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The influence of trust in the Nicaraguan Learning Alliance on capacity development of members and other influenced groups

M.Sc. Thesis

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Abstract

Today, capacity development through innovation systems involves more interactions among different stakeholders than in the past. An innovation platform called "Nicaraguan Learning Alliance (NLA)," founded by ten Non-Governmental Organizations (NGOs) and local institutions, is currently being implemented in Nicaragua. Besides the NLA, governmental institutions and the private sector are also working in the same areas, emphasizing the cultural and historical importance of agricultural cooperatives in Nicaragua. Innovation platforms are relatively new, whereby a few tools are available only to evaluate their performance. Cadilhon (2013) developed a conceptual framework to carry out impact evaluation of innovation platforms. This framework is based on the Structure–Conduct–Performance (SCP) model, New Institutional Economics, and Supply Chain Management and Marketing. The main objective of this study is to evaluate the applicability of the conceptual framework, and to understand the interaction between structure, conduct and performance of the NLA network and its participants, with a focus on trust and capacity development. Key informant interviews, focus group discussions and individual questionnaires were used to collect data. The analysis was done using descriptive and factor analysis as well as linear regression model. The qualitative data was used to triangulate and explain the results from the quantitative analyses. The analysis shows that the NLA has been successful in its activities, including capacity trainings. However the NLA-members and their partners were not found to have more trusting relationships or better capacity development than the reference group. This can be explained by the wide variety of support to farmers by the public sector, private sector, NGO's and other stakeholders. The conceptual framework can be partially validated: certain structural elements are influencing trust; capacity development is influenced by both structure and conduct. One recommendation from this study is that more interactions between the different stakeholders should be facilitated in order to make the services more sustainable and efficient.

Keywords: Impact evaluation, assessment, Innovation platform, Learning alliance, Nicaragua, trust, capacity development, value chains

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List of abbreviation

AdA	Learning Alliance- Alianza de Aprendizaje
ANOVA	Analysis of variance
BCIE	Central American Bank for Economic Integration- Banco Centroamericano de Integración Económica
CATIE	Tropical Agricultural Research and Higher Education Center- Centro Agronómico Tropical de Investigación y Enseñanza
CGIAR	Consultative Group on International Agricultural Research
CIAT	International Center for Tropical agriculture- Centro Internacional de Agricultura Tropical
CONICYT	National Council for Science and Technology- Consejo Nicaragüense de Ciencia y Tecnología
CRS	Catholic Relief Service
CUM	Cumulative
FAO	Food and Agriculture Organization of the United Nations
FENACOOP	National Federation of Agricultural Cooperatives and Agribusiness- Federación Nacional de Cooperativas Agropecuarias y Agroindustriales
FUNICA	Foundation for Technological Development of Agriculture and Forestry of Nicaragua- Fundación para el Desarrollo Tecnológico Agropecuario y Forestal de Nicaragua
GDP	Gross domestic product
GIZ	German Federal Enterprise for International Cooperation- Deutsche Gesellschaft für Internationale Zusammenarbeit
IDRC	International Development Research Center
ILRI	International Livestock Research Institute
INFOCOP	Nicaraguan Institute of Cooperative Development- Instituto Nicaragüense de Fomento Cooperativo
INTA	Nicaraguan Institute of Agricultural Technology- Instituto Nicaragüense de Tecnología Agropecuaria
IP	Innovation platform
KMO	Kaiser-Meyer-Olkin
LA	Learning Alliance

LWR	Lutheran World Relief
MAGFOR	Ministry of agriculture and forestry- Ministerio de Agricultura y Forestal
MEFCCA	Ministry of Family, Community, Cooperatives and Associative Economics- Ministerio de Economia Familiar, Comunitaria, Cooperativa y Asociativa
NGO	Non-governmental organization
NLA	Nicaraguan Learning Alliance
PCA	Principal component analysis
PESA	Program for nutritional food security- Programa Especial para la Seguridad Alimentaria
SCP	Structure–Conduct–Performance
SEM	Structure-Equation-Model
Sig	Significance
SIMAS	Mesoamerican Information Service on Sustainable Agriculture- Servicio de Información Mesoamericano sobre Agricultura Sostenible
SNV	Foundation of Netherlands Volunteers- Stichting Nederlandse Vrijwilligers
UNA	National University of Honduras- Universidad Nacional de Agricultura de Honduras
UNAG	National Union of Farmers and Livestock keepers of Nicaragua- Unión Nacional de Agricultores y Ganaderos de Nicaragua
VECO	VredesEilanden Country Office
VIF	variance inflation factor

1 Introduction

Background and problem statement

Traditionally, gaining of knowledge and capacity development have followed a linear approach. Researchers and experts transferred their knowledge to the target group after development. This so called “model one” failed since information flow mostly passed in one direction without reflection. The "model one" was further not able to follow the rapid changes in agricultural production and the development of value chains based on agricultural goods. In addition, it was not possible to conceive the complexity of networks and structures in the agricultural and agribusiness sectors. Reasons include limited access to the experts by the users, production of knowledge taking place elsewhere than where it is ultimately needed, high transfer costs with limited interaction between the involved parties mostly excluding key stakeholders, limited possibilities to follow up the methods and tools used, and limited feedback from users of the methods (Klerkx et al. 2012, 459 ff.; Lundy and Gottret 2005, 2).

This formed the base for “model two”, in which more interactions between the different stakeholders take place and changes can be adopted more rapidly. There is more focus on the most important topics capturing complex relationships and systems (Hall 2007, 8 ff.). The International Center of Tropical Agriculture (CIAT) started to adopt this kind of strategy and developed a “dynamic multi-stakeholder innovation system focused on rural agro-entrepreneurial development”, the so called Learning Alliances (Lundy and Gottret 2005, 2). ILRI is working with a very similar concept called innovation platforms, defined as “…equitable, dynamic spaces designed to bring heterogeneous actors together to exchange knowledge and take action to solve a common problem” (Cadilhon 2013, 1). Learning Alliances are seen as innovation platforms because of their similar definition (Homann-Kee Tui et al. 2013, 1; Lundy and Gottret 2005, 1 f.).

The Nicaraguan Learning Alliance (NLA) is an alliance of different NGOs and other organizations that was formed in 2003. The alliance has completed three learning cycles in cooperation with their partners, such as cooperatives at the provincial, regional and village levels, teaching guides about business and market to the partners. The aim

of the NLA is to replicate and disseminate the knowledge through different geographical levels in order to reach farmers in a successful, efficient and sustainable manner (AdA 2014a).

Although the innovation platform is seen as a successful tool that is used in many different countries and value chains, there is very rare literature on the assessment of innovation platforms. The existing literature mostly focuses on the analysis of particular cases with a specific method restricting the transfer to other platforms (Nederlof et al. 2011, 11). The conceptual framework developed by ILRI (Cadilhon 2013) attempts to simplify complex data within the categories of structure, conduct and performance. The conceptual framework already embeds certain variables, factors and other influences relevant to the development and aims of innovation platforms. This is the only conceptual framework that combines the different categories (structure, conduct and performance) with the topics of transaction costs and marketing concepts for the purpose of analyzing innovation platforms (Cadilhon 2013, 1).

The data of this study along with previous studies will help to test and refine the conceptual framework for monitoring and evaluation of the impact of innovation platforms (Cadilhon 2013, 2).

The focus of this study was to evaluate trust as a conduct variable and capacity development as a performance variable. Trust is an important component in value chains that has gained more attention from scientists within the past two decades. Trust can be seen as a factor with regards to individuals, organizations, partner's competence, process, characteristics and institutions, systems, calculations, economics, intentional relations, technology or services. Trust is described by many researchers as a complicated and multifaceted concept, with no uniform definition and way to measure being available up to now. However, trust has a great influence on perception and individuality which varies among participants. Therefore, trust can be observed in the decisions of participants (Laeequddin et al. 2010, 53, 56).

Capacity development has also been discussed extensively in the last few decades (Watson 2010, 241). It is dependent on principles, dimensions, actors, levels and strategies, and each case has to be seen as a combination of different influencing factors (Neely 2010, 13 ff.). In an agricultural context it often takes the form of training activities and workshops (Horton et al. 2003, 2).

Capacity development is a principle goal of the NLA to gain high efficient replications of its produced knowledge. However, there are no studies or data pertaining to the cooperatives and organizations using the NLA-guides comparing participants and non-participants. Furthermore, there are no measures to evaluate whether the capacity of the partners is generally increasing or not.

This study is also the first one using this conceptual framework on a national network, which helps researchers to see the strengths, weaknesses, opportunities and threats of this conceptual framework in a national context.

Objectives of the study

The main objective of the study was to understand the interactions between structure, conduct and performance of the NLA-network. The focus was to analyze the influence of the network's structure, individual structure and external environment on the conduct of the network members and on the performance of the network, as well as the influence of conduct of the network members on the performance of the network. The focus was to assess the impact of trust on capacity development in the NLA network. Both of these variables are extensively discussed in literature and are highly dependent.

The following research questions have been addressed in this study:

- Does the NLA strengthen the producers' capacities through the channels of their partners and if so, how?
- Does the NLA structure influence the trust of the network partners, and if so, how?
- Does the NLA structure and the conduct of its network partners (focusing on trust) influence the capacity development of its partners (performance), and if so, how?

After the introduction an overview is given about the definition and characteristics of innovation platforms and learning alliances, followed by information about the NLA and the study area. The conceptual framework is explained, as well as the different variables and their meanings. The research method is then illustrated and the results of each section and methods are presented. The results and information from the reviews are discussed and summarized in the last part of the thesis.

2 Innovation platforms in the agricultural sector

2.1 Innovation platform

Innovation platforms are based on innovation system thinking, which has been common for approximately 30 years (Pali and Swaans 2013, 2).

Innovation in this context means the changes of a process. These can include technical, social and institutional changes (Lundy and Gottret 2005, 5). Platform in this relation stands for a network with participants from different fields or activities which are all connected and linked through a sector such as agricultural production or through a specific value chain. An innovation platform (IP) is defined as a network of different actors with the main goal of identifying common problems and finding solutions or to improve the situation through innovations. Agricultural issues are especially complex because biophysical, socioeconomic, political and other factors are coming together (Homann-Kee Tui et al. 2013, 1). To reach this goal the aim is to improve the interactions and communication between the actors, and the coordination, coherence and innovation capacity. Therefore, the IP provides space to share experiences, skills, knowledge and ideas resulting in increased productivity, efficiency and sustainability (Pali and Swaans 2013, 2 f.).

Members, Roles, Responsibilities

The members of the platforms are individuals or representatives of organizations, companies or institutions. The type of member and the composition of the members inside the IP depend on the type of platform and the geographical levels included in it. Representatives in the agricultural sector include farmers, agricultural input suppliers, traders, food processors, researchers, government officials or other stakeholders. Individuals are normally farmers, rural people and others from the private sector (Homann-Kee Tui et al. 2013, 2; Tenywa et al. 2011, 130). The organizations that establish IPs are generally agricultural research organizations, development agencies and NGOs, local and national governments or donors (Homann-Kee Tui et al. 2013, 2). The initiator of the platform, sometimes called moderator, has to be aware of the different roles and interests of the members. Each member has unique interests which they promote in different ways. Gender roles also play an important part in many cases and must be considered carefully (Birachi et al. 2013, 2 f.).

Types of innovation platforms

IPs can be created under different parameters such as common interest or area of activity. The level of operation has a big influence on the type of innovation platform and refers to the geographical level. In general there are local, provincial, national or international innovation platforms (Wennink and Ochola 2011, 35). The regional platforms are normally more action orientated, whereas the national ones are more focused on overall coordination and identification as well as addressing institutional and policy limitations/restrictions. In the case of different IPs on different levels, the connection between the levels is one of the keys to success. Communication between the different platforms is necessary to facilitate rapid information exchange in order for the different levels to support one another more easily (Pali and Swaans 2013, 3, 7).

A realistic geographical level of operation is crucial to the success of the platform. One of the clearest and most relevant examples concerns the regular meeting place of platform members. All members have to be able to participate at the meetings. Therefore, it becomes difficult for farmers to participate in meetings in order for the platform to be effective. Thus, the capital city is likely a poor choice when many of the members are rural farmers because it is difficult for them to attend (Cadilhon et al. 2013, 2 f.).

Birachi et al (2013) divide IPs into farmer-based platforms, value-chain-based platforms and accidental platforms. Farmer-based platforms are like regional IPs and focus on maximizing benefits for the farmers. Value-chain-based platforms focus on the entire value chain from producer to consumer and are mostly regional or national IPs. Accidental platforms focus on a particular topic like animal feeding or crop production. They attempt to change the situation with regards to this specific topic, which in turn benefits the farmers. This platform can be placed on any geographical level (Birachi et al. 2013, 3)

Nederlof et al. (2011, 19) divide the platforms into three different types: learning and research oriented; development and research oriented; and development and non-research oriented.

In learning and research oriented platforms, research organizations play an important role, the main aim is to learn how innovations arise and are sustained. In development and research oriented platforms, the research organizations also play an important role, but the principle goal is to develop the local economy. In the development and non-

research oriented platforms research does not have much influence, but the main aim is still to develop the local economy (Nederlof et al. 2011, 19 f.).

There are also some platforms that are only policy oriented. These platforms mostly serve to facilitate information exchange and communication (Homann-Kee Tui et al. 2013, 6).

Innovation platform phases

The process of building up a typical innovation platform follows seven steps. The first step is to initiate the platform, which can be done by any stakeholder but is usually done by research or development organizations, government agencies or NGOs. The initiator defines the broad focus. During the second step the platform members decide on the focus and identify the bottleneck problems and opportunities. In the following, they adjust the focus and collect more information. Identifying the options is the third step in which the members consider the different options and their strengths and weaknesses. Based on this information, the members decide which options to take and which way to go. In the fourth step the selected option is tested and the solution is in a steady refining process. The fifth step contains the development of capacity. This is important for the success of the innovation, since some farmers might have training, organizational support or have other needs that can be met by other members. If an innovation was successful, the sixth step, implementation and scale up, follows. In this step the platform tries to fully adopt the successful innovation by documenting and publishing information about it which may include visits and trainings. The seventh step is especially taking place at the end, but also during the whole process. This step involves analyzing and learning about the success of the platform and the innovation. This means a learning process for the members of the platform as well as for other individuals and organizations.

The seven steps involved in creating an IP come together to form a complex and dynamic process with respect to the focus, memberships, responsibilities, time durability, and the relationships with other bodies as well as other platforms. Each step may involve changes during the innovation process, e.g. a change in the focus over time because the problem first focused on was just a small part of a bigger problem or it could become advantageous for the platform to invite other members during the process (Homann-Kee Tui et al. 2013, 3 f.).

Advantages

The biggest advantage of IPs is to bring different levels and capacities together with the help of the stakeholders in order to combine each one's strengths. This makes the IP strong and gives them the possibility to reach goals which would be impossible if all stakeholders work on their own (Homann-Kee Tui et al. 2013, 1). The platform facilitates interactions between the different stakeholders. The members can build up programs, standards, or even influence policy development by implementation, monitoring and evaluation of joint action (Cadilhon et al. 2013, 1).

Another approach taken by innovation platforms is to include the whole value chain and the participating stakeholders. Before this approach was established, the focus was set on specific relations between two interacting parties and did not include stakeholders of the value chain like credit providers, traders, processors, market information providers, or insurance services among others (Birachi et al. 2013, 2 f.).

Policy provides an environment of regulations, incentives and sanctions that influence society and market structure. Within the innovation platform some members may have an influence on the development, implementation, monitoring and evaluation of interventions, sanctions and other political tools. These tools can be utilized and adopted by other participants, which leads to higher overall success rates. It can also work the other way around, that the members of the IP help the government to build up production or quality standards that are necessary for export (Cadilhon et al. 2013, 1 f.).

Major benefits of platforms include increased ease of communication between the members, especially upward communication. The identification of bottlenecks is also easier, and the positive feelings associated with innovation and being part of the larger group motivates members. Decisions are then made by better informed and more involved people, which also means that the joint learning process is more successful and the capacity of the development is more sustainable, because every member is contributing something. Innovative research is also made easier with these platforms and it is demand driven. Farmers can improve their productivity and profitability with participation of all the other members (Homann-Kee Tui et al. 2013, 4 f.).

Weaknesses

The platform brings together the experiences and interests of each member as well as their differences, which constrain their functionality (Cadilhon et al. 2013, 1). IPs are

not the solution to every problem, and sometimes the platforms are hard to justify. For example, success depends on the willingness of each participant to work together and to trust each other. If the process takes a long-term perspective, for example, it will often entail special investments in infrastructure and policy. The monitoring and evaluation of platforms can be difficult, and with every change that is made there is risk, which cannot be entirely diminished. In addition, tangible outputs are needed to make sure the members stay interested in the process (Homann-Kee Tui et al. 2013, 5). Every platform is different and every member is unique. Thus it is not possible to make generalizations with regards to the members and tools used in the context of platforms (Cadilhon et al. 2013, 3). IPs can end abruptly for many reasons including rapid changes in external influences or markets as well as the achievement of the set goals (Homann-Kee Tui et al. 2013, 6).

Monitoring and evaluation

The monitoring and evaluation process has to be coherent with the approaches and the schedules of the IP. IPs are in a constant state of change and development, but monitoring and evaluation processes always reflect a certain point in time under certain conditions. This fact has to be taken into account because unexpected changes can occur. The monitoring and evaluation process is important to connect impact indicators with the outcomes. The best way to do so is to mix qualitative and quantitative analysis (Gildemacher et al. 2011, 66).

One complex model for monitoring and evaluating IPs was developed by Pali and Swaans (2013, 13). The two main goals are coordination and information sharing in the project, as well as observing if IPs help to reach goals in the form of output and outcome. This method is based on action learning cycles and measuring IP's orientation around changes based on individual actors, organizations, households as well as on the system level (Pali and Swaans 2013, 13).

The key steps of the monitoring and evaluation system of IPs are engaging stakeholders, building capacity for monitoring and evaluation, developing indicators for monitoring and evaluation of IPs, developing and implementing a monitoring and evaluation framework and developing a data base and data management system (Njuki et al., 8 ff.). One of the most important steps in analyzing IPs is to develop indicators. The different indicators are organized by Pali and Swaans (2013, 13, 16) into the three

aspects (IP information, IP functioning and IP outcomes). Different indicators are measured with seven different tools.

Tool one is documenting the process of the IP establishment including common objectives, issues, and roles of the members. Tool two is related to the organized activities in terms of quality and process representativeness of the IP and frequency of participation of the IP actors. Improvement of the stakeholders' knowledge and skills related to the IP's goals is presented by tool three. Channels of knowledge sharing and measurements of the numbers of individuals reached by this information is described by tool four. Tool five measures the satisfaction of the members with regards to common objectives, approaches used and well defined roles, as well as the perception of the members about formation, functioning and outcomes of the IP. Tool six analyses results of the IP participation through changes in the interaction of the IP members. Tool seven describes the project with the perception of coordination and performance of the actors. Each tool uses statistical analysis, descriptive and comparative analysis or trend analysis. Each tool has a different frequency of measurement. Some tools are used at the start of the IP, some regularly (yearly, after every session etc.) and some are utilized at the end. A few tools are used in different stages and can explain more than one IP process.

