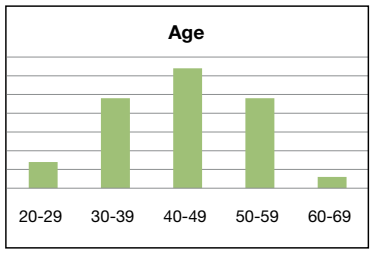
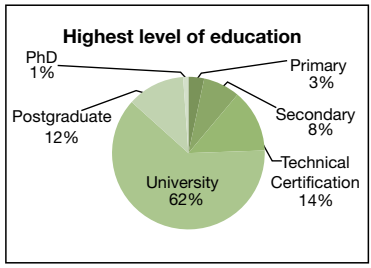
Appendices

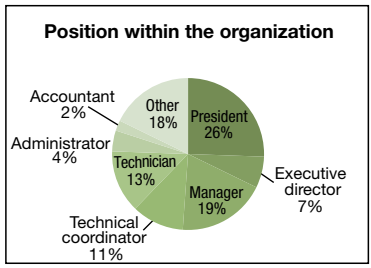
Appendix 2.1 Characteristics of the farmers' organizations interviewed and their representatives

Individual suervey respondents









Farmer's Organizations surveyed

Position and connection with the NLA of the organizations surveyed

Position of the organization within the network	Connection with NLA		Total
	Not a member/ No connection	Member/ Connection	
National organization	11	1	12
Regional organization	3	3	6
Third-level cooperative	1	1	2
Second-level cooperative	7	7	14
First-level cooperative	28	26	54
Not applicable/other	2	0	2
Total	52	38	90

Main agricultural product produced by organizations surveyed

	Percent
Coffee	46
Grains (beans, maize, rice)	37
Others (cattle, milk, vegetable, honey, cocoa)	18
Total	100

Main source of funding of organizations surveyed

	Percent
Operation generated cash	27.8
NGO funded	41.1
Government funded	7.8
Membership fees	11.1
Credit (private sector)	12.2
Total	100

Source: Own data collection and analysis

Appendix 2.2 Comparison of data collected between members and non-members of the NLA network

		Membership of NLA network					
		Non-member		*Member*		*Total*	
		Mean	*Std. dev.**	*Mean*	*Std. dev.**	*Mean*	*Std. dev.**
Age in October 2014		45	10	43	9	44	10
1	We usually share information about production with other stakeholders	4.33	.73	4.21	.78	4.28	.75
2	The information we get from the other business-partners is useful	4.58	.50	4.47	.65	4.53	.56
3	The information we get from the other business-partners/value chain partners is reliable/useful	4.35	.56	4.37	.59	4.36	.57
4	We attend periodic meetings of stakeholders to discuss common production/business problems	4.21	.89	4.39	.72	4.29	.82
5	We use contacts with other actors of the value chain to get information relevant to our business activities	4.35	.71	4.16	.79	4.27	.75
6	We are satisfied with the communication frequency we have with other stakeholders involved in production/business activities	3.81	1.01	3.87	.88	3.83	.95
7	We can express our views freely in exchanges with our value chain partners	4.48	.80	4.63	.54	4.54	.71
8	Our trust on products provided by value chain partners has increased	3.88	1.13	4.05	.73	3.96	.98
9	We have greater trust in our supplier/customer if they are also part of a group we are part of	3.90	1.01	4.05	.90	3.97	.97
10	We exchange information with our value chain partners about our ongoing activities	4.38	.66	4.29	.73	4.34	.69
11	Our value chain partners exchange information about their ongoing activities with us	4.02	.87	4.08	.82	4.04	.85
12	We plan our activities according to the activities of our value chain partners	3.96	1.03	3.74	1.16	3.87	1.08
13	We plan our activities together with our value chain partners according to our production potential and customer demand	3.98	.83	3.89	.95	3.94	.88
14	Our viewpoints are taken into account by our value chain partners when they plan their activities	4.08	.93	4.16	.75	4.11	.85
15	Joint planning of activities with our value chain partners has improved recently	4.08	1.06	4.13	.62	4.10	.90
If yes, how often per year		40.48	102.62	19.71	59.75	31.08	86.08