The data collection and analysis has to happen continuously, and must be done effectively, efficiently, and rigorously to have sufficient data, high quality data and provide a sustainable process (Pali and Swaans 2013, 16, 19).

2.2 Learning alliances

Learning Alliances are one approach for developing a better relationship between rural development and research. Learning Alliances follow the same methods as IPs and can be seen as innovation platforms. The alliances are rapidly turning into "vehicles for strategic research and capacity development by becoming dynamic multi-stakeholder innovation systems" (Lundy and Gottret 2005, 2). Learning alliances also include different stakeholders and put a special focus on research organizations, as well as donor and development agencies. The concept has been successful thus far, which has led to their adoption in 20 countries around the globe (Lundy and Gottret 2005, 2 f.).

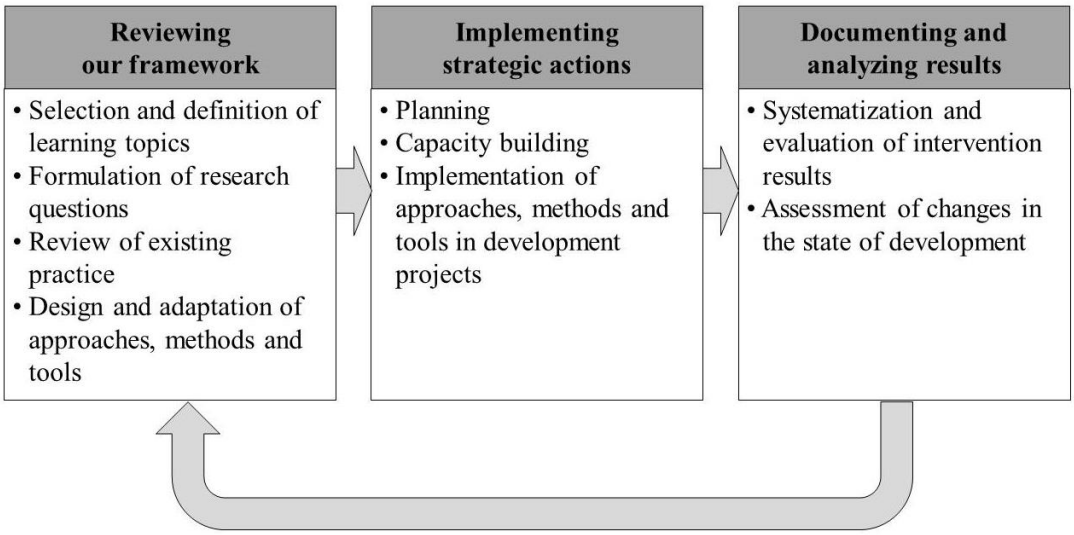
The learning alliance approach is based on the concept of "social learning" and "innovation systems". Social learning is defined as an interactive process between the stakeholders for the purpose of solving problems. This is essential to the creation of a sustainable society. Combining these two methods creates process of collaborative learning, adaption and innovation among the participants.

The objectives of learning alliances are to develop cumulative and shared knowledge about distinct approaches, learn across different boundaries, create synergies among the participants (e.g. to advance specialized knowledge), exchange information between the participants and to develop flexible mechanisms that apply to different topics outside of an agricultural context (Lundy and Gottret 2005, 4 ff.).

In general the idea is to add value and create synergistic relationships between different members (e.g. members from the public and private sector), and to build up a network that transcends levels (Micro, meso and macro). It is typical for learning alliances to mix traditional socioeconomic research with action research. The founding principles of learning alliances include clear objectives, shared responsibilities, costs and benefits, outputs and inputs, differentiated learned mechanisms, and long-term trust-based relationships. Every participant will have different objectives and interests, but it is crucial that common ground will be identified. A more general objective enables participation by a wider array of members. Benefits for each stakeholder must exceed the value of their individual costs. In addition, the goals and interests of the alliance should not be in conflict with other key actions. Methods, tools and approaches should change over time along with the realities and the situation. All types of participants must be considered and respected regardless of gender, race, function, and other differentiating factors. In order to accomplish this, learning methods need to be flexible and interconnected. Learning alliances need to be viewed as long-term processes that embody trust in relationships. Trustful relationships is one of the most important factor for success.

The goal of the learning alliance is to create an IP to design and test tools for developing capacity. The main approach in the methodology is to move from a single cycle learning process to a double loop learning process (see Figure 1). This means that documentation, analysis, reflection and improvement of the processes is necessary (Lundy and Gottret 2005, 6 ff.).

Figure 1: The double-loop learning cycle in a learning alliance



(Source: Lundy et al. 2005, 2)

One cycle is divided into three segments. In the first step "Reviewing our framework" problems are identified, learning topics are selected and defined, existing practices are analyzed and methods and tools are designed for adoption. The second step "Implementing strategic actions" involves planning and implementing the approaches, methods and tools of development projects. In the third step, "Documenting and analyzing results" intervention results are systemized and evaluated before the changes in the state of development are presented to the members through workshops, training programs, platforms or other methods. After finishing this cycle the process starts again with the first step. In the second loop the results from the first cycle are taken into account (Lundy and Gottret 2005, 9 f.).

CIAT's experiences with learning alliances have been very positive since they were first initiated in the year 2000. Positive aspects are that stakeholders participate directly, pilot innovation occurs where help is needed, face to face information exchange occurs from face to face and analyses throughout the entire experience helps to evaluate the alliance including the processes process (Lundy and Gottret 2005, 11 ff.). Learning alliances do not work for every project. One reason is member composition. Members have to be open to share information and reflect in order to enable the learning. This can be influenced by clusters or different methods of communication. Establishing a learning alliance takes a considerable amount of time (Lundy and Gottret 2005, 15 f.). The initiators must invest sufficient time in managing and coordinating the alliance as well as documenting, analyzing and sharing the information and results

on every level. Though time commitments may be substantial, they are crucial elements of the process. Funding is also a very important issue. It is easier to get funding for specific projects than those that have a wider scope. It is also very important to think about who is funding the project, and to examine their motives and interests (Lundy and Gottret 2005, 16 ff.).

3 Social economic and political background of Nicaragua

Nicaragua, the second poorest and one of the least developed countries in Latin America and the Caribbean region, has struggled in the last few decades, which have been characterized by natural disasters including earthquakes, hurricanes, floods and droughts, as well as social issues, such as economic crisis and civil war. These influences and historical turning points left marks on the social and physical landscapes in Nicaragua that are still present today (The World Bank Group 2014b).

The country is classified as a lower middle income country, and has a poverty rate of 42.5% and a GINI coefficient of 40.5. In the year 2013 GDP growth was 4.2% (The World Bank Group 2012, 2 ff.). Inflation decreased from 25% in 2008 to eight percent in 2011, and economic activity grew at 5.4% in 2011 (The World Bank Group 2014a). In Nicaragua are living 6.08 million people. Fifty-eight percent of the Nicaraguan population lives in urban and 42% in rural areas (2013) (FAOSTAT 2014).

Poverty was reduced in the period from 2001 until 2009 from 48% to 42.5% (The World Bank Group 2012, 1 ff.). Even though poverty is decreasing, more than 80% of the poor population lives in rural areas, of which 20% are classified as extremely poor (The World Bank Group 2014a). In the educational sector the rural population has on average four years less education than the urban population (2008) (The World Bank Group 2012, 1 ff.).

The Nicaraguan government tried to strengthen the economy over the past twenty years by increasing exports and foreign direct investments. This political strategy was partly unsuccessful due to the global financial crisis in 2008-2009 (The World Bank Group 2014a). The Nicaraguan government plans to implement the National Plan for Human Development (PNDH) through 2016. This strategy is based on a reduction of government spending in certain areas while increasing investment in the social programs aimed at delivering educational and health services to every member of society (The World Bank Group 2014a).

The political situation is characterized by high polarization, even though President Daniel Ortega was re-elected in 2011. The ruling Sandinista party is technically in control of the executive and legislative sector, but because of internal divisions within the party this dominance has proven stable. In addition, the civil society and other groups are demanding improved governance, especially concerning more transparency in political decisions about public resources (The World Bank Group 2012, 1 ff.). The relationship between the private sector and the government has improved over the last few years because the government has tried to stabilize the economy through both domestic and foreign investment (The World Bank Group 2012, 1 ff.).

4 Nicaraguan agriculture and agribusiness

History

Agriculture in Nicaragua has been heavily influenced by the country's turbulent history. From 1936 until 1979 Nicaragua was under control of the Somoza regime, and land was split between a few massive private farms and a large number of farmers with a very small amount of land. 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 them among rural landless poor.

The Revolution was short lived and the socialist regime was replaced by a market-oriented government after just ten years.

As a consequence, a lot of agricultural cooperatives were dissolved and farmers started to cultivate their land individually. Nevertheless, many are still in existence, as they are united by the political orientation of their members (Ruben and Lerman 2005, 31 f.). The motives for participating in cooperatives include land use, financial support, credit, extension agents or others. The credit cooperatives date back to the 1960s when the Kennedy Administration in the United States began the Alliance for progress. The main objective of these cooperatives is financial support. Commercial cooperatives, which strive to improve commerce, began in the aftermath of a massive earthquake that hit the country in 1972.

Nowadays

Nicaraguan agriculture is characterized by low productivity, even though it is a main driver of the country's economic growth (Lafortezza and Consorzio 2009, 24).

0.34 million people of 6.08 million people work in the agricultural sector, which represents 13% of the total labor force. The labor force in agriculture is dominated by men (92%). The crop production per hectare has constantly increased since 1997, almost doubling between 1997 and 2012. Coffee is the product with the biggest export value, followed by beef, sugar, groundnuts and milk products (FAOSTAT 2014).

Agriculture represents 21.5% of GDP, 32.3% of the exports and 32.2% of employment.

Table 1: Proportion of products based on the agricultural GDP

Product	**Percent of total agricultural production based on their contribution to GDP**
Coffee	20
Beans	14
Sugar cane	11
Corn	9
Rice	9
Nuts	7
Others	30

(Source: Lafortezza and Consorzio 2009, 24)

When the figures are broken down, coffee represents 20% of impact on agricultural GDP, and basic grains represent 32% (Beans 14%, corn and rice each nine percent, sugar cane 11%, nuts seven percent and others 30% (see Table 1) (Lafortezza and Consorzio 2009, 24).

Agriculture still has a significant potential to increase production. This is particularly important considering it is a major driver of the economy, both domestically and through exports. Low productivity hinders public and private investments, technological innovation, business development services and access to rural finance. The approach by the government and the World Bank is to use innovation to strengthen the connection between small-scale farmers and larger markets, as well as other value chain stakeholders. The government is targeting small stakeholders because they produce most of the country's agriculture goods. In particular, there is an attempt being

made to provide rural areas with improved extension services in order to improve yield (The World Bank Group 2012, 22 f.).

The agricultural sector represented 11.68% of added value in 2006 (total 1,083.177 million US-Dollar). This percentage has remained relatively stable, though there has been an overall increase in added value. For example, in 2008 agriculture represented 10.80%, of 1,156.521 million US-Dollar.

Livestock represented 7.98% of added value in 2006 and 8.04% in 2008, which was also accompanied by an overall increase in added value. Exports increased from 1,049,928.00 thousand USD in 2006 to 4,017,504.40 thousand USD in 2008. During the same period imports decreased from 2,789,298.30 to 1,488,653.10. Even though Commercialization and Services represented 50% of the country's added value and 28% of the population were working in the agricultural sector in 2006 (Lafortezza and Consorzio 2009, 21 ff.).

As described before cooperatives are a important part of the agricultural history in Nicaragua. According to the BCIE (see Table 2), there are 6655 cooperatives in Nicaragua (2007). They represent 500,000 individuals, of which 60% are men and 40% are women. More than half (62%) of the cooperatives form part of the agricultural sector (Lafortezza and Consorzio 2009, 34).

Table 2: Registered cooperatives in Nicaragua

Sector	Total	Percent
Agriculture	4,124	61.97
Transport	966	14.52
Multiple services	454	6.82
Fishery	366	5.5
Savings and credits	323	4.85
Multisectorial	106	1.59
Others	316	4.75
TOTAL	6655	100

(Source: Lafortezza and Consorzio 2009, 34)

5 Structure of the Nicaraguan Learning Alliance

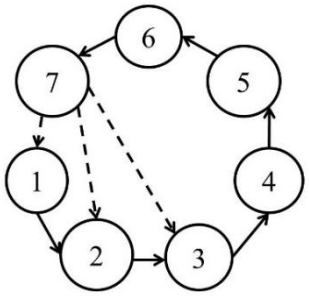
The Nicaraguan Learning Alliance (NLA) is part of the Learning Alliance (LA). The LA started its work in the year 2003 in four countries in Latin America. The initial partners were CIAT, CARE, CRS, GIZ, UNA, SNV, SwissContact and IDRC. Financial support was given by the IDRC. CATIE and VECO Mesoamerica joined the IP

two years later[1]. CRS and CIAT also initiated IPs with a similar structure in eastern and western Africa as well as southeast Asia (Lundy and Gottret 2005, 3).

This alliance created a method of capacity development that is used in different platforms. The methodology utilizes an approach for strengthening the socio-organizational and business management of rural agricultural enterprises, which allows effective, inclusive and sustainable linking of value chains. This proposal includes a series of five methodological guides for sensitization and self-assessment, strengthening socio-organizational processes, strategic orientation with a focus on the value chain, and development of business plans and strengthening of services[2] (AdA 2014a). The process of each alliance is structured in cycles (see Figure 2). In these cycles, the Alliance members and their partners follow this path in six steps:

1. Identify what stakeholders want to learn at the end of the process (Question learning).
2. Recognize the knowledge that currently exists that could provide an answer to the question (a good existing practice).
3. Select the methods and / 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).
6. Writing 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) (AdA 2014b).

Figure 2: Learning cycle



(Source: AdA 2014b)

[1] CIAT (International Center for Tropical agriculture); CRS (Catholic Relief Service); GIZ (German Federal Enterprise for International Cooperation); UNA (National University of Honduras); SNV (Foundation of Netherlands Volunteers); IDRC (International Development Research Center); CATIE (Tropical Agricultural Research and Higher Education Center); VECO Mesoamerica (VredesEilanden Country Office Mesoamerica)

[2] **Guide 1**: Self-evaluation provided for the Management of rural Associative enterprises; **Guide 2**: Strengthening the socio-organizational processes; **Guide 3**: Strategic orientation with a focus on value chain; **Guide 4**: Development of business plans; **Guide 5**: Strengthening of services

Right now national learning alliances exist in Honduras, Peru and Nicaragua. These are national learning alliances that use the same methods and guides but which are independent in their activities.

The NLA is a group of different NGOs, research organizations, and cooperatives of third level based in Nicaragua (CATIE, CRS, OXFAM, FUNICA, VECO Mesoamerica, GIZ, SwissContact, LWR, and FENACOOP R.L[3]). The NLA completed three learning cycles (cycle one: 2008-2010; cycle two: 2010-2012 and cycle three: 2012-2013).

The NLA members have their headquarters in Managua and regional offices are located in the areas in which they are working (e.g. CATIE in Matagalpa, CRS and FUNICA in Estelí). Most of the members are working in the areas of Matagalpa, Jinotega, Estelí, Madriz and Nueva Segovia. These are also the areas where most of the training has taken place (see Figure 3).

Figure 3: Regions of data collection

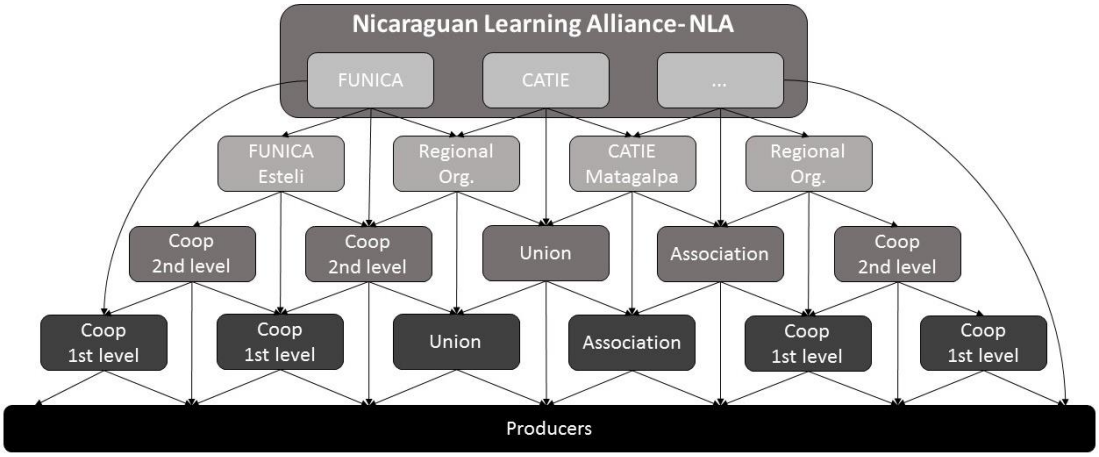
(Source: Own graphic)

The NLA-members represent a working group in which every member sends a representative who works actively with the group to develop the guides and improve upon them. These representatives then return to teach in their respective provincial organizations. Provincial organizations teach the content to cooperatives of second level, unions or associations which are active in specific regions of the provinces. Cooperatives of second level are cooperatives of first-level cooperatives. These groups then use the guides to teach cooperatives of first level. Cooperatives of first level are cooperatives of producers and mostly organized in villages and towns of rural areas. The cooperatives of first level replicate the materials for their members: the producers (see Figure 4).

[3] FUNICA (Foundation for Technological Development of Agriculture and Forestry of Nicaragua); LWR (Lutheran World Relief); FENACOOP R.L (National Federation of Agricultural Cooperatives and Agribusiness)

Depending on the network of connection, some levels may not be utilized for replication of knowledge. For example some NGOs and other organizations work directly with cooperatives of first level or even with the producers if they have a lack of resources. During the cycles the NLA members had regular meetings to exchange information and experiences in order to improve the guides.

Figure 4: Structure of knowledge replication within the NLA



(Source: Own graphic using own data)

Some NLA members still use the guides to teach and train their partners outside of the cycles. Partners on the local and regional levels are not generally familiar with the NLA, and it does not matter if they have a direct connection to an NLA member or not. Nevertheless almost everybody knows one or more members of the NLA. So most of the respondents answered the questions about their perception of the NLA with their awareness about the NLA member they are working with.

The NLA uses a form of self-evaluation that allows every farmer who uses the guides to measure his or her business against the status quo and detect the areas in which exist opportunities to improve.

CATIE also published a book in 2010 with reports from twenty-three partners participating in the NLA activities. The information in each report was collected during workshops and written by members of organizations that use the NLA method. This source is documenting the success of the LA method in Nicaragua with respect to the guides that are being taught (Lorio et al. 2010). Apart from the book, the NLA also presented their process to their regional, national and international partners at a "Learning Fair."

The partner organizations contributed USD $341,740 to the development of learning cycles between 2008 and 2012. The NLA members also invested financial resources to directly support 77 organizations of farmers who participated in the process. The first learning cycle included 26 producer organizations and reached a total of 6,647 farming families involved in the production of coffee, cocoa, vegetables, corn, beans, plantains, roots and tubers, milk and honey. Women represented 30% of the participants and partners. CATIE presented 29 technicians and 24 leading producers with diplomas in Management of Rural Associative Enterprises.

The second and third learning-cycle involved another 51 producers' organizations, which represented approximately 12,700 families that produce coffee, cocoa, vegetables, corn, beans, dairy, honey, rice, banana, sugarcane, sesame and cashew participated.

The main lessons learned during the first cycle of the NLA was, that the prioritization of a common topic of interest to all partner organizations and the development of a structured learning process around this issue is very important to give functionality to the initiative and generate commitment and confidence among partner organizations. Part of the strategic planning process included a review of issues of common interest. Prioritization processes took into account the main criteria: interest or ability of the partner organizations to lead a conversation on the topics of interest, and capacity of partner organizations to provide human and financial resources to develop the theme.

Prioritized learning issues to be developed under the NLA from 2013-2016 are further development of the "strategic planning" guide and the ability to adapt more to the needs of the farmers. Furthermore it is planned to give regional platforms more responsibility to tackle the needs of the farmers that are unique to the respective regions. The NLA wants to strengthen its financial situation and develop guides for financial issues at the production level (AdA Nicaragua 2012).

6 Other networking initiatives in Nicaraguan agribusiness

CONICYT

The National Council for Science and Technology (Consejo Nacional de Ciencia y Technologia) or CONICYT is a network of different actors assigned to the vice president of Nicaragua. CONICYT is using a structure called "Technician innovation table" in which the goal is to connect any kind of actors and parties who are interested in

technology and innovations for the purpose of working together and sharing information. Participants include private companies, governmental institutions such as Ministry of Familiar Economics and Ministry of Agriculture as well as private and public universities. All participants have a common interest in innovation. This table meets regularly and has six commissioners, each with specific topics and functionality. As of yet they have not worked with NGOs. In 2015 they will start to work together with FUNICA on topics of shared interests. Though NGOs have been excluded up to this point due to organizational and structural issues, they are being welcomed with open arms. The NGOs are free to use new approaches and ideas that are presented, and CONICYT would like to work with them in any way that is deemed productive.

CONICYT has several instruments to promote innovation. These include developing trainings, and promotion and management of innovation in companies through rewards and incentives. Innovation projects CONICYT is interested in include those related to agricultural food production, renewable energy, information technology, the environment, biotechnology, health and education. The only requirement is they must be related to innovation and research. According to Pabel Antonio Espinoza Briones (Director of business innovation- CONICYT) limiting factors mostly have to do with the restricted amount of available financial resources. The vision of CONICYT is to enhance its own performance while strengthening the private sector through innovation and technology (Espinoza Briones 2014).

Field schools- Escuela del Campo

The Ministry of Agriculture and Forestry is working together with FAO in PESA (Program for nutritional alimentation security). This program aims to reach the poorest populations in order to increase food security through a growth in agricultural production. The governmental organization, working with this program in the countryside is the Nicaraguan Institute of Agricultural Technology (Instituto Nicaragüense de Tecnología Agropecuaria), or INTA. To reach its goal, INTA developed similar methods to those of the NLA, including guides and strategies to improve the capacities of farmers. The guides INTA produced discuss adaptive production to improve food security, water analysis to ensure good quality water is used in production, microfinance for small scale farmers, the establishment and management of agroforestry, and the

development of service chains inside the agricultural sector. Field schools are supposed to be established wherever INTA believes there is a demand for these capacities (INTA 2011, 5 ff.).

7 Comparable study

A comparable study was done by the Central American Bank for Economic Integration (BCIE) and published in 2009. The objectives of the study were to analyze the current situation and to identify areas of problems and weak points in order to develop methods and tools to overcome them (Lafortezza and Consorzio 2009, 8).

In Nicaragua the BCIE worked together with government institutions such as INFOCOOP (Nicaraguan Institute of Cooperative Development) and others that have the goal of commercializing products. The focus in Nicaragua was set on general information, people working in the agricultural primary sector, production, commercialization, and financial and economic data. The data of 63 cooperatives was collected. In terms of agricultural production, coffee represents 20%, basic grain 32%, sugar cane 11% and other commodities 37% (e.g. banana, nuts, tobacco, sorghum etc.). The most exported products are coffee and sugarcane. The most common domestically consumed products in Nicaragua are basic grains (rice, beans and corn) (Lafortezza and Consorzio 2009, 25). In this study 59 organizations were cooperatives and four were associations. Between 1990 and 1995 29 out of 63 were founded and 26 organizations were established earlier than 1990. In total, the 63 organizations represent 4,354 individual members, where 3,150 (72.35%) are men and 1,204 (27.65%) are women. Sixteen organizations have less than 25 members, and 29 have between 26 and 50 members, which means that 71% of the organizations have less than 50 members (Lafortezza and Consorzio 2009, 52 ff.). 40 of 63 organizations are receiving technical assistance and training. Most of this training is provided by the UNAG, which are unions of agricultural cooperatives that represent almost every region in the country. There are 22 organizations that do not receive technical assistance or training of any kinds, but 83.5% said that it is necessary to get technical assistance and trainings. 86% of the respondent saying they need training relating to production and quality. 78% of the respondent need training on Credit, 75% about markets, 74% about administration and 32% about the labor management (Lafortezza and Consorzio 2009, 76 f.).

8 Theoretical build-up of the conceptual framework

The concept of this study is a combination of three different approaches. One is the Structure-Conduct-Performance paradigm, another is the theory on new institutional economics and specifically transaction costs theory, and the third approach is the concept of marketing research. In the following section first of all each approach will be explained and afterwards the conceptual framework will be developed along with the factors and variables chosen to measure IP development.

Structure-Conduct-Performance (SCP) Paradigm

The roots of institutional economics date back to 1939 with the ideas of Mason, who started to analyze the market in two steps. One step was to analyze the market structure, which takes companies and private persons into account. The second step is to analyze the market behavior of other market participants in terms of their impact on the market. The performance of the market is the result of these two elements (structure and behavior), and is observable through variables like price level, marketing behavior, benefits and other market aspects (Varmaz 2006, 134).

Most of the time Bain, who studied under Mason, is named as the originator of industrial-economic science. His approach was to create a competitive market model, which first required an analysis of market structure (Rothfuss 2009, 43). This Model is similar to Mason's, and is called the Structure-Conduct-Performance Paradigm. It describes on the one hand the influence of structure variables such as demand, products and supply on conduct variables such as Price, Commercials and Quality. The conduct variables, on the other hand, have influence on performance variables including different types of efficiency, technological improvements, full employment and equity (Cassey 2007, 3 f., 17).

Structure describes the characteristics and composition of industries and markets within an environment where firms are operating. Conduct relates to the action and the behavior of the firms within the market, the decision making process of the firms and the decisions themselves. The Conduct factors are more difficult to find and to identify than the structure and the performance factors. Performance is considered by economists to be the most important. The main target is to improve the economic welfare and to reach this one tool is to satisfy the consumer's requirements as much as possible.

The key to the success in the performance sector is efficiency (P. Ferguson and G. Ferguson 1994, 14 f.).

This Model, also called traditional model, was tested several times and criticized due to the fact that, even if some relationship was discovered, the model could not explain the causes. New institutional economics claims that the market structure is influenced by conduct and performance, and that market conduct is influenced by market performance. This means that the influences are not only connecting the three elements in only one direction, but that they are connected in a reverse direction as well (Rothfuss 2009, 44 f.; Wilsdorf-Köhler 2003, 46). The SCP Model has received also a lot of criticism because it fails to provide a complete explanation of real markets (Rothfuss 2009, 45).

New Institutional Economics

New institutional economics is based on the idea that institutions play a role in economic processes. This fact is not new, but the difference is that new institutional economics use neoclassical theory as a base, and expand its analysis to include institutions and their transaction costs. New institutional economics is still in a developing stage, and is by no means a closed chapter. Some of the main topics of this theory thus far include: methodological individualism, the maximizing theory of benefits, individual rationality, opportunistic behavior, the development of institutions, organizations, social networks and transaction costs (Richter and Furubotn 2003, 1 ff.).

One of the most significant differences in the new theory is the treatment of individuality. Each organization, institute, person, etc. is treated as an individual. This extends to every person representing an institution, company or other organization. Inside this structure, individuals make decisions based on what they view as most beneficial, both personally and for their respective organizations. (Richter and Furubotn 2003, 2 ff.). In this sense, the individual is described as a "REMM- resourceful, evaluating, maximizing man" (Richter and Furubotn 2003, 5).

Social networks explain the interactions between different actors in the forms of information exchange and communication. Typical exchanges in markets are transactions of goods and information. The connections between individuals can also be biological relations. These are regulated relations, for example those regulated by law, contracts or other formal tools (Richter and Furubotn 2003, 11).

Every interaction has some cost. In the context of business interactions, which include institutions and other organizations, these are called transactions costs (Richter and Furubotn 2003, 12). Thus, transaction costs are needed in order to operate in an economic system (Richter and Furubotn 2003, 85). Examples of transaction costs include research and information costs, bargaining and decision costs as well as policing and enforcement costs (Dahlmann 1979, 148). Changes within an institution or organization are called company or enterprise transactions. Another type of transaction is political. Political transactions exist for the purpose of changing political systems, the consequence of which cause changes within organizations (Richter and Furubotn 2003, 85). Although this approach strives to be all-inclusive, it is sometimes criticized for not analyzing costs on a sufficient level (Richter and Furubotn 2003, 1 ff.).

Characterization of business relationship: Marketing Research/Business relation

Marketing research is a broad concept and can be used in any business activities. It can take the form of any data collection and analysis related to business or marketing with the objective of understanding marketing and business relationship (Malhotra et al. 2008, 6 f.). Malhotra et al. (2008, 6 f.) explain marketing research as "the systematic and objective identification, collection, analysis and dissemination of information undertaken to improve managerial decision making related to the identification and solution of problems and opportunities in marketing." Marketing research can be internally or externally oriented. Internal marketing research describes the processes in a defined area, business or topic, and external marketing research describes the surrounding of the defined area, business or topic (McDonald 2007, 366).

The information provided by marketing research must be relevant, accurate, reliable, valid and timely, and must be used by management during the decision making process. Marketing research follows the scientific methods in order to ensure a systematic process, objective information and observations.

Customer-orientated marketing research involves working with consumers, employees, shareholders and suppliers. Variables in marketing research include controllable marketing variables (product, pricing, promotion and distribution) as well as uncontrollable environmental factors (economy, technology, competition, laws and regulations, social and cultural factors or political factors). The managing factors of marketing are marketing decisions, strategies and plans that are influenced by information

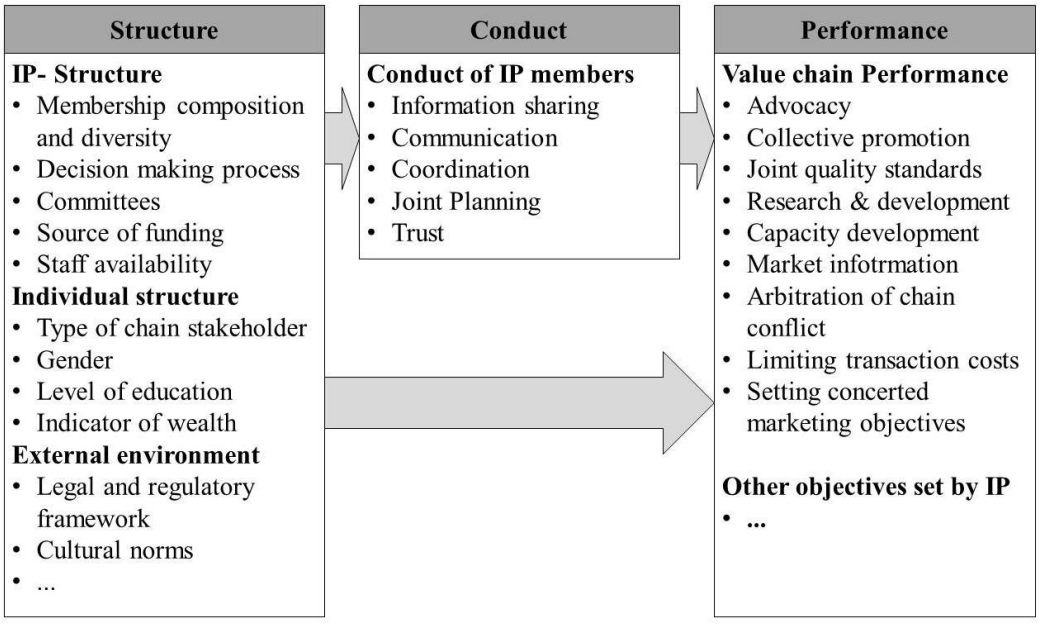
assessment and provision, as well as the decision making process. Marketing research can be divided into problem identification, research, and problem solving research, which also serve to explain the reasons marketing research is being undertaken (Malhotra et al. 2008, 7, 11).

Traditionally, marketing and business management research set the focus on economic variables such as costs. However, in recent years marketing has begun to analyze other impacts and connections between value chain partners that are not measurable in monetary terms. Innovation platforms are a good example of this development because they are not only for the purpose of exchanging market information. Their objective is also to bring different stakeholders together to identify and analyze common problems, which they then solve mainly through communication and information sharing (Cadilhon 2013, 5).

9 Conceptual framework

The overall frame of the conceptual framework is set by the Structure-Conduct-Performance Model although without using its variables and definition of each component. Rather, the variables used to measure structure, conduct and performance were developed from the literature on marketing research and business relations. The transaction cost theory is taken into account by being aware of transactions which occur inside the SCP Model (see Figure 5) (Cadilhon 2013, 4 f..).

Figure 5: Elements of the conceptual framework of innovation platforms



(Source: Cadilhon 2013, 8)

This study uses structure, conduct and performance variables to see the linkage between these three pillars. The focus in this study, apart from a general use of different variables, is about trust as a conduct-variable and capacity development as a performance variable (Cadilhon 2013, 4 f..).

9.1 Elements characterizing conduct of IP members

Information sharing

Information sharing is one tool to improve the performance of an IP. The source of information can be external or internal. IPs attempt to benefit all parties involved in information exchange, with a focus on the information being shared within the IP framework (Pali and Swaans 2013, 4). The purpose of information sharing is to generate new information and knowledge. The ways to reach this purpose are localization and access of knowledge. Efficiency and effectiveness of information sharing depends on time, costs and quality, repetition of research and skills from other disciplines in the agricultural sector. Main goals of information sharing are creation of new research fields and more equity in the community of agricultural stakeholders (Maru 2011, 1 f.).

Communication

"You cannot NOT communicate" (Patzak and Rattay 2012, 253) as Watzlawick and Schulz von Thun said. Communication is the base for every interaction and is based on perceiving, conveying and understanding information and ideas. There is no right or wrong way to communicate. The most successful communication occurs when all parties involved understand how the others wish to be understood. Communication is dependent on time, location, social situation, relations, formal competences, standards and values as well as cultural background (Patzak and Rattay 2012, 253).

Communication is also the engine of the innovation platform. It is important to have steady communication between the different actors. Communication is necessary to avoid misunderstandings and to make the work more effective and efficient. Communication includes management, publishing and use of information as well as communication technology. The roles of communication are engagement and dialogue, documentation and outreach as well as learning. Communication, especially in innovation

platforms, depends on power and representation, capacity, resources and culture. Communication is essential for every platform and is different in every interaction and meeting of individuals (Victor et al. 2013, 1 ff.).

Coordination

Coordination describes the collaborative work in a group aiming towards common interest in reaching a certain outcome or topic. It is a communication-system between IP members in which communication skills as well as management skills are necessary. Effective coordination and organization for IPs means a minimum of transaction costs for all participants or stakeholders. (Badibanga et al. 2013, 7 f.). Coordination is dependent on the complexity of the task and the structure of the platform (e.g. constellation of members, location of members) (Badibanga et al. 2013, 7 ff). Effective coordination of activities is a sign of stable IP management (Pali and Swaans 2013, 4).

Joint Planning

The base for joint planning is a common interest throughout the IP. Joint planning in IPs mostly takes place during meetings and includes a joint analysis, joint definitions and a joint strategy among IP members. Planning regulates who is doing what at which point in time within the context of the IP. As circumstances, situations, and even members can change with time, joint planning is an ongoing process and has to be flexible in order to react to different situations (Wennink and Ochola 2011, 34). Joint planning only makes sense if the plans are continuously monitored and updated. Therefore, process management is an important aspect of joint planning, which includes the effort put forth by all members to implement plans. Additionally, this includes creating a suitable environment for joint planning, for example, making sure the IP is composite of the proper actors (Heemskerk et al. 2011, 49).

Trust

Over the past two decades, scientists have begun to recognize and study the importance of trust as an important component in value chains. Trust is about a person, place, event or an object, and can exist between individuals, organizations, partner's competence, processes, characteristics and institutions, systems, calculations, economics, intentional relations, technology or services. Trust is described by many researchers as a complicated and multifaceted concept dependent on each case on the context. There

is no clear definition and measurement for trust as of now. The most common definition of trust is the "Trustor-Trustee" concept. In this concept there have to be two or more parties, and there exist two models. The first model assumes that the trust is embedded in the trustee (the person who trusts in the trustor (another person, action or others). In this stream, it is important that the trustee is a person (Laeequddin et al. 2010, 53 f.). Regarding this research study the second model is more important because this is more studied more extensively in the literature, and the statements for the questionnaire can be accepted without testing them. The second model assumes that trust is embedded in the trustor, who is not necessarily a person. It can also be a piece of equipment, an institution, ability or something else. In this sense, the competence of a person serves as an indicator for the trust in the trustor (Laeequddin et al. 2010, 54, 57). Even if the trust is embedded in the trustor, perception and individuality have a significant influence, so trust can be observed in the decision of the participants. Trust is a dyadic factor in a lot of cases.

The dyadic approach works in the context of chains and networks as well: a lot of individuals trust other individuals without knowing them. This is possible because there is a third individual in between which both know and trust but who is not necessarily a party in the business or communication. If a farmer, for example, has trust in an input supplier, he automatically has trust in the suppliers of the input suppliers without knowing them directly. An IP is a network of many different individuals where this relationship also plays an important role. Therefore, following the literature, individuals might trust other IP members because they are participating in the same platform even though they do not know each other. From a business perspective, trust is an expected outcome of a certain event or action. Trust in the value chain has no relevance when all members have access to all information about activities, capabilities and consequences. If there is no uncertainty in all processes, trust does not play a role (Laeequddin et al. 2010, 56 f.). Laeequddin et al. (2010) analyzed 40 reputable peer-reviewed journals from different fields published from 1995 and 2008. Synonyms that are broadly used for the term trust are fairness or honesty. Positively related terms to trust are competence, skills, knowledge, reliability, consistence or predictable act. The willingness to take risk as a function of partner's characteristics is also connected positively to trust, and has been used as a method of measurement in past data surveys. The willingness to take risk can also depend on the characteristics of institutions,

mechanisms or IPs. In this context the specification of risk is important because there is a major difference between willingness of risk, risk worthiness, or risk. The duration of a relationship also shows a positive correlation to trust because knowing or being familiar with someone or something for an extended period of time leads to greater predictability in terms of related actions, outcomes and consequences (Laeequddin et al. 2010, 61).

Learning alliances must be seen as long term processes, with trust as a central aspect of all relationships involved. This is one of the most important factor for success (Lundy and Gottret 2005, 8).