Appendix 2.2 continued

		Membership of NLA network					
		Non-member		*Member*		*Total*	
		Mean	*Std. dev.**	*Mean*	*Std. dev.**	*Mean*	*Std. dev.**
16	Trust is important for the activities with our business partners	4.71	.50	4.71	.52	4.71	.50
17	Our organization's business partners always give us correct information	4.13	.86	4.29	.61	4.20	.77
18	Our organization's business partners always try to inform us if a problem occurs	4.25	.76	4.16	.82	4.21	.79
19	Our organization's business partners always keep their promises	3.75	.81	3.68	.77	3.72	.79
20	The business partners' actions and behaviours are not very consistent	2.46	1.06	2.32	.84	2.40	.97
21	The frequency of contact has a positive influence on the trust	4.31	.76	4.45	.55	4.37	.68
22	Our organization has confidence in all its business partners	3.88	.63	4.03	.82	3.94	.72
23	We only maintain relationships with our business partners with clearly written terms and conditions	3.60	1.25	3.82	1.16	3.69	1.21
24	We only develop relationships with business partners who are fair to us	3.82	.93	4.26	.89	4.01	.94
25	We prefer to have long-term relationships	4.50	.64	4.47	.83	4.49	.72
26	We believe the information provided to us by the groups we participate in	4.19	.69	4.21	.58	4.20	.64
27	The NLA has a lot of knowledge about the work that needs to be done	4.34	.71	4.47	.69	4.41	.70
28	The NLA is known to be successful at the things it tries to do	4.32	.70	4.32	.62	4.32	.66
29	We do not mind paying the NLA subscription fee to get services relevant to us	4.06	.83	3.82	.80	3.95	.82
30	Representatives of the NLA facilitate innovation at the national level	3.72	1.16	3.73	1.04	3.73	1.10
31	Platform members communicate their achievement in other organized groups	3.73	1.11	4.11	.65	3.91	.93
32	The Learning Alliance lobbies for policy changes on national level	3.61	1.23	3.42	1.08	3.51	1.15
33	In the past 5 years, we have applied new techniques or machinery into our production, production process or management	3.81	1.12	3.87	1.14	3.83	1.12

34	In the past 5 years, we have gained knowledge and skills applicable in our activities from stakeholders outside NLA	4.33	.86	4.16	.82	4.26	.84
35	In the past 5 years, we have gained knowledge and skills applicable in my activities from NLA stakeholders	3.37	1.51	4.39	.59	3.86	1.27
36	We have improved our product in the last 5 years	4.38	.72	4.45	.60	4.41	.67
37	In the past 5 years, there has been an improvement in the interaction between policies, government and other stakeholders	3.62	1.12	3.24	1.30	3.46	1.21
38	We have a better access to the market than 5 years before	4.00	1.02	4.03	.94	4.01	.98
39	The NLA has created smaller platforms at regional/provincial level	3.74	1.05	3.76	.91	3.75	.98
40	The NLA actively supports the work of other IPs at provincial/ regional level	3.88	.99	3.89	.95	3.89	.96
41	The NLA encourages us to form working groups within the platform to discuss specific problems	3.87	1.11	3.97	1.05	3.93	1.07
42	In the past 5 years, we have had enough capital for doing new investments	2.87	1.17	2.71	1.04	2.80	1.11
43	It was easier in the last 5 years to get inputs and services needed for our business	3.50	1.08	3.63	.88	3.56	1.00
44	I can get inputs and services at better conditions than 5 years ago	3.69	.98	3.68	1.12	3.69	1.03
45	Total quantity of produced goods has increased since 5 years ago	3.71	1.09	3.89	1.06	3.79	1.08
46	We have developed new products in the last 5 years	3.59	1.31	3.84	1.00	3.70	1.19
47	We have added other activities to our business in the past 5 years	3.83	1.20	4.18	.69	3.98	1.03
48	We have started new cooperation's and joint actions with other business partners in the last 5 years	3.85	1.02	4.03	.82	3.92	.94
49	In the past 5 years, we have adopted new practices in business/production	4.04	.97	4.16	.68	4.09	.86
50	Annual income from business activities has been increasing in the past 5 years	3.22	1.15	3.34	1.10	3.27	1.12
51	We have changed to or entered another value chain in the last 5 years	3.40	1.32	3.61	1.13	3.49	1.24
52	Our networking activities are contributing to some policy changes in government offices	3.55	1.15	3.53	1.03	3.54	1.10
53	Our knowledge about our activity has improved in the past 5 years	4.31	.64	4.42	.60	4.36	.62

* Std. Dev. means Standard Deviation.

Source: Own data collection and analysis

Notes

1 The Learning Alliance started its work in 2003 in four Latin American countries. The initial partners were CIAT, CARE, CRS, GIZ, UNA, SNV, SwissContact and IDRC. IDRC provided financial support. CATIE and VECO Mesoamerica joined the LA later. CRS and CIAT also initiated learning alliances with a similar structure in Africa and in Southeast Asia.
2 However, our model does not use the indicators of the original SCP model because they are not relevant to complex multi-stakeholder innovation systems.

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