Another trust factor are mechanisms of control such as contracts, agreements, laws or guarantees. Individuals tend to trust written terms as contracts more than verbal ones (Laeequddin et al. 2010, 57, 61). The measurements used by other scientists in the past cannot be used as a general measurement for trust and have to been seen in context of the stated objectives. Following the conclusions of Laeequddin et al. (2010, 64), every study about trust should reflect the context with respect to the dependent perspectives, perceptions and calculations at multiple levels. Measuring the impact of trust on relationships is still somehow unpredictable and difficult. It is neither possible to give a specific definition of trust that is applicable in every situation, nor it is possible to create a model to show a general dependence between trust and the context-dependent phenomenon. It is also impossible to define general points of trust as starting or end points. Trust is a multidimensional model in which the research has not yet brought to light all dimensions and their explanations (Laeequddin et al. 2010, 64).

9.2 Elements characterizing performance of value chains

Advocacy

Advocacy is broadly defined and interpreted in different ways. The most common one is that advocacy affects politics, positions or programs of institutions like companies, networks, IPs and other organizations. This process is similar to an IP in that it identifies and finds solutions for these organizations. The approach of advocacy is to make sure that everybody is heard and can freely express their views, concerns and opinions, as well as defend their rights and promote their responsibilities (Sharma, 1 ff.). Power dynamics have to be taken into account in the actions and processes of the IP. Power is expressed in many different ways and power dynamics are often more complex than

they seem (Cullen et al. 2013, 1 ff.). The facilitator plays one of the most important roles in managing power dynamics and advocacy. Facilitation is a flexible and adaptive process. The facilitator manages the dialogs, stimulates collective problem analysis to overcome challenges, monitors, documents and reports, facilitates and advocates institutional changes or capacities development (van Rooyen et al. 2013, 1 ff.). Platforms can also change power dynamics through capacity building from third parties or outsiders. Not every problem can be solved and advocacy does not work in every case and platform but at least it should help to make issues visible and help others act appropriate (Cullen et al. 2013, 1 ff.).

Value chain development

A value chain describes the different steps of a product's lifecycle starting with the producer, and including all suppliers, traders, retailers and processors until the product reaches the consumer. The different participants are linked through the product, information, finances and services (Kaplinsky and Morris 2000, 4 f.). Value chains also include external influences such as government regulations, research, financial institutions and extensions. Traditionally the focus was set on increasing the productivity of individual farmers, but nowadays the focus is set more on development of the value chain and markets. The approach is to improve farmer's access to the market, and especially to market information. The farmer is normally the weakest part in the value chain with the least information. Innovation platforms attempt to connect different actors by bringing them together to share information and strengthen communication. The aim is that every participant and stakeholder in the value chain benefit through the development of the weakest link in the chain – the farmer (Birachi et al. 2013, 1 ff.).

Nurturing smaller platforms

Nurturing smaller platforms relates to strengthening connections. Platforms can be linked vertically or horizontally. Vertical linkage explains the connection between different levels, for example international, national, and regional IPs. Horizontal linkage describes the connection between IPs of the same level. This could be in the same region but also different members using different approaches or working in different sectors. This linkage also works between IPs with similar structures, interests and member compositions, but which are based in different regions. To nurture smaller platforms is to support these horizontal and vertical linkages in order to strengthen

their position in bargain, exchange of information, lower costs through common action or get other common benefits (Tucker et al. 2013, 1 ff.).

Capacity development

The term capacity development is not set by a certain definition and has many different faces (Horton et al. 2003, 2; Ubels et al. 2010, 11). For example, FAO defines capacity development as a "process whereby individuals, organizations and society as a whole unleash, strengthen, create, adapt and maintain capacity over time." (FAO 2010, 10). This definition includes social, political and technical aspects. It involves the strengthening of technical competence as well as overall capacities (e.g. political legitimacy) (FAO 2010, 10). After analyzing a variety of sources, Bolger has concluded that "capacity development refers to approaches, strategies and methodologies used to improve performance at the individual, organizational, network/sector or broader system level" (Bolger 2000, 2). Other sources like Horton (2002) claim it to be more general, stating that the objective of capacity development is to foster the development of specific individuals or organizations (Horton 2002, 6). In an agricultural context capacity development is often in the form of training activities and workshops (Horton et al. 2003, 2). The principles of capacity development have roots in broad based participation, building on local capacities, a steady learning and adoption process, long term investments and integration of activities at various levels to address complex problems (Bolger 2000, 2).

Capacity development takes place in different dimensions or levels such as the sector or network level, organizational level or individual level (Neely 2010, 40). This multidimensional aspect illustrates the inclusion of different actors such as scientists and researchers, as well as producers, institutions, policy makers and other stakeholders and those who utilize the knowledge that is generated. Each actor interacts in a certain way with others of the same or other dimensions (Hall 2007, 612).

Capacities also depend on other level categories such as enabling environment (legal, social and economic content - e.g. laws, regulations, culture) or internal organizational factors (e.g. skills, leadership, relationships, resources, staff complement) (Horton 2002, 4). The most common strategies of capacity development are elimination of old or inappropriate capacity, optimizing the use of existing capacity, providing space for innovation and creative use of capacity or building new capacities (Bolger 2000, 5).

Capacity development can proceed on every level (international, national, regional, sectorial, organizational, group or individual).

Tools used for capacity development include information dissemination, training, facilitating and mentoring, networking and giving feedback to promote learning from experience (Horton 2002, 5 f.)

All the different principles, dimensions, actors, levels and strategies have to be analyzed on a case by case basis and must be seen as a combination of different influencing factors (Neely 2010, 13 ff.). One of the most common paradigms adopted by partners or actors involved in capacity development is the linear connection between the capacity development process (e.g. training on business plans, communication training) and the intended outcome (e.g. less costs, more efficiency). This paradigm connects input and output, follows the logic of cause and effect and often focuses on the delivery of a predefined output. Most of the actors working in the sector of capacity development measure capacity by performance. For example, Watson says, that it is better to observe development over time, and that the relationship between the different actors is of utmost importance, even if it is somewhat unpredictable (Watson 2010, 241).

The analysis of different cases by Watson shows that identifying a clear overall goal and organizational mission with all partners on the base of shared values and interests is very important. Another important factor is the leadership, which is responsible for the overview and changes in the staff, structure and approaches. Giving the partners and participants regular opportunities to talk about their experiences, to learn from others, to supplement the theories with real life examples and to bring significant changes and errors to focus has a positive influence on the capacity development process. Working on an individual basis, seeing the needs of every individual including his or her skills, and responding to the needs of each other shows the possibility to be more successful and enables a learning and a collective experience (Watson 2010, 244).

In the conceptual framework used for this study capacity development is seen as a performance factor and it varies for every innovation platform for which the conceptual framework is used (Hall 2007, 620).

10 Research design

10.1 Methods of data collection

Data collection methods were selected with the objective of gathering both qualitative and quantitative data. This study is based on two studies that use the conceptual framework on different regional innovation platforms, and which only take into consideration members of the platform and on another two studies that use the conceptual framework on different regional platforms by comparing members and non-members.

To collect qualitative data key informant interviews and focus group discussions were held. Quantitative data and observations were gathering through individual questionnaires with the main topics of structure, conduct and performance (Rocchigiani and Herbel 2013, 39 f.).

Key informant interviews were used for key informants who have important roles with regard to the topic studied. The aim of these interviews was to gain a more profound understanding through a less structured interview (see Appendix 1). This type of interviewing was also used when there was a high possibility that integrated questionnaires would not be returned. It is also important to note that the targeted population should generally be geographically dispersed (Rocchigiani and Herbel 2013, 39 f.).

Focus group discussions followed two approaches. The first one was to ask specific questions that were important to the study. The other one was to observe the direction taken by the focus group discussion and to allow and even encourage situations that were not predicted and information that was not part of the planned conceptual framework. Focus group participants were chosen according to their description and characteristics (e.g. membership constellation, partners and location). During the discussion the dynamic of the group was very important, and had to be captured and understood by the discussion leader. A focus group leader has to be skilled and trained to fulfill the requirements in order to get as most information as possible out of the discussion. Given that communication works in both directions, the participating group had to be informed about approaches and main ideas of the discussion (see Appendix 2). In detail, the group is part of the study and needs to be informed before, during and after the discussions so as to feel that they are part of the study and have the potential to benefit from it. Focus groups can only be formed if the appropriate resources, as well as geographical and time reasons align (Rocchigiani and Herbel 2013, 40).

Individual interviews are used in large groups to gather a lot of categorical and numerical data (see Appendix 3). They are also used to differentiate between subgroups for comparisons. Questionnaires are also used to analyze different groups and subgroups (Rocchigiani and Herbel 2013, 39 f.).

Design of individual questionnaires

The structural section of the questionnaire was about demographical characteristics of the respondent. This included basic information such as age, education, the Community/ IP or NLA membership, about the organization being represented, information and communication. The data from structural section is mostly descriptive data, as well as nominal and ordinal.

The conduct and performance section is about the topics defined in the conceptual framework. In this section 53 statements with a five point Likert scale were asked. After a maximum of 15 statements the Likert-scale statement were interrupted by open questions to keep the respondents interested and concentrated on the statements (see Appendix 3).

The statements used for the evaluation of the different variables of the conceptual framework are based on the literature review, previous studies testing this conceptual framework in other innovation platforms as well as on data collected through focus group discussion, key informant interviews and pretest of the questionnaire at the beginning of the data collection. Each variable is well discussed in the literature as Laeequddin et al. (2010) shows about trust. In the trust section it was tested if the statements used in the literature are working in the Nicaraguan agribusiness sector as well. In the capacity development section the literature was used to discuss this variable and most of the statements had to be adjusted to the topics the NLA is training and methods the NLA is working with. In this section most of the input is based on information about the NLA and key informant interviews. All of the other statements are based on the experience of other studies using this conceptual framework and focusing on different variables. G. Teno and Z. Mariami were working in 2013 testing the conceptual framework on village-level IPs and only with platform members. D. Pham and S. Subedi were working in 2013-2014 testing the conceptual framework on district-level platforms with IP-members and Non-members. K. Kago was working in 2014

testing the conceptual framework on a national platform with members and Non-members. The studies were carried out in Tanzania, India, Ghana and Burkina Faso. Each student gave a feedback about the questionnaires to ILRI and the following studies used the previous experience to improve the questionnaire tools.

The Likert scale was developed in 1932 by Likert and represents a range of categories the respondent uses to express their agreement with the statement given. The Likert scale was coded as followed: 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree, N/A= not applicable. Given that the Likert scale presents ordinal scales, it allows an analysis with mean, standard deviation, frequency, contingency tables and chi-square statistics (Allen and Seaman 2007).

The Likert scale has also weaknesses. The most significant is that the distances between the categories are always the same and do not represent the real distance. Because of this, even the altitudes are predefined and therefore are not exact. When Likert scales are used, the statements have to be direct and meaningful so that it is guaranteed that every respondent understands them the same way. Likert scales are good for comparing two groups (Clason and Dormody 1994, 34).

10.2 Sampling and data collection

During August, September and October of 2014 data was collected in Nicaragua from NLA-members, their influential partners, non-members and their influential partners, as well as from different stakeholders also involved in the agribusiness sector such as universities and private companies.

The data collection took place in Managua where the NLA-members and other key informants have their headquarters as well as in the regions of Matagalpa, Jinotega, Estelí, Madriz and Nueva Segovia where most of the members are working and the NLA trainings have been held. Other partners of the study such as SIMAS (Mesoamerican Information Service on Sustainable Agriculture), also have partners in Masaya and Chinandega. The data sampling was held mostly in these regions where the NLA-members and other study partners are active. Qualitative data was collected within focus group discussions with members of cooperatives of first level, key informant interviews with national and international organizations, as well as universities, private companies and other stakeholders with wide knowledge about the agricultural sector. During the individual questionnaires quantitative data about structure,

conduct and performance (mostly with Likert-scaled-statements) was collected, as well as additional qualitative data from interviews if possible (see Appendix 1, Appendix 2and Appendix 3).

First, contact was made with active NLA-members in Nicaragua and the research objectives and methods were presented. At the same time, contact was made with other NGOs, projects and organizations in order to get a reference group. During this meetings at the beginning of the data collection information about the agricultural sector in Nicaragua and the NLA were noted and the seven conversations are also part of the key informant interviews.

After this first contact, three focus group discussions with different groups of producers were held. The first discussion was with members of a cooperative that participated in the NLA. The second and the third focus groups consisted of producers in the regions of Chinandega and Masaya that did not have any connection to the NLA. The observations and outcomes of the discussions, were analyzed together with the data collected from the NLA- members and the other NGOs. Afterwards, two pretests of the individual questionnaire were undertaken with NLA-influenced cooperatives, as well as four pretests with non-influenced cooperatives. The results of the discussions, interviews and pretests were considered in the completion of the individual questionnaire (see Appendix 2).

The NLA-members and other partner organizations made the first contact with the cooperatives and regional organizations on behalf of the researcher, and organized between one and two interviews per day and location. After getting to the location and holding the first daily interviews, contact was made with other cooperatives and organizations with a similar structure in the same town or region. With this snowball method a maximum of eight interviews were carried out per day, while making sure that the reference group was working under the same conditions and under the same structure. A random sample was also contacted, and NLA-members were interviewed without previous contact through their partners. In total, 38 NLA-members or influenced partners, 44 non-members and non-influenced partners and 8 outsiders such as universities and private companies were interviewed. The outsiders were also working together in primary production and had organized training sessions and other capacity development techniques. That is why outsiders are seen as non-members and not influenced organizations. After the 90 interviews, 13 key informant interviews were held

to get a better impression of the NLA and the structure of the different stakeholders working in the agricultural sector (see Appendix 1).

Towards the end of the data collection, one focus group discussion was held with a non-influenced cooperative, and another two was held with NLA-influenced cooperatives to discuss topics that were previously left unclear. In total data of six focus group discussions, 20 key informant interviews and 90 individual questionnaires were collected.

10.3 Methodology for data analysis

Analysis of the quantitative data is the main approach used by the conceptual framework, even though the study could only be carried out successfully with a combination of the different types of data.

Graphical inspection and descriptive analysis of the structural data was done first to understand the data. Following this step, the differences between NLA members and influenced groups were statistically compared to the reference group. This comparison was also made between the different levels inside the network of the agricultural sector.

To simplify the analysis the numerous statements on trust and capacity development were reduced to a fewer number of factors using factor analysis, as well as to avoid multicollinearity due to potential interrelationships between statements. Reliability tests were carried out with all trust and capacity development statements and afterwards with the calculated factors to ensure the internal consistency. The factors were also analyzed with values of Cronbach's Alpha, Kaiser-Meyer-Olkin (KMO) measurement and Bartlett's Test of Sphericity. Cronbach's alpha is acceptable in the range between 0.7 and 0.8 (Field 2009, 675). The closer the KMO values are to one the better it is. Values between 0.5 and 0.7 are mediocre, between 0.7 and 0.8 are good, between 0.8 and 0.9 are great and the values between 0.9 and one are superb (Field 2009, 647). Bartlett's test of Sphericity shows the significance of the factors. The value should be bigger than 0.5. The eigenvalue of the statements used in the factors should be greater than one (Field 2009, 660). The acceptable factor loading as Stevens (2002) says for a population of 50 is 0.722, for a population size of 100 it has to be greater than 0.512 and for a population size of 200 it has to be greater than 0.364. The acceptable factor loading in this study (population of 90) is 0.564 (Field 2009, 644). Another indicator

of multicollinearity is the variance inflation factor (VIF) and shows if the predictor has a strong linear relationship with the other predictors. Field 2009 (224) explains with Bowerman and O'Connell (1990) and Myers (1990) that values between one and ten are acceptable and indicate non-multicollinearity.

After the determination and orthogonal VARIMAX rotation of the factors, the outcomes of the factor analysis are a reduced number of uncorrelated underlying factors representing groups of correlated statements that facilitate further empirical analysis (Field 2009, 644, 664 ff.). The next step after the factor analyses is a multiple linear regression with the developed factors as the dependent variable, as well as other factors, structure and conduct variables as independent variables. In this step of the process the connection between structure, conduct and performance is analyzed.

To affirm the validity and robustness of the regression models diagnostic tests are used. The R-Square shows the overall fit of the model and the Analysis of variance (ANOVA) shows the statistical significance of each explanatory variable. To know the relevance and influence of each variable and factor inside the regression model the parameter estimates (Beta-values), significances and VIF values were analyzed (Field 2009, 206ff, 224).

The following form shows one example of a regression:

$$Y_i = (b_0) + (S_x * b_i) + \left(C_y * b_i\right) + \cdots + \varepsilon_i \qquad i = 1, \dots, n$$

In this model Y_i represents the dependent variable and is explained by a linear combination of parameters, which in this study represent the structure of the IP, as well as trust and capacity development factors. b_0 and b_i are the regression coefficients. b_0 is the point where the line crosses the vertical axis of the graph. b_i represents the independent parameters. S_x represents the structure variables, which are mostly coded with zero or one. A negative b_i value would indicate that the individuals responding zero have a greater dependent variable. A positive b_i value would indicate that the individuals responding one have a greater dependent variable. C_y represents a conduct variable, which is mostly coded with a five-point-Likert-scale. Thus, the greater the value, the higher the correlation of the positive value of the independent variable (5= totally agree) to the dependent variable ε_i represents a residual term. It is the difference between the score predicted by the line of participant i and the score participants actually obtained (Field 2009, 199).

11 Results

11.1 Results from qualitative data

During the data collection it was apparent that the old structures of cooperatives and the different levels are still present. One example are the names of the cooperatives, such as Benjamin Zeledon, D'Andrea Odorico, Libertad or Nueva Version. The respondent and the groups they represent work in this structure on a daily basis and it does not seem to change. The fact that the NGOs are the most important source of income for most of the respondents was also noticeable in the field. The interviewee was asked a lot of questions about projects, money and other financial support. The term value chain was not often used in the field, and was completely unknown to some NGOs in Nicaragua. This term had to be explained in almost every interview.

Capacity training is provided by governmental institutions, country schools, as well as by private companies including exporters, traders or other institutions and unions. Every key stakeholder interviewed was practicing capacity development in the field in one way or another.

The fact that 70 of 90 organizations are supported by more than one organization can also be seen in the qualitative data. All key informant interviews and focus group discussions confirm this fact. Furthermore, sometimes it was seen as a problem because there could exist a lack of loyalty to the organization. A lot of cooperatives and organizations complained that people only stay with them if they receive an obvious benefit. As soon as some farmers or lower level organizations fail to benefit, they tend to change their partners and do not support the organizations which need their help.

It was very hard to get interviews with government representatives, and all those included in the study except CONICYT asked to be treated as anonymous respondents. During the focus group discussions the farmers said that they trust more in the NGOs than in the government, which they linked to the fulfillment of promises and financial support. Even the other stakeholders such as the private companies, exporters and NGOs do not work with the government. Every stakeholder has a connection to the government in one way or another, mostly via regulations. Some tried to work more closely with the governmental institutions, but said they did not get feedback or response. Others did not even try because of the lack of transparency, which was named during a lot of focus group discussions and key informant interviews.

One technician from a governmental institution (anonymous) said that the guides of the NLA trainings and the content itself is very good, but that the way it is taught to the farmers is not very successful. He said that the NLA guides are mostly not very useful for farmers because the language is not adjusted to the regional dialect. In addition, the content must be modified to be applicable to the whole country of Nicaragua, while also respecting the specialties of each region. This statement was confirmed during the focus group discussions and some individual questionnaires.

FUNICA modified their guides even after finishing the cycles. They modified the section related to self-evaluation and lowered the number of indicators. They also changed the content and language to make it more useful for their partners. By doing this they changed almost everything criticized by the government technician and some producers and interviewed cooperatives.

The focus group discussions and the individual questionnaires revealed a recommendation and the wish that some farmers and cooperatives would like to share information and experience with others using the same methods on the same level of the network. In their opinion it would optimize the method and increase the benefits of the potential participants in this dialog.

11.2 Results from quantitative data

11.2.1 Structure elements

A total of 90 individual questionnaires was held with an average duration of 40 minutes. Please see Appendix 4 for the complete data set described in the next chapter.

Respondents

67 of the respondents were male and 23 female. The average age of all respondents was 44 years. 62% (56 cases) of the respondents had a university level education, 13% had a technical certificate, 11% a postgraduate degree, seven percent completed secondary school, three percent had finished only primary school, and one has a PhD. On average, the respondents are working nine years for the organization or institution they represented. 23 of the respondents are presidents of the organization or institution, 17 are managers, 12 are technicians, ten are technical coordinators, six are executive directors, four are administrators, two are accountants and 16 hold other positions.

Farmers' organizations represented in the sample

Coffee is the most produced crop for 41 organizations, 33 say basic grains (beans, corn and rice) and 16 say others (cattle, milk/ dairy, vegetable, honey, cacao). 26 organizations focus on only one agricultural product, and the others also produce coffee, basic grains, cattle, milk/ dairy, vegetables, honey or cacao.

In total, 12 respondents represent a national organization (one NLA- member and 11 others), six represent regional organizations (three NLA-members and three others), two are cooperatives of third level (one NLA-member and one other), 14 are cooperatives of second level (seven NLA-partners and seven others) and 54 cooperatives of first level (26 NLA-partners and 28 others) (see Table 3).

Table 3: Connection with NLA respecting the level of the organization

Position of the Organization inside the network	Connection with NLA		Total
	No Member/ No Connection	Member/ Connection	
National organization	11	1	12
Regional organization	3	3	6
Coop* third level	1	1	2
Coop* second level	7	7	14
Coop* first level	28	26	54
not applicable/ other	2	0	2
Total	52	38	90

*Coop means Cooperative

(Source: Own data collection and analysis)

NLA-members and partners

Of the 38 NLA members and partners 14 said FUNICA is their most important partner, 11 said CRS, seven said CATIE, three said FENACOOP, two said SNV and one said VECO MA. 22 of the NLA-partners were working together with a regional organization, five with an international organization, four with a national organization, four with cooperative of second level and three with a cooperative of third level. 33 members said all five guides were taught to them, three said three guides were taught to them and two said two guides were taught to them.

All interviewed organizations and institutions

Of all respondents 29 said their partner is working at the national level, 21 said that they work with a cooperative of second level, 17 said they are working with a regional organization, seven with an international organization, six with a cooperative of third level and one with a cooperative of first level.

Most of the organizations and institutions were founded after 1990 (73 respondents). 70 respondents said their organization is participating in more than group.

Each organization and institution performs different activities and can also have more than one in this questionnaire. Seven are functioning as input suppliers, 74 as producers, 69 as traders, 50 are also doing processing, seven are working as an NGO, three are research institutes or universities, three are funding agencies, two are working inside the government, 57 are working as a financial organization, 85 as service providers, and 12 are doing other activities like tourism as well. 57 organizations represent cooperatives, 14 associations, eight NGOs, five private companies, three represent the government, two organizations and one a public institution. The most important source of funding comes from the NGO (37 cases) followed by cash from operations generated (25 cases), credit provided by the private sector (11 cases), membership fees (10 cases), and seven are government funded.

Most of the organizations represent between 100 and 499 producers (27 organizations). 26 organizations represent less than 100 producers. Only 10 organizations represent more than 5000 producers. The largest organization represents 50.000 producers. 69% of the producers represented through the organizations/institutions were male and 31% female. Three cooperatives interviewed consisted only of women, all the others were mixed cooperatives.

33 respondents said that the computer is the most important device of business communication. For almost the same amount of people (32 respondents) the mobile phone is the most important device for business communication, 21 respondents answered that direct contact and meetings are the most important way to communicate for business. Four respondents quoted post mail, radio or TV. The most important source of business information is the computer (45 respondent), followed by direct contacts and meetings (25 respondents) and mobile phones (16 respondents). Four respondents said others like Radio, TV or magazines. Six individuals say they never shared information with other business partners or stakeholders. 38 share information between one and three times per year. 16 share information monthly and 14 every second month. The others share information weekly (five respondents) or yearly (five respondents).

11.2.2 Conduct and performance elements

In the next chapter the differences between members, their influenced partners and non-members and their influenced partners are described and interpreted. First, the analysis between members/ influenced organizations and Non-members/ their partners in general including all stages is presented. Second, the analysis between members/ influenced organizations and Non-members/ their partners respecting the different level in the Network is presented. Thirdly, differences between the most important partners of the NLA-influenced Organization are presented and interpreted.

Differences between NLA-members, their partners and non-members and their partners

The analysis of the data shows that there is no statistically significant difference in the conduct and performance between the group of NLA members and influenced groups compared to the group of non-members and influenced groups. Here the groups in general without their position inside the network and without taking into account their level within the information-chain is analyzed. Even though universities and private companies do not participate in the NLA, they work in the same field and have shown no significant difference in the impact of their activities to others in this study. That is why outsiders are seen as non-members and not influenced organizations.

The most logical reason for this lack of difference in the conduct and performance indicators between members of the NLA network and the control group is the Nicaraguan agricultural structure in general. Agricultural cooperatives are a very common way for farmers to organize themselves, receive goods and financial support, as well as sell their goods. Every farmer can only be in one cooperative for each assignment. This means a lot of farmers are members of more than one cooperative with different assignments; for example, one specialized in financial support/ credits, one in agricultural production and one in the multisectorial area. All these cooperatives are working with other partners like cooperatives of second level, associations, unions or others. Most of the cooperatives are also working directly or indirectly (through cooperatives of second level, associations and so on) with cooperatives of third level, national associations, unions, NGOs, research institutes, private sector players such as traders,

exporters or processors (e.g. Ritter Sport, Cargill, Atlántico) and governmental institutions like INTA, MAGFOR, MEFCCA[4].

Every producer has the choice to work with different cooperatives and every cooperative itself has the choice to work with different cooperatives and organizations on a bigger scale. Because of the amount of offers from all the different stakeholders in the agricultural sector, the NLA is not something unique in developing capacities of farmers and the cooperatives and organizations that are part of the NLA do not have observable advantages compared to others.

Differences between the Cooperatives of first level and second level

In this section the comparison was made between the different positions and levels inside the network. Statistically significant differences can only be identified for some questions between Cooperatives of first and second level. The other positions, such as regional organizations or national organizations did not show any statistically significant difference.

Table 4: Appreciation of information sharing by cooperatives of second level

Level	Cooperative of second level	
Element	Conduct- Information sharing	
Statement	2. The information we get from the NLA/ our organization partner is useful.*	
NLA-Connection	**No Member/ No Connection**	**Member/ Connection**
Mean	4.29	4.86
Standard Deviation	.49	.38

*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 information that cooperatives of second level working with the NLA are getting from the NLA is more useful (mean= 4.86) than the information non-members are getting from their partners (mean= 4.29), and this difference is statistically significant at a 0.05 level (see Table 4).

In general NLA members are working on more projects and are applying for more funding than others. The relationship that NLA members and their partners have in

[4] MAGFOR (Ministry of agriculture and forestry); MEFCCA (Ministry of Family, Community, Cooperatives and Associative Economics)

most of the cases consists of more than just the guides of the learning alliance. Thus, apart from the guides, the collaboration between NLA members and their partners could also be about funding and other types of training for capacity development. An exception is FENACOOP (see below).

If the cooperatives and organizations think about the NLA, they mostly reflect the actions and behaviors of the partner they are working with like FUNICA, CATIE or FENACOOP separately and do not see them as one alliance.

The enumerator was frequently asked for funding or other projects during the interviews. In general a lot of cooperatives and organizations have the perception that those working with NLA members are receiving more funding and more financial support. For most of the cooperatives and organizations interviewed, NGOs like the NLA members are the most important source of financing (37 of 90). Therefore success is usually linked to financial support, and NGOs are the most important financial source.

Table 5: Appreciation of trust in the NLA by cooperatives of first level

Level	Cooperatives of first level	
Element	Conduct- Trust	
Statement	13. The NLA is known to be successful at the things it tries to do.*	
NLA-Connection	**No Member/ No Connection**	**Member/ Connection**
Mean	4.71	4.27
Standard Deviation	.47	.67

* 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)

This is why a lot of non-members (mean= 4.71) answered that the NLA is known to be successful at the things it tries to do and the value of the members (mean= 4.27) who mostly work with the members of the NLA (NGOs) and are actually receiving financial help is lower; this difference is statistically significant at a 0.05 level (see Table 5).

Table 6: Appreciation of capacity development by cooperatives of second level

Level	Cooperative second Level	
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	**No 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)

First and second level cooperatives working with the NLA agree with the statement that they have gained knowledge and skills applicable in their activities from NLA stakeholders in the last six years. The cooperatives of second level who are not working with the NLA disagree with this and the ones of first level are undecided (see Table 6 and Table 7).

Table 7: Appreciation of capacity development by cooperatives of first level

Level	Cooperative first Level	
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	**No 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)

This shows that the guides developed by the NLA members and trained by the local partners reached the level of the cooperatives and the guides developed the capacity and the work of the farmers.

Differences between the NLA members

In this section differences between the organizations working with the different members of the NLA are presented.

Information received from the NLA is perceived as more reliable by groups working with FUNICA and CATIE than by groups working with FENACOOP. In general FUNICA, CATIE and CRS work on more projects and apply for more funding than FENACOOP. Additionally, FUNICA, CATIE and CRS have local offices in the region where they work. Thus, FUNICA and CATIE have higher activities in information sharing and communication with other stakeholders and are more present in the regions through official people working for them. This conduct seems to have an influence on the partners they are working with, or the partners have a similar practice of information sharing and communication (see Table 8).

Table 8: Evaluation of information received from NLA members

Element	Conduct- Information sharing:	
Statement	3. The information we get from the NLA is reliable.*	
NLA-member	**Mean***	**Standard Deviation**
FUNICA	4.50	.52
CATIE	4.57	.53
CRS	4.27	.47
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)

Previously, FENACOOP had one person in charge of representing the cooperative and working with the NLA. Due to financial issues, this person was made redundant and nobody took responsibility of its position's tasks. Since then the NLA is left in the middle of a cycle and FENACOOP reduced teaching the modules.

FUNICA and CATIE were some of the most active members of the NLA and adopted all the guides in practical agriculture. Additionally, they further developed the guides and FUNICA in particular optimized them to best fit their clients' needs. FUNICA also has a long relationship with their clients. FUNICA and CATIE are working very closely with their clients whether they are in a learning cycle or not. Some clients do not even know when the cycles start or end due to the close relationship and exchange of information. This is the reason why clients working with FUNICA and CATIE say

that the NLA is known to be successful with the things they are doing while the clients working with FENACOOP are undecided.

As FENACOOP stopped teaching the guides to their partners the trust in FENACOOP did not increase and the knowledge about value chains through the guide did not improve. These are the reasons why the partners of FENACOOP disagree with the statement: "Our trust on products provided by value chain partners has increased." (see Table 9).

Table 9: Appreciation of trust on products provided by the NLA

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)

Because of the sudden end of FENACOOPS's membership in the NLA, their partners are undecided whether the NLA is known to be successful at things it tries to do or not. FUNICA has a very good image in the field according to both NLA-influenced organizations and those that were not influenced. FUNICA has successfully worked in the agricultural sector for a long time. The organizations that work with FUNICA connect the success of FUNICA with the success of the NLA (see Table 10).

Table 10: NLA- members- NLA is known to be successful

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)

The leaving of FENACOOP from the NLA in the middle of a cycle and the positive perception of FUNICA and CATIE are the reasons why clients working with FUNICA and CATIE agree with the statement: "Platform members communicate their achievement in other organized groups." In Contrast to this, clients working with FENACOOP are undecided (see Table 11).

Table 11: Communication of NLA- members with other organized groups

Element / **Statement**	Performance- Advocacy: 2. Representatives of the NLA communicate their achievement in other organized groups.*	
NLA-member	**Mean**	**Standard Deviation**
FUNICA	4.29	.61
CATIE	4.43	.53
CRS	4.00	.63
FENACOOP	3.00	0.00

* 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)

11.3 Inferential statistics

11.3.1 Factor analysis

In the Following the factor analysis is explained. First reliability test for the trust and capacity development statements are described before each factor analysis is declared. Cronbach's alpha of all trust statements was .790 (17 items) and of all capacity development statements .809 (15 items). These two values are above .600 which shows that the statements are reliable.

Table 12: Testing for the appropriateness and reliability of the factor analysis

	KMO *[1]	Bartlett's test of Sphericity Approx. Chi-Square	Sig.	Cronbach's Alpha	CUM % *[2]	Case Processing Summary (N) Valid	Excluded
Conduct-Trust	.669	159.102	.000	.716	60.782	88	2
Performance-Capacity development	.746	116.227	.000	.741	62.647	87	3

*[1] Kaiser-Meyer-Olkin Measure of Sampling Adequacy.

*[2] Rotation Sums of Squared Loadings- Cumulative %

(Source: Own data collection and analysis)

Trust

A principal component analysis (PCA) was conducted on the 17 items of the conduct trust with orthogonal rotation (varimax). The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO = .669 -'mediocre'- according to Field (2009, 647), and all KMO values for individual items were > .617, which is well above the acceptable limit of .564 (Field 2009, 647). Bartlett's test of Sphericity $\chi^2 = 159.102$, $p < .000$, indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. Three components had eigenvalues above Kaiser's criterion of one and in combination explained 60.78% of the variance (see Table 12). Given the sample size, and the convergence of the scree plot and Kaiser's criterion on three components, this is the number of components that were retained in the final analysis. Table 13 shows the factor loadings of the three trust factors after rotation.

Table 13: Rotated factor loadings- trust statements

Factors	Statements	Component *[1]		
		1	2	3
Factor: Trustful relationships	4. The NLA/ our organization always keep their promises.	.824		
	2. The NLA/ our organization always give us correct information.	.715		
	5. The NLA/ our organization actions and behaviors are very consistent.	.655		
	3. The NLA/ our organization always try to inform us if problem occurs.	.617		
Factor: Trustful Communication frequency	1. Trust is important for the activities with The NLA/ our organization.		.840	
	6. The frequency of contact has a positive influence on the trust.		.836	
Factor: Trustful Contracts	9. We only develop relationship with business partners who are fair to us.			.878
	8. We only maintain relationship with our business partners with clearly written terms and conditions.			.799

*[1] Only loadings above .564 are shown (Source: Field 2009, 647)

(Source: Own data collection and analysis)

Factor: Trustful relationships

The first factor, conduct trust, relates to the relationship with the closest partner inside the network in the sense of trust. This factor includes the statements about keeping promises, giving correct information, having a consistent acting and behavior, inform-

ing the interviewed organizations about problems occurring from the side of the network partner (see Table 13). These statements explain the perception of the network partners and reflect the trust they have in their partner.

Factor: Trustful Communication

This factor shows that "frequency of contact has a positive influence on trust" is linked to "trust is important for the activities with the NLA/ our organization"). Together, these two statements indicate that the frequency of contact has a positive influence on the activities with network partners.

Factor: Trustful Contracts

This factor links two statements about written contracts and fair treatment. These two statements together indicate that the interviewee is connecting fair treatment with clearly written terms and conditions. Therefore, written contracts with business partners are perceived as fair treatment by the respondents.

Statements not included in the trust- factors

Statements number 12 and 13 are exclude, because the NLA is not very well known in Nicaragua and even some organizations that receive the guides made by the NLA do not know the name and how the information flow works. Many interviewees answered undecided because they were unsure or said it is not applicable for them. Statement 14 was represented through three different factors with almost the same percentage, and was not clearly associated to one single factor.

Table 14: Statements not included in the trust factors

Statements not included in the trust- factors
7a. We can express our views freely in exchanges with the NLA/ our organization.
8a. Our trust on products provided by the NLA/ our organization has increased.
9a. We have greater trust in our supplier/customer if they are also part of a group (cultural, social, and religious) We are part of.
7. Our organization has confidence in all its business partners.
10. We prefer to have long term relationships.
11. We believe the information provided to us by the groups we participate in.
12. The NLA has a lot of knowledge about the work that needs to be done.
13. The NLA is known to be successful at the things it tries to do.
14. We do not mind paying subscription fee to the NLA/ our organization to get services relevant to us.

(Source: Own data collection and analysis)

Statements 8 and 9 were represented through two different factors, and neither clearly belonged to one factor. The cumulative percentage with each factor was 55%. It has to be at least 60% to be acceptable. Statements 7, 10 and 11 represent unique factors, and do not fit into any other factor (see Table 14).

Capacity development

A principal component analysis (PCA) was conducted on the 15 items of the performance capacity development with orthogonal rotation (varimax). The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO = .746 -'good'- according to Field (2009, 647), and all KMO values for individual items were > .699, which is well above the acceptable limit of .564 (Field 2009, 647). Bartlett's test of Sphericity $\chi^2 = 116.227$, $p < .000$, indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. Two components had eigenvalues above Kaiser's criterion of one and in combination explained 62.45% of the variance (see Table 12). Given the sample size, and the convergence of the scree plot and Kaiser's criterion on two components, this is the number of components that were retained in the final analysis. Table 15 shows the factor loadings of the capacity development factors after rotation.

Table 15: Rotated factor loadings- capacity development statements

Rotated Component Matrix			
Factors	**Statements**	**Component *[1]**	
		1	**2**
Factor: Investment and Business development	1. In the past six years, we have had enough capital to make new investments.	.844	
	9. Annual income from business activities has been increasing in the past six years.	.840	
	10. We have changed to or entered another value chain in the last six years.	.711	.
Factor: Innovation	5. We have developed new products in the last 6 years.		.757
	12. Our knowledge about our activity has improved in the past six years.		.728
	4. In the past six years, we have applied new techniques or machinery into our production, production process or management.		.699

*[1] Only loadings above .564 are shown (Source: Field 2009, 647)

(Source: Own data collection and analysis)

Factor: Investment and Business development

This factor relates to the capital available for new investments, the development of annual income in the last years and the reorientation on the market like entering or changing value chains (see Table 15). This factor explains that only the organizations with an increasing annual income in the last six years had enough capital for making new investments. Those organizations which had increasing income and enough capital for new investments are also those who decided to change or enter into another commodity value chain. This shows that investments are linked to the development of income and with reorientation in the market. All statements are related to the last six years, period since the start of the learning cycles coordinated by the NLA.

Factor: Innovation

This factor links the improvement of the knowledge about business activities, with the application of the techniques or machinery and development of new products. These statements describe an innovation process of the organizations (see Figure 6).

Figure 6: Innovation factor

(Source: Own data collection and analysis)

All the statements are related to the last six years and describe an innovation process. The interviewees who improved their knowledge about their own activities applied new techniques or machinery into their production, process or management. These organizations also developed new products because of the application of new techniques and machinery.

Statements not included in the capacity development- factors

Statement 11 is excluded because the relationship between the governmental institutions and producer organizations was difficult to describe by the participants of the focus group discussions and key informant interviewees. A lot of respondents felt unsure about answering this question or gave exceedingly long explanations to make

their point of view understood. Statement 7 was represented through two different factors with almost the same percentage and was not clearly belonging to one factor. Statements 2, 3, 4, 6 and 8 are represented through two different factors, with none clearly belonging to one factor. Also, the cumulative percentage with each factor is below 60%, which is not acceptable.

Table 16: Statements not included in the capacity development- factors

Statements not included in the capacity development- factors
5. In the past six years, we have gained knowledge and skills applicable in our activities from stakeholders **outside NLA.**
6a. In the past six years, we have gained knowledge and skills applicable in my activities from NLA stakeholders.
2. It was easier in the last six years to get inputs and services needed for our business.
3. I can get inputs and services at better conditions than six years ago.
4. Total quantity of produced goods has increased since six years ago.
6. We have added other activities to our business in the past six years.
7. We have started new cooperations and joint actions with other business partners in the last six years.
8. In the past six years, we have adopted new practices in business /production.
11. Our networking activities are contributing to some policy changes in government offices.

(Source: Own data collection and analysis)

Statement 5 and 6a are excluded of the factor analysis because the NLA is not well enough known in Nicaragua. So it was difficult for some respondents to see the difference between the NLA and all other stakeholders. Most also associated the NLA only with the organization they are working with but not with the NLA as a whole complex. The cumulative percentage respecting each statement is below 60% and not acceptable (see Table 16).

11.3.2 Regression analysis

Structure influencing conduct (Trust)

The regression model shows the impact of certain structure variables on the trust-factor: Trustful relationships. The adjusted R-Square value of this regression is 35% and the whole regression is statistically significant at a level inferior to zero percent. This shows that the regression itself represents 35% of the variance in the factor trustful relationships and that it is significant (see Appendix 6 and Appendix 7.)

As can be seen in Table 17- thirteen total structure variables and categories are represented, and eight of them are significant. All VIF values are below five, which indicates that there is no multicollinearity.

The level of education has a significance of 1.6% and a Beta-value of -0.281 which shows that a high level of education decreases the factor trustful relationships more compared to a low level of education. The percentage of male producers which are members of their organization or of the influenced organizations has a significance of 0.5% and a Beta-value of 0.288. This means the higher the percentage of men in a organization the bigger the factor trustful relationships. The position of the organization inside the network has a significance of 2.9% and a Beta-value of -0.260, which means that a low level of the organizations inside the network (e.g. cooperative of first level) decreases the factor trustful relationships more than a high level (e.g. national). The field of activities shows that if an organization is involved in production (Sig.= 3.6%; Beta-value= 0.294), the factor trustful relationships increases by 29.4%. If one business activity is trading (Sig.= 4.5%; Beta-value= -0.273) the trustful relationships factor decreases by 27.3%. The activity as a funding agency is significant, but only represents two cases, that is the reason why it was not interpreted. Being a financial organization means to give credits to the cooperatives and producers. This activity has a significant influence on the factor trustful relationships and if an organization is participating in this, the trustful relationships factor increases by 21.2%.

Most important source of funding is a question with the dummy-options: Operation generated cash, government, membership fees, credit by private sector or NGO's. The category operation generated cash (Sig.= 3.1%; Beta-value= -0.235) and membership fees (Sig.= 0.5%; Beta-value= -0.290) are negatively related to the factor trustful relationships. Which means if the most important source of funding is operation generated cash the factor trustful relationships decreases by 23.5% and if it is membership fees

the factor decreases by 29%. All others except the option NGOs are negatively related as well. So the NGO's being the most important source of funding, which represents the biggest group (37 of 90), has a positive influence on the factor trustful relationships with the network partners and business partners. It has to be considered that most of the statements are related to NLA-members and network partners which are strongly connected to NGOs.

The questions about the most important channel of communication with the different categories (Mobile phone, Computer, Meetings and others) don't have a significant influence.

Table 17: Regression analysis with the trustful relationships factor

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*[5]	-.302	.123	-.281	-2.464	.016	.587	1.702
Years working for the organization[6]	.025	.014	.162	1.752	.084	.891	1.123
Percentage of male Producers which 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*[7]	-.197	.088	-.260	-2.230	.029	.564	1.774
Connection with NLA[8]	-.279	.211	-.138	-1.321	.191	.699	1.430
Did you ever leave a group/ IP/ Cooperative?[8]	-.349	.216	-.160	-1.612	.112	.780	1.282
Active as a producer*[8]	.824	.384	.294	2.146	.036	.407	2.460
Active as a trader*[8]	-.689	.337	-.273	-2.047	.045	.428	2.335
Active as a Funding agency*[8]	1.411	.665	.212	2.123	.037	.768	1.303
Active as a Financial organization*[8]	.668	.246	.314	2.710	.009	.568	1.761
The most important source of funding is operation generated cash.* [8]	-.525	.238	-.235	-2.204	.031	.675	1.482
The most important source of funding is the government. [8]	-.579	.429	-.135	-1.349	.182	.764	1.309
The most important source of funding is membership fees. *[8]	-.908	.316	-.290	-2.870	.005	.748	1.337
The most important source of funding is Credits by the private sector. [8]	-.418	.300	-.139	-1.396	.167	.768	1.302
Have you ever shared business/production information with others? [8]	.687	.405	.174	1.698	.094	.724	1.381
The most important channel of communication is the mobile phone. [8]	-.839	.465	-.398	-1.805	.076	.157	6.376
The most important channel of communication is the computer. [8]	.139	.469	.066	.296	.768	.152	6.575
The most important channel of communication is meetings. [8]	-.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 $p < 0.05$ (Source: Own data collection and analysis)

[5] Scale: 1= Primary; 2= Secondary; 3= Technical Certification; 4= University; 5= Postgrade; 6= PhD

[6] Scale: Years in numbers

[7] Scale: 1= National organization; 2= Regional organization; 3= Cooperative 3rd level; 4= Cooperative 2nd level; 5= Cooperative 1st level

[8] Scale: 0= No; 1= Yes

Structure and conduct influencing performance

The regression model two – presented in Table 18- explains the influence of structure and conduct on the capacity development factor "innovation". This model includes three structure variables and eight conduct variables including two trust-factors. Significant are two structure variables, two trust statements and both trust factors. The adjusted R-Square of this regression is 40.4% and the whole regression is statistically significant at a level inferior to zero percent. This shows that the regression itself represents 40.4% of the variance in the factor innovation and that it is significant (see Appendix 6 and Appendix 7).

The number of years working for the organization has a significance of 0.1% and a Beta-value of 0.294 which shows that the amount of time the interviewee works for an organization increases the factor innovation.

A connection of the organization with the NLA does not have a significant influence on the factor innovation. The position of the organization inside the network does have a significant influence (Sig.= 4.8%; Beta-value= -0.178). The base value is the national level and the bigger the number the more local the level of the organization. Being close to the farmers level has a more negative significant influence on the innovation factor than being close to the national level. The statement from the joint planning section: "We plan our activities together with the NLA/ our organization according to our production potential and customer demand" has a negative significant influence (Sig.= 2.6%; Beta-value= -0.224). This means if the organizations strongly agree on this statement the factor innovation decreases more than if they strongly disagree. However, the joint planning – statement "Joint planning of activities with the NLA/ our organization has improved in the last six years"- (Sig.= 0.1%; Beta-value= 0.378) shows improvement of joint planning with the network partner in the last six years. If the organizations strongly agree on this statement, the factor innovation is bigger than if they strongly disagree.

Both trust-factors, "trustful relationships" (Sig.= 1.1%; Beta-value= 0.248) and "trustful contracts" (Sig.= 1.3%; Beta-value= 0.231) have a positive significant influence on the innovation factor. If the factor trustful relationship is present, the factor innovation increases and if the factor trustful relationship is present, the innovation factor increases as well.

Conduct statements about information sharing ("We usually share information about production with other stakeholders") as well as about joint planning ("The NLA/ our organization exchange information about their on-going activities with us" and "Our viewpoints are taken into account by the NLA/ our organization when they plan their activities.") do not have a significant influence on the innovation factor. The trust-statement "We prefer to have long term relationships" also does not have a significant influence.

Table 18: Regression analysis with the innovation factor

Dependent Variable: Factor: Innovation	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-1.709	.907		-1.883	.064		
Years working for the organization*[9]	.044	.013	.294	3.381	.001	.914	1.094
Connection with NLA[10]	.249	.177	.124	1.405	.164	.885	1.129
Position of the Organization inside the network*[11]	-.131	.065	-.178	-2.010	.048	.883	1.132
1. We usually share information about production with other stakeholders.[12]	.172	.117	.130	1.467	.147	.881	1.135
11. The NLA/ our organization exchange information about their ongoing activities with us.[12]	.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.*[12]	-.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. [12]	.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. *[12]	.447	.126	.378	3.541	.001	.607	1.646
10. We prefer to have long term relationships. [12]	-.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 5: Innovation
R-Square= 0.480; Adjusted R-Square= .404; Significance= 0.000; level of significance $p < 0.05$

(Source: Own data collection and analysis)

[9] Scale: Years in numbers
[10] Scale: 0= No; 1= Yes
[11] Scale: 1= National organization; 2= Regional organization; 3= Cooperative 3rd level; 4= Cooperative 2nd level; 5= Cooperative 1st level
[12] Scale: 1= strongly disagree; 2= disagree; 3= undecided; 4= agree; 5= strongly agree

12 Discussion

The main objective of the study was to test ILRI's conceptual framework for monitoring and evaluating innovation platforms in the field by focusing on trust and capacity development.

For the sake of full comprehension, it is also necessary to discuss the NLA and the environmental conditions that affect the agricultural sector in Nicaragua.

Innovation platform

Learning alliances and innovation platforms are discussed in the literature review. A small difference is that a special focus in learning alliances is on the "Integrated Agricultural Research for Development" approach (Lundy and Gottret 2005). In general the main concepts and approaches of the different forms of networks are similar and therefore learning alliances are also seen as innovation platforms. The main approach of innovation platforms is to bring different stakeholders together and create a platform of trust where information can be shared easily and communication is used as a base of the development of common approaches and actions (Homann-Kee Tui et al. 2013). Even the NLA is open for the public and private sector as Lorio et al. (2010) showed. Nevertheless, the members of the NLA consist of NGOs or research organizations with a similar status in Nicaragua.

Another aspect of innovation platforms is whether or not the members are the ones who define main goals and the methods for achieving them. In this case the NLA is part of a bigger platform, the learning alliance, where the main goals are set in conjunction with the national learning alliances such as the NLA. This is a common method in many countries. Inside the NLA the structure is very complex, as the NLA works with the learning alliance to get information and support. The NLA itself works as an NGO network inside of Nicaragua, and the NLA-members teach the guides to their regional partners. Members using whatever method they consider as most suitable during the trainings of the guides. FUNICA- Estelí, for example, realized that the guides can be modified for their partners, and they went ahead with the decision to change some parts. The NLA uses a downstream structure for capacity trainings, in which feedback is collected at certain scheduled times called cycles in order to maximize efficiency when teaching the guides. After these cycles the members and their partners are free to continue to use the method (Lundy and Gottret 2005; AdA 2014b).

This means that modifications of guides as FUNICA did, are not necessarily communicated to the NLA or can also be done after finishing the learning cycles without any feedback to the other members.

Because of the membership constellation and the down streaming structure of the information the NLA is not an innovation platform by definition (Lundy and Gottret 2005; AdA 2014b; Pali and Swaans 2013, 2 f.).

If the NLA is seen as an innovation platform because of the definition of learning alliance by Lundy and Gottret (2005), the NLA is, following Birachi et al (2013), a farmer based platform because it focuses on the farmer without including the entire value chain. It is not completely a farmer based platform because the capacity training is developed for the farmers' needs, but there is no platform where different cooperatives use the same approach and come together to exchange information.

The NLA is also represented on every geographical level. The NLA works from the international level in Latin America to the farmer level in Nicaragua, which makes it difficult to classify the different regions.

According to Nederlof et al (2013), the NLA is a development and research oriented platform. Its main goal on the one hand is to develop the local economy in the rural agricultural sector in Nicaragua. On the other hand, the NLA is also research oriented because the NLA-members and CIAT attempt to get as much information as possible out of the NLA to improve their method and make use of the results in their daily work inside and outside of Nicaragua.

Comparable study

Due to difficulties in comparing the data sets, it was only possible to compare this data set with one from the BCIE in 2008.

The percentages of female representatives and crops produced are almost equal. Differences are mostly in the size of the interviewed organizations. The sample of this study also includes cooperatives of second level and even cooperatives of first level and organizations that have more than 10,000 members. The big cooperatives with more than 10,000 are exceptions, but have to be regarded because of their partnership with NLA members as well as their influence. Another difference is the fact that, in the case of the BCIE, 22 out of 63 cooperatives and organizations do not receive any training or capacity development. In this study every cooperative and organization was

somehow connected to NGOs, private companies or governmental institutions that trained or supported them by capacity development. Following the BCIE, most of the cooperatives get their training through the UNAG, which cannot be verified through this data sample. In this case, the most important role in capacity development is played by NGOs. One possible explanation for this difference is that the data collection for this study took place in regions where NGOs have a strong presence (Lafortezza and Consorzio 2009).

Method of NLA

The quantitative and qualitative data show on the one hand that the guides and the content itself are very good. On the other hand the qualitative data show that the way the guides are taught to the farmers is not very successful because the language is not adjusted to the regional dialect, and the content has not been modified to be valid for all of Nicaragua with respect to the specialties of each region. It seems that FUNICA's strategy of adapting to the local environment is successful, and is a response to some criticisms. This can also be seen by observing FUNICA's success compared with the other NLA members. On the other hand, it makes it difficult to trace the success of the NLA- guides because if one member changes the method of self-evaluation and just uses the information on their own, it is no longer helpful for the other members and the approach of the learning alliances to build up a platform to share information and learn from each other is not efficient and sustainable. Opportunities for communication and meetings to share and exchange information are also missed by some cooperatives of first and second levels. So some cooperatives demand that smaller platforms be nurtured better to improve their performance in the end. Lundy et al. (2005, 6) describe an approach in the method of the learning alliance to create networks at the micro, meso and macro levels. These networks do not exist on every level and would be the answer to the recommendations and criticisms of the qualitative data to support the communication and information exchange between organizations on the same level. The NLA itself already realized this problem and named it as one weakness which is included in the changes that are planned for the next years (AdA Nicaragua 2012).

Another weakness of the method the NLA is using are the data collected during the last years by NLA members through the auto-evaluation of the training guides. This data is not complete and too weak to analyze and get clear recommendations out of it. One reason could be the adequate data does not exist or is not available.

Background and environment

The history and development of agricultural structure has also a major influence on the NLA. Nicaragua has a turbulent history that is still present in the way people think and act. Therefore, cooperatives are geographically widely spread, and the cooperatives existing are still similar to the status when they were founded (Lafortezza and Consorzio 2009). The private, public and NGO sector is familiar with this structure and adapted their methods to it. Thus, the private sector trains the farmers due to working with them and tries to improve the agricultural production of their clients. The governmental sector is represented in the same way throughout the country. The government and the governmental institutions involved in the agricultural sector are not very respected, as well as they are not seen as the most favorable partners by cooperatives and farmers. The farmers trust NGOs and the private sector more because they are more reliable and have more financial resources that can be given to the cooperatives. Even though the governmental organizations also teach similar topics to the farmers in field schools, these organizations are not very open to information sharing and creating of networks(INTA 2011). From the perspective of other stakeholders in the value chain the motivation to work with government is very low because of similar experiences.

Because of the structures and influences, the agricultural producers and cooperatives are not very familiar with the term value chain or the idea of the development of value chains. A lot of producers and cooperatives are more focused on the cooperative structure than on the value chain structure.

Financial support

Financial support for the cooperatives and interviewed organizations is a very important topic. Out of 90 organizations 37 named NGOs as the most important source of funding. A lot of producers are still used to the old ways of obtaining aid, but new ways such as innovation platforms are getting more important every year. A lot of cooperatives see financial support as a basic need that has to be accompanied by capacity development to be successful. This has to be seen critically because financial support is not generally indefinite. Financial support is necessary, but the main aim is to have successful producers that are not dependent on financial support of NGOs, as is dictated in the NLA guides (Lundy and Gottret 2005).

The NLA and its members are also driven by financial issues. Therefore each cycle depends on the NLA's donors and how much financial support each member is offering. FENACOOP, for example, had to change their financial planning and the person responsible for the NLA inside FENACOOP left. The fact that FENACOOP stopped working with the NLA because of labor management and financial decisions is the reason why FENACOOP was not rated very positively related to the NLA in the field.

CONICYT- Example

CONICYT was named as an exceptional example of a network in Nicaragua where governmental institutions and the private sector are working together. NGOs are also welcomed in the next step, and FUNICA is already in steady communication to join. CONICYT shows that it is possible to build up IPs with a different structure and membership composition (Espinoza Briones 2014).

In the area of training and capacity development the private sector, the NLA and the governmental institutions uses different methods, tools and principles as described to reach the goals. Even though there are different stakeholders using different approaches, capacity development in the Nicaraguan agricultural sector represents the common thread in the literature (Bolger 2000; Hall 2007; Watson 2010; Neely 2010, 13 ff.). The private sector and the NGOs are saying that they are open to the idea of a network with different stakeholders. The governmental institutions are closed and are not giving interviews or comments on this subject. It seems the government has its own strategy without being transparent to other actors in the same area, even though the cooperatives and farmers are getting most of their financial resources from NGOs and the farmers are the target group of all actions.

Conceptual framework

The conceptual framework by Cadilhon was developed to evaluate the impact of innovation platforms, seen as multistakeholder systems where discussions lead to approve and set common goals, on the development of agricultural value chains, but the NLA is not really an innovation platform.

This fact made the adaption of the conceptual framework and the variables to the environment in the field even more necessary. In this study the Nicaraguan backdrop as well has a strong influence on this conceptual framework was taken into consideration as much as possible.

The variables of conduct and their way of measurement are selected by Cadilhon (2013), though the combination of the models and definitions of the conceptual framework is further developed in this thesis. Cadilhon justified the choice of the variables and they fit well in the Nicaraguan content. The trust variable is a typical example that can be measured with a Likert scale because trust is complex, multifaceted and difficult to measure (Laeequddin et al. 2010, 53 f.). The data collected shows that trust is an important factor in the agricultural sector. The qualitative data also shows more clearly than the quantitative data that trust has a major influence on the daily relationships between network partners. The quantitative data shows this importance of trust as it is seen in the case of FENACOOP compared to other NLA-members.

The performance variables were tested by previous studies about this conceptual framework in other countries and capacity development was chosen because it is the main goal of the learning alliance. Many scientists also define capacity development, but the basic idea regarding capacity is always the same. Capacity development depends on a lot of different factors (e.g. principles, dimensions or strategies) and in the agricultural content it is often set as training activities and workshops (Bolger 2000; Hall 2007; Watson 2010; Neely 2010, 13 ff.). The performance variables as well as the conduct ones were adapted to the NLA.

In the conduct and performance section most of the data is quantitative in form of Likert scales. With the Likert scale it is not possible to individualize differences and the distances between the numbers are always the same. Even though a respondent could express his or her opinion more exactly it cannot be captured by the Likert scale (Barnette 2001).

Additional background information about the structure and performance in the form of economic or financial data are too weak to support the conceptual framework or missing. One example is the annual income of the organization interviewed. Most of the respondents could not answer this question because it was not known or because they do not measure and analyze it.

Data collection

The process of data collection did not worked out as planned because local circumstances were not taken into account. The consequences were that the data collection

had to be extended to get a sample size of 90 individual questionnaires even though 120 was planned.

Connection between SCP parameters

The regression models represent 35 and 40% variance in the factor trustful relationships as well as the innovation one. This shows us that the validity of the regression is not very big. All B-values are between one and minus one with only one exception. Respecting the equation model it means that the influence of the independent variable on the dependent variable is relatively small (Field 2009, 238).

The most important information visible in the regression model with the dependent variable trustful relationships is that the connection with the NLA does not have a significant influence on the factor and that the NGOs as the most import source of funding have a positive influence on the factor trustful relationships.

In the regression with the dependent variable of the factor innovation it is again visible that the NLA does not have a significant influence on this factor. Another outcome of this regression model is that the two trust factors trustful relationships as well as trustful contracts have both a positive significant influence on the innovation factor.

Even though there are only a few variables and factors showing a significant influence the linear multiple regression proofs that structure has an influence on conduct. It proofs as well that structure and conduct has an influence on the performance. Furthermore the influence of trust on the capacity development factor innovation is shown (Cadilhon 2013).

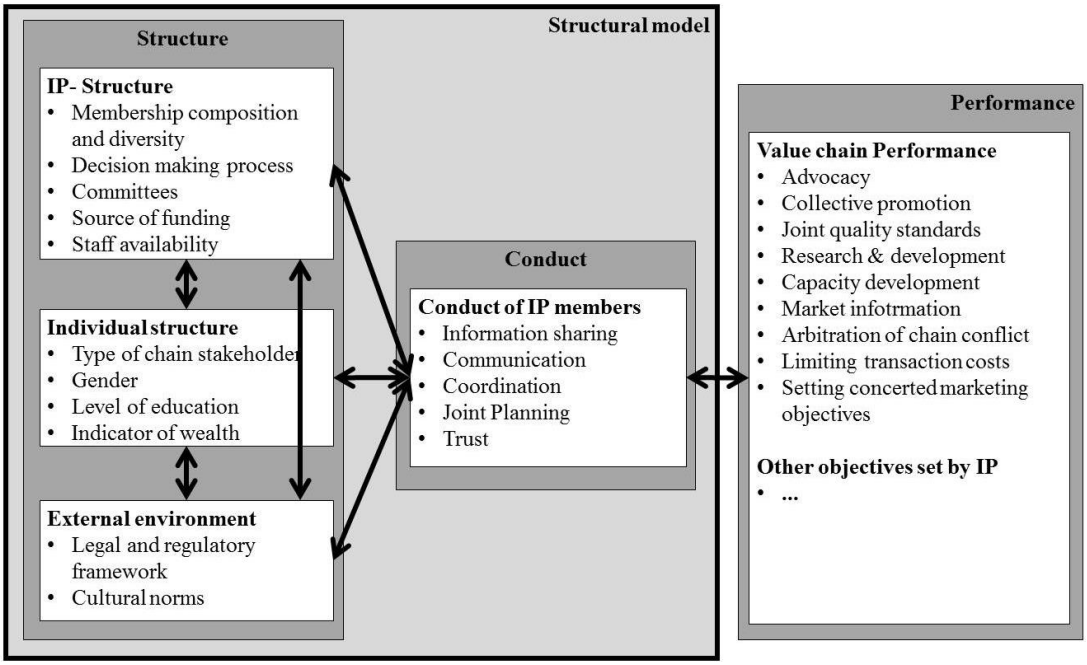
Despite the weaknesses of the regression model presented in this study the regression models help to answer the research questions about the NLA and the conceptual framework used.

Recommended method

In this study the correlation between structure, conduct and performance was mainly analyzed with the factor analysis and regression analysis. Apart from the choice of the variable, there are different ways to analyze the data. Another way to analyze it could be the Structure-Equation-Model (SEM). This model measures the latent exogenous variables and the latent endogenous variable. This model is called the second genera-

tion of multivariate method, based on linear multiple regression- also called first generation. This method uses a structure model which makes it possible to have more flexible assumptions, measurement error reduction by confirmatory factor analysis, test the whole model in one. This model also handles incomplete data and non-normal data. SEM also provides integrative function, and helps researchers to make more precise hypotheses. The model also makes it possible to see the connection in both directions and not only in one direction like the multiple linear regression where the limits are set by some independent and one dependent variable (Alavifar et al. 2012; Bagozzi and Yi 2011). One example built after Fox (2002) is illustrated in Figure 7.

Figure 7: Structural equation model



(Own illustration based on: Fox 2002)

In this study the multiple regression analysis was chosen to make it comparable with previous studies using the same conceptual framework and same method.

13 Conclusion and recommendations

This study was carried out in order to test the conceptual framework developed by Cadilhon (2013). The conceptual framework aims to evaluate the impact of innovation platforms on value chain development based on the structure-conduct-performance hypothesis in combination with concepts from new institutional economics and supply chain management and marketing research. This study is important since even though IPs are common but tools to evaluate them are rare. The difference between this study and others using the same conceptual framework is that it is one of the first carried out at national level. The main objective in this study was to observe if the NLA is successful in capacity development and if the conceptual framework shows influences between structure, conduct and performance. The Nicaraguan Learning Alliance was chosen for this study because it was created in 2008 and already finished three learning cycles (AdA 2014a).

By definition, innovation platforms consist of different stakeholders participating in value chains. The members of the NLA are ten NGOs and local institutes. Thus, the NLA is not an IP in the narrow sense (Homann-Kee Tui et al. 2013, 1). However, in this study the NLA was treated as an IP, as defined by Nederlof, because the "integrated research for development-approach" constitutes the base of the NLA (Nederlof et al. 2011, 19 f.). Her major goal is to develop capacities of the farmers through five guides about business topics by knowledge replication.

The comparable study of the BCIE showed that the data collected mostly reflects the local context and proofs that the structural data is representative. Cooperative structure in Nicaragua has a long tradition and is well established. Because of the strong cooperative oriented structure agricultural stakeholder and producers are not used to organized value chains and certain market structure. This is due to a lack of knowledge, missing information and education about agricultural business including value chains, markets and finances. The NLA, governmental organizations, private sector and other institutes are trying to optimize the situation through capacity trainings and financial support. The example of the government's field schools shows that other stakeholders are working in a similar way. However every stakeholder follows their own approaches and cooperation's and networks between different types of stakeholder (e.g. NGOs, private sector or governmental institutions) are rare. CONICYT was named as

an exceptional network example where different stakeholders work together, and which can be seen as a possible model for the NLA.

No statistically significant difference between the NLA members, their influenced group and the reference group can be observed. However, it is visible that the NLA as well as the other stakeholders have been successful in their attempts at capacity development. The trainings of every stakeholder are fitting into the gap of knowledge about business and market by the Nicaraguan farmers.

The qualitative data supports the quantitative data and helped to explain some phenomena. Inside the NLA it is visible that the performance of the NLA depend on each member and that financial issues have a strong influence.

Especially the qualitative data shows that the NLA guides are not adjusted well to the regional context and that the participating organizations would like to have more exchange about their experience and progress with other organizations dealing with similar problems. Questionnaires used in this study are based on likert-scale-statements which on the one hand make it possible to collect a big amount of comparable quantitative data. On the other hand, Likert scales are not capturing hard facts case (e.g. financial and economic figures) which decreases compellingness of the implications.

The selection of the variables in general and especially trust and capacity development are very important factors in the case of the NLA.

Furthermore, the influence between the structure and conduct is observable and shows, for example, that the NGOs as financial sources of organizations have a wide significant influence on the factor trustful relationships. The influence between structure and performance is weak and cannot be proved. The influence between structure and conduct on performance is visible as well. The results also show that the factors trustful relationships and trustful contracts have a positive influence on the innovation factor developed out of capacity development variables. However, the linear multiple regression also show that less than 50% of variation is explained by these models.

Recommendations are divided into two groups. One group is about the NLA itself and the other group about the conceptual framework used.

For the NLA one recommendation is to try to open the network for other types of stakeholders. The private sector already showed interests and even though the government does not seem to show interest in the NLA.There are examples like CONICYT

where different stakeholders work successfully together with governmental institutions. This recommendation is also for other stakeholders like the private and the governmental sector to cooperate more with stakeholders of same interest like the NLA. This could be one approach to make the method of training guides the stakeholders are using and of which some are similar more efficient, sustainable and successful. The networks in general seem to be the right way for the agricultural structure in Nicaragua, but the interactions can be improved.

Another recommendation for the NLA is to adjust the guides used in the trainings to the regional context and to create more regional platforms where participating organizations can have more exchange with other organizations.

The questionnaires used for the data collection of the conceptual framework should include financial and business figures to have better and more robust data for direct comparison between the different participants and the different stages of the data collection. Future research should use data collected over a longer period of time to have a better impression how the innovation platform and the conceptual framework works.

This data could also be collected through successful methods like the auto evaluation of the NLA and observations of the platform. This would make it easier to make adjustments in the method and to observe and analyze the changes of the conceptual framework in the field. It could also demonstrate improvement of the respondents if the questionnaire is used regularly and consistently. This requires more time for a study like this, better questionnaire preparation and a better choice of which representatives to interview from the different organizations. The data analysis shows that factor analysis and regression have their limitations with this data set. The use of a different method like the SEM could help to have better output of the data and make better recommendations.

Overall the NLA method is working well and reaches the set goals in addition to the conceptual framework. The conceptual framework helps to break complex data down and to understand the process of the NLA. Both the NLA and the conceptual framework also have a lot of weaknesses, which mostly are already identified and being addressed. The NLA and the conceptual framework are performing well but adjustments still need to be done.

Appendix

Appendix 1: Key informants interview

Questionnaire for Key Informants

Objective of survey

I am a student research fellow working with the International Livestock Research Institute (ILRI). We are doing a study to monitor and evaluate the impact of innovation platforms and to understand how trust within Nicaragua Learning Alliance is strengthening agribusiness and the capacity development of stakeholders. Your participation in answering questions related to your activities and your relationship with the Nicaragua Learning Alliance is very much appreciated.

Informed consent

*Your responses will be **COMPLETELY CONFIDENTIAL** and the information you will give me will not be associated to your name in any of our work or in our further interviews with other stakeholders associated with Nicaragua Learning Alliance. Your responses will be added to those of 120 other respondents and analyzed together. If you have any questions or comments about this survey, you may contact:*

Falguni Guharay; **Tel:** 505-22709965**; Email:** f.guharay@cgiar.org

If you indicate your voluntary consent by participating in this interview, may we begin?

Identifying Information

General	Date (dd/mm/yy)		SURDATE	
	Starting Time			
	Enumerator		ENUM	
	Respondent's name		RESPO	
	Respondent's Cell phone number		CELLPH	
Stakeholder / Organi-	Name of Stakeholder / Organization		NAME	
	Contact (Address)			
	Phone			
	E-Mail			
	Region		CONT	
	Location		LOC	
	Village		VIL	

SECTION 1: DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENT

A: Respondent							
1. Gender	1= Male	2=Female					
2. Age							
3. Highest Education	1= Primary School	2= High School	3= Certificate	4= University	5= Post Graduate	6= PhD	7= Other
4. Number of years working here							
5. Department							
6. Position							
7. Type of activity	1= Input supplier	2= Producer	3= Trader	4= Processor	5= Consumer	6= NGO	8= Funding agency
	7= Research institute/ University	9= Government	10= Itinerant Retailer	11= Supermarket (Big scale)	12= Small Scale retailers (Kiosk, shops)		
	13= Financial organization			14= Service Provider	15= Other		

B: Community/ IP-, NLA Membership					
1. NLA MEMBER	1= Yes	2= No	3= Not any more		
1a. **MEMBERS:** Attendance in NLA meetings	n/ a	1= Never	2= Not so frequently	3= Often	4= Every
1b. **MEMBERS:** Numbers of employees/ members involved in NLA:					
1c. **NLA MEMBERS**: In which cycles did you participate with what kind of level?	1= 1st Cycle		2= 2nd Cycle		3= 3rd Cycle
2. Are you a member of any other community or group regarding your business activity?	1= Yes	2= No	**(If yes,)** Which one(s)		
2a. **MEMBERS OF OTHER GROUPS:** Attendance in meetings	0= n/ a	1= Never	2= Not so frequently	3= Often	4= Every
3. Have you ever left an IP?	1= Yes	2= No			
3a. **LEAVERS:** Reason for Non-participating/ leaving the IP:					

Internal structure of the innovation platform *(only for platform members)*

1. What is your special role within the NLA?

1. Chairperson/secretary	2. Just member	3. Facilitator/organizer
4. Support organization	5. Other:	

What are the criteria for joining the NLA?

1. Wealth	2. Gender	3. Interest	4. Type of activity
5. Ethnicity	6. Age	7. Other ……	

What are the current numbers of members of the NLA? ……

a. Does this differ from the numbers at the establishments of the IPs? Yes….. No……
b. If yes, why does this difference occur? ……
c. How many of these members are women? ..……

How do members usually interact to take decisions within NLA? ……

Has the NLA set up smaller committees within the platform to tackle more specific problems?

If yes, how do these committees work? ……

What are the current sources of funding of the NLA?

1= Tax on sales of members	2= Operation-generated cash	3= NGO	3= Govern-ment	4= Membership fees	5= Other:

Does the NLA have a secretariat to help organize the platform's activities?

If no, why not? ……

If yes, how many staff compose the secretariat? Who do they report to? How are they paid? How do they decide on their workplan? ……

How many regular meetings does the platform undertake per year? ……

Does the NLA have any written by-laws to regulate the way the platform operates, the roles and obligations of its members? ……..

If yes, please elaborate on the main elements of these by-laws. ……

External environment of the agro-industries in Nicaragua ***(For all respondents)***

What are the laws and regulations that already exist to frame the development of the agro-industries in Nicaragua? ……

Are there any laws or regulations that frame the existence and functioning of the NLA?

If yes, which ones and what are their main points? ……

Are there any particular cultural norms for interactions between stakeholders in the society in this country that affect how people will behave when doing business in the agro-industries in Nicaragua? ……

Are individuals allowed to join the NLA or is membership only for associations, companies, and government institutions?
Please explain reason for this choice of membership.

……

Linkages between structure – conduct – performance

What does an "innovation platform" mean to you? ……

Do you think IPs are helpful to the industry sector you are part of?

Yes……. No……

If so, in what ways? ……

What motivates you to participate in IPs/NLA? ……

What are the factors that sustain or curtail participation of agribusiness actors in NLA?

……

If you could change three things in how IPs/NLA operate, what would they be? And why?

……

Focus questions for NLA

Does the organizational structure of the NLA influence levels of trust among members within the NLA?

Yes ☐ No ☐ Don't know ☐

If **Yes**, How?

Does the organizational structure of the NLA influence the way the NLA helps develop the capacity of its members to develop agribusinesses?

Yes ☐ No ☐ Don't know ☐

If **Yes,** how? ……

Does the level of trust among members in the NLA influence the way the NLA helps develop the capacity of its members to develop agribusinesses?

Yes ☐ No ☐ Don't know ☐

If **Yes,** how? ……

Who have a similar structure like your association/ company/… and is NOT participating in the NLA ?

Name	**Information**

Do you have any comments or question about the questionnaire we used or about the interview?

……

Ending time: _____

Thank you very much for your time.

Appendix 2: Focus group discussions- Guidelines

Focus group discussions-Guidlines

Name of Group: ……

Region / District: ……

Venue: ……

Total attendees: ……..… No. of males: ……..… No. of females: …….……

Date of interview: ……

Start time: ……

Guidelines

- Get together: Have some refreshments before starting
- Welcoming: One of the Participants open with a word of prayer or a cultural ceremony of the community, if relevant and appropriate.
- Permission: Request for consent to use cameras or tape recorders (if any).
- Introduction:
    - Facilitator
    - Participants (indicating which group / value chain process they represent)
    - Organizations involved (ILRI) / Tanzania Dairy Board
    - Tanzania Dairy Development Forum/ NLA,
- Setting the scene:
    - Objectives of the focus group discussion,
    - Highlight the important role of the participants in freely discussing the issues to be raised
    - Orientate the participants on the planned process of the focus group discussion.
    - Set the ground rules together with the participants (assigning time for each speaker and focusing on the main/relevant issues for the study)

General section

Members: What motivates you to participate in IPs/NLA? …

1. Apart from the IP/ NLA, are you also part of other associations / groups?
   Yes ☐ Number_____
   No ☐ Number_____

NLA-Members

1. What does NLA mean to you?
   a. Knowledge of NLA
2. More generally, please discuss the positive and negative lessons that you have learned from your involvement with innovation platforms / NLA.

Positive	**Negative**
1.	
…	

2. How do different actors and committees carry out different roles?
   a. Interaction between different actors
   b. To what extent have the roles been clearly defined?
3. Do NLA members also communicate and share the same information with non-members?
4. Did you see any improvement in your field of activity?
   a. What kind of improvement?
   b. How do you explain this improvement?
   c. Is this improvement attributable to NLA operations?

If you could change three things in your business activity related to the IPs and NLA, what would this be?

Special questions for Nicaragua Learning Alliance

Trust

1. What does trust mean to you?
2. Is there trust between value chain partners?
   a. What do you trust in?
   b. What kinds of trust are common in your activity of business?
   c. How do you notice these kinds of trust?
3. Who normally makes the first step in a business relationship?
4. Is there targeted use of trust?
5. Is there a common understanding of trust?
   a. If there is one or a few how do you use it in your relations?
6. What would be the perfect business relationship in the sense of trust?
7. Has the level of trust improved, deteriorated, or stagnated in the past year?

8. Is the number and type of actors adequate to enable IPs/ NLA to generate a common level of trust?
9. How does the level of trust influence the performance of the IP/ NLA?
10. What are the barriers to trust within the IPs and NLA?
11. What needs to be done to ensure effective and efficient trust?
12. Is the trust by stakeholders relevant in achieving NLA objective?
13. Do you have business partners you do not trust?
    a. Why do you do business with them?

Capacity Development

1. What does Capacity development mean to you?
2. What are the factors you need to develop capacity?
3. Does the NLA helps to facilitate these factors?
4. What changes did you see in the last five years in relation to your value chain? (Technics, Products, Processes, Copperations….)
5. Which are related to the activity of the NLA?
6. Who are the stakeholders with the most influence on the value chain and on the NLA?

Thank you very much for your time!

End time……..
Interviewer's observations: ……

List of Participants (Please write READABLE)

	Name	**Organization/ Company/… representing**	**Role in value chain**	**Contact**	**NLA Member**
1					
…					

Appendix 3: Individual questionnaire

Individual questionnaire

Objective of survey

I am a student research fellow working with the International Livestock Research Institute (ILRI). We are doing a study to monitor and evaluate the impact of innovation platforms and to understand how trust within Nicaragua Learning Alliance is strengthening agribusiness and the capacity development of stakeholders. Your participation in answering questions related to your activities and your relationship with the Nicaragua Learning Alliance is very much appreciated.

Informed consent

*Your responses will be **COMPLETELY CONFIDENTIAL** and the information you will give me will not be associated to your name in any of our work or in our further interviews with other stakeholders associated with Nicaragua Learning Alliance. Your responses will be added to those of 120 other respondents and analyzed together. If you have any questions or comments about this survey, you may contact:*

Falguni Guharay; **Tel:** 505-22709965**;** **Email:** f.guharay@cgiar.org

If you indicate your voluntary consent by participating in this interview, may we begin?

General	Date (dd/mm/yy)		SURDATE	
	Starting Time			
	Questionnaire Number		QID	
	Enumerator		ENUM	
	Respondent's name		RESPO	
	Respondent's Cell phone number		CELLPH	
Stakeholder / Organization	Name of Stakeholder / Organization		NAME	
	Contact (Address)			
	Phone			
	E-Mail			
	Region		CONT	
	District		DIST	
	Location		LOC	
	Village		VIL	

SECTION 1a: Demographic characteristics of the respondent

A: Respondent								
1. Gender	1= Male	2=Female						
2. Age								
3. Highest Education	1= Primary School	2= High School	3= Certificate	4= University	5= Post Graduate	6= PhD	7= Other	
4. Number of years working in this Organization								
5. Department								
6. Position								

B: Community/ IP-,/ NLA Membership							
1. Position inside the network of your organizations/ cooperatives	1= Organization Level 1 (national)	2= Organization Level 2 (regional)	3= Cooperative 3rd Level	4= Cooperative 2nd Level	5= Cooperative 1st Level	6= n/ a	
2. Connection with NLA	1= Yes	2= No	3= Not any more				
2a. With whom of the NLA are you working together?							
2b. What is the position of your NLA Partner inside the network of organizations and cooperatives?	1= Organization Level 1 (national)	2= Organization Level 2 (regional)	3= Cooperative 3rd Level	4= Cooperative 2nd Level	5= Cooperative 1st Level	6= n/ a	
2c. Attendance in meetings with NLA-partner.	0= n/ a	1= Never	2= Not so frequently	3= Often	4= Every		
2d. Numbers of employees/ members involved in NLA:							
2e. Since which year are you working with the NLA?							
2f. Which guides did the teach you?	Guide 1	Guide 2	Guide 3	Guide 4	Guide 5		
2g. How many people participated in the trainings of the guides?							

3. Are you a member of any other community or group regarding your business activity?	1= Yes	2= No	**(If yes,)** Which one(s)			
3b. What is his/ her position inside the network of organizations/ cooperatives?	1= Organization Level 1 (national)	2= Organization Level 2 (regional)	3= Cooperative 3rd Level	4= Cooperative 2nd Level	5= Cooperative 1st Level	6= n/ a
3c Attendance in meetings of Question3?	0= n/ a	1= Never	2= Not so frequently	3= Often	4= Every	
4. Have you ever left an IP?	1= Yes	2= No				
4a. Reason for Non-participating/ leaving the IP:						
*(Guide 1: Sensitization and Self-assessment, Guide 2: strengthening socio-organizational processes, Guide 3: strategic orientation with a focus on the value chain, Guide 4: Developing of business plans, Guide 5: Strengthening services						

SECTION 2a: Indicators of "Conduct"

	n/a, 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree,	
1. Information sharing	1. We usually share information about production with other stakeholders.	
	2. The information we get from the NLA/ our organization partner is useful.	
	3. The information we get from the NLA/ our organization is reliable.	
2. Communication	4. We attend periodic meetings of stakeholders to discuss common production/ business problems.	
	5. We use contacts with other actors of the NLA/ our organization to get information relevant to our business activities.	
	6. We are satisfied with the communication frequency We have with the NLA/ our organization.	
3. Trust	7. We can express our views freely in exchanges with the NLA/ our organization.	
	8. Our trust on products provided by the NLA/ our organization has increased.	
	9. We have greater trust in our supplier/customer if they are also part of a group (cultural, social, and religious) we are part of.	

SECTION 1b: Demographic characteristics of the respondent

C: Organization							
1. Founding Date							
2. Type of activity	1= Input supplier	2= Producer	3= Trader	4= Processor	5= Consumer	6= NGO	7= Funding agency
	8= Research institute/ University		9= Government	10= Itinerant Retailer	11= Supermarket (Big scale)	12= Small Scale retailers (Kiosk, shops)	
	13= Financial organization		14= Service Provider		15= Other		
3. Form of Organization	1= Government	2= NGO	3= Private	4= Public	5= Association	6= Organization	
	7= Society/ Cooperative		8= other				
4. Source of funding	1= Operation generated cash	2= NGO funded	3= Government funded	4= Membership fees	5= Other		
5. Numbers of:	a. Employees	b. Other organization	c. Cooperatives 2nd level	d. Cooperatives 1st Level	e. Producers		
5f. Male producers							
5g. Female producers							

SECTION 2b: Indicators of "Conduct"

	n/a, 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree	
4. Coordination	10. We exchange information with the NLA/ our organization about our on-going activities.	
	11. The NLA/ our organization exchange information about their on-going activities with us.	
	12. We plan our activities according to the activities of the NLA/ our organization.	
5. Joint Planning	13. We plan our activities together with the NLA/ our organization according to our production potential and customer demand.	
	14. Our viewpoints are taken into account by the NLA/ our organization when they plan their activities.	
	15. Joint planning of activities with the NLA/ our organization has improved in the last 6 years.	

SECTION 1c: Demographic characteristics of the respondent

D: Information								
1. What is the main channel of communication you usually use for your Business?	1= Telephone	2= Mobil phone	3= Computer	4= Radio	5= TV	6= newspaper	7= magazines	
	8= Direct contact	9= Meetings	10= Extension agents	11= Other organizations	12= NLA members	13= Othe		
2. Where do you get information about the Business/Production?	1= Telephone	2= Mobil phone	3= Computer	4= Radio	5= TV	6= newspaper	7= magazines	
	8= Direct contact	9= Meetings	10= Extension agents	11= Other organizations	12= IP members	13= Other		
3. Have you ever shared business/production information with others?	1= Yes	2= No	3a. If Yes How often per year					

SECTION 3: Focus-Indicators of "Conduct" Trust

n/a, 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree	
1. Trust is important for the activities with the NLA/ our organization.	
2. The NLA/ our organization always give us correct information.	
3. The NLA/ our organization always try to inform us if problem occurs.	
4. The NLA/ our organization always keep their promises.	
5. The NLA/ our organization actions and behaviors are not very consistent.	
6. The frequency of contact has a positive influence on the trust.	
7. Our organization has confidence in all its business partners.	
8. We only maintain relationship with our business partners with clearly written terms and conditions.	
9. We only develop relationship with business partners who are fair to us.	
10. We prefer to have long term relationships.	
11. We believe the information provided to us by the groups we participate in.	
12. The NLA has a lot of knowledge about the work that needs to be done.	
13. The NLA is known to be successful at the things it tries to do.	
14. We do not mind paying subscription fee to the NLA/ our organization to get services relevant to us.	

15. Do you have business partners that you do NOT trust?	1= Yes	2= No
15a.**If yes,** why don't you trust them?		
15b.**If yes,** why do you do business with them?		

16. How do you choose partners in whom you trust? (*List three under Characteristic of trust*) Please rank the three most important elements (*Write ranking in Ranking of trust characteristic*)	
Characteristic of trust	Ranking of trust characteristic

Section 4: Indicators of "Performance"

n/a, 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree,		
1. Advocacy	1. Representatives of the NLA facilitate innovation at the national level.	
	2. Representatives of the NLA communicate their achievement in other organized groups.	
	3. The NLA lobbies for policy changes on national level.	
2. Capacity building	4. In the past 6 years, we have applied new techniques or machinery into our production, production process or management.	
	5. In the past 6 years, we have gained knowledge and skills applicable in our activities from stakeholders **outside NLA.**	
	6. In the past 6 years, we have gained knowledge and skills applicable in my activities from NLA stakeholders.	
3. Value Chain Development	7. We have improved our product in the last 6 years.	
	8. In the past 6 years, there has been an improvement in the Interaction between policies, Government and other stakeholders.	
	9. We have a better access to the market than 6 years before.	
4. Nurturing smaller platforms	10. The NLA has created smaller platforms at regional level.	
	11. The NLA supports the work of other innovation platforms at regional level.	
	12. The NLA encourages us to form working groups within the platform to discuss specific problems.	

13. Have you ever received any training on Business/Production?	1= Yes	0= No	13a. If yes how many in the last year?	
13b. **IF YES:** On what:				

SECTION 5: Focus Indicators for Performance "Capacity Development"

n/a, 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree,	
1. In the past 6 years, we have had enough capital for doing new investments.	
2. It was easier in the last 6 years to get inputs & services needed for our business.	
3. I can get inputs and services at better conditions than 6 years ago.	
4. Total quantity of produced goods has increased since 6 years ago.	
5. We have developed new products in the last 6 years.	
6. We have added other activities to our business in the past 6 years.	
7. We have started new cooperation's and joint actions with other business partners in the last 6 years.	
8. In the past 6 years, we have adopted new practices in business /production.	
9. Annual income from business activities has been increasing in the past 6 years.	
10. We have changed to or entered another value chain in the last 6 years.	
11. Our activities are contributing to some policy changes in government offices.	
12. Our knowledge about our activity has improved in the past 6 years.	

SECTION 6: Closing part

For Commercial firms and associative businesses:

1. What is your yearly Gross Sales Value?
   _____

2. What are the most important Products of your cooperative/ organizations or of those ones you are representing
   1. _____
   2. _____
   3. _____

3. What organizations/ cooperatives of this region have a similar structure than you have?

Name	**Information**

4. Would you like to give us any comment regarding the Questionnaire?

_____
_____
_____

Ending Time: _____

Thank you for your attention

Appendix 4: Structural data- frequency table

Structural Data- Frequency Table

Duration of Interview

	Frequency	Percent	Valid Percent	Cumulative Percent
10-19 min	1	1.1	1.1	1.1
20- 29 min	10	11.1	11.1	12.2
30- 39 min	33	36.7	36.7	48.9
40- 49 min	24	26.7	26.7	75.6
50- 59 min	9	10.0	10.0	85.6
60- 70 min	9	10.0	10.0	95.6
70 min or more	4	4.4	4.4	100.0
Total	90	100.0	100.0	

Region

	Frequency	Percent	Valid Percent	Cumulative Percent
Chinandega	2	2.2	2.2	2.2
Estelí	16	17.8	17.8	20.0
Jinotega	21	23.3	23.3	43.3
Madriz	7	7.8	7.8	51.1
Managua	9	10.0	10.0	61.1
Masaya	5	5.6	5.6	66.7
Matagalpa	13	14.4	14.4	81.1
Nueva Segovia	17	18.9	18.9	100.0
Total	90	100.0	100.0	

Community

	Frequency	Percent	Valid Percent	Cumulative Percent
Chinandega	1	1.1	1.1	1.1
Comunidad Cuatro Esquinas	1	1.1	1.1	2.2
Condega	4	4.4	4.4	6.7
Datanli	1	1.1	1.1	7.8
El Cua	2	2.2	2.2	10.0
El Jicaro	6	6.7	6.7	16.7
El Tabaco	1	1.1	1.1	16.7
El Yaule abajo	1	1.1	1.1	17.8
Estelí	10	11.1	11.1	28.9
Jalapa	5	5.6	5.6	34.4
Jinotega	3	3.3	3.3	38.9
Jucuapa	1	1.1	1.1	40.0
La Concordia	4	4.4	4.4	44.4
Macuelizo	1	1.1	1.1	45.6
Managua	9	10.0	10.0	55.6
Masaya	5	5.6	5.6	61.1
Matagalpa	9	10.0	10.0	71.1
Murra	1	1.1	1.1	72.2
Ocotal	3	3.3	3.3	75.6
Posoltega	1	1.1	1.1	76.7
San Dionisio	1	1.1	1.1	77.8
San Juan Rio Coco	3	3.3	3.3	81.1
San Nicolas (La Garnacha)	1	1.1	1.1	82.2
San Rafael del Norte	5	5.6	5.6	87.8
San Sebastian de Yali	5	5.6	5.6	93.3
Santa Cruz	1	1.1	1.1	94.4
Somoto	3	3.3	3.3	97.8
Tastosli- Jalapa	1	1.1	1.1	98.9
Totogalpa	1	1.1	1.1	100.0
Total	90	100.0	100.0	

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	67	74.4	74.4	74.4
Female	23	25.6	25.6	100.0
Total	90	100.0	100.0	

Age in October 2014

	Frequency	Percent	Valid Percent	Cumulative Percent
20-29	7	7.8	7.8	7.8
30-39	24	26.7	26.7	34.4
40-49	32	35.6	35.6	70.0
50-59	24	26.7	26.7	96.7
60-69	3	3.3	3.3	100.0
Total	90	100.0	100.0	

Highest education

	Frequency	Percent	Valid Percent	Cumulative Percent
Primary	3	3.3	3.3	3.3
Secondary	7	7.8	7.8	11.1
Technical Certification	12	13.3	13.3	24.4
University	56	62.2	62.2	86.7
Postgrad	11	12.2	12.2	98.9
PhD	1	1.1	1.1	100.0
Total	90	100.0	100.0	

Years working for the organization

	Frequency	Percent	Valid Percent	Cumulative Percent
1-5	32	35.6	35.6	35.6
6-10	30	33.3	33.3	68.9
11-15	16	17.8	17.8	86.7
16-20	8	8.9	8.9	95.6
21 and more	4	4.4	4.4	100.0
Total	90	100.0	100.0	

Department inside the Organization

	Frequency	Percent	Valid Percent	Cumulative Percent
	21	23.3	23.3	23.3
-99	1	1.1	1.1	24.4
Acessora Legal	1	1.1	1.1	25.6
Acessoria Credito	1	1.1	1.1	26.7
Administracion	14	15.6	15.6	42.2
Agronegocios	1	1.1	1.1	43.3
Area Contabilidad	1	1.1	1.1	44.4
Area Credito	1	1.1	1.1	45.6
Area de Fortalicamiento y Desarrollo	1	1.1	1.1	46.7
Area Technica	1	1.1	1.1	47.8
Area Technica	7	7.8	7.8	55.6
Area Technica/ Mercado’s Exportacion	1	1.1	1.1	56.7
Area Technico	5	5.6	5.6	62.2
Asistencia Technica	2	2.2	2.2	64.4
Centro Acopia Cacao	1	1.1	1.1	65.6
Centro de Gestion Empresarial	1	1.1	1.1	66.7
Compras	1	1.1	1.1	67.8
Consejo de Administracion	4	4.4	4.4	72.2
Coordinacion Area Tecnia	1	1.1	1.1	73.3
Coordinacion Regional	1	1.1	1.1	74.4
Desarollo Cooperativa	1	1.1	1.1	75.6
Desarollo Empresarial	2	2.2	2.2	77.8
Direccion	1	1.1	1.1	78.9
Direccion de Mercado’s y relaciones Internacionales	1	1.1	1.1	80.0
Direccion ejecutiva	1	1.1	1.1	81.1
Direccion Ejecutiva	1	1.1	1.1	82.2
Direccion de Investigacion de Postgrados	1	1.1	1.1	83.3
Fortalicimiento de Capacidades	1	1.1	1.1	84.4
Gerencia	9	10.0	10.0	94.4
Investigacion y Desarollo	1	1.1	1.1	95.6
Officina Technica	1	1.1	1.1	96.7
Promotor de Credito	1	1.1	1.1	97.8
Representane	1	1.1	1.1	98.9
Unidad Technica	1	1.1	1.1	100.0
Total	90	100.0	100.0	

Position

	Frequency	Percent	Valid Percent	Cumulative Percent
Abogada inotaria publico	1	1.1	1.1	1.1
Acesor de Credito	1	1.1	1.1	2.2
Acessora Pedagogica	1	1.1	1.1	3.3
Administrador	4	4.4	4.4	7.8
Asistente Technico	7	7.8	7.8	15.6
Consultor	1	1.1	1.1	16.7
Contador	2	2.2	2.2	18.9
Coordinador de la AdA, Especialista en Desarollo rural empresarial	1	1.1	1.1	20.0
Coordinador de Proyectos	1	1.1	1.1	21.1
Coordinador Desarollo Empresarial	1	1.1	1.1	22.2
Coordinador Region del Norte	1	1.1	1.1	23.3
Coordinador Technico	10	11.1	11.1	34.4
Director Centro de Gestion Empresarial	1	1.1	1.1	35.6
Director de Investigacion, Extension y Postgrado	1	1.1	1.1	36.7
Director del Pais	1	1.1	1.1	37.8
Director Ejecutiva	1	1.1	1.1	38.9
Director ejecutivo	2	2.2	2.2	41.1
Gerente	14	15.6	15.6	56.7
Gerente de Centro acopia Cacao	1	1.1	1.1	57.8
Gerente de Projectos y administracion	1	1.1	1.1	58.9
Gerente General	1	1.1	1.1	60.0
Gestora de Fortalicamiento y Desarollo del pais	1	1.1	1.1	61.1
Gestores Credito/ Segmento Technico	1	1.1	1.1	62.2
Jefe de Area Mercado’s y Exportacion	1	1.1	1.1	63.3
Official de Credito	1	1.1	1.1	64.4
Presidente	23	25.6	25.6	90.0
Responsable de Comisiones Sectoriales	1	1.1	1.1	91.1
Secretario	1	1.1	1.1	92.2
Technico del Campo	5	5.6	5.6	97.8
Technico en Desarollo Empresarial	1	1.1	1.1	98.9
Vize-Presidente	1	1.1	1.1	100.0
Total	90	100.0	100.0	

Position

	Frequency	Percent	Valid Percent	Cumulative Percent
Presidente	23	25.6	25.6	25.6
Director ejecutivo	6	6.7	6.7	32.2
Gerente	17	18.9	18.9	51.1
Coordinador Technico	10	11.1	11.1	62.2
Technico	12	13.3	13.3	75.6
Administrador	4	4.4	4.4	80.0
Contador	2	2.2	2.2	82.2
Other	16	17.8	17.8	100.0
Total	90	100.0	100.0	

Most produced Crop of the producers you are representing

	Frequency	Percent	Valid Percent	Cumulative Percent
Cafe	41	45.6	45.6	45.6
Frijol (Grano Basico)	25	27.8	27.8	73.3
Maiz	5	5.6	5.6	78.9
Hortaliza	2	2.2	2.2	81.1
Miel	2	2.2	2.2	83.3
Leche/ Lacteos	3	3.3	3.3	86.7
Ganado	5	5.6	5.6	92.2
Arroz	3	3.3	3.3	95.6
Cacao	1	1.1	1.1	96.7
Others	3	3.3	3.3	100.0
Total	90	100.0	100.0	

Second most produced Crop of the producers you are representing

	Frequency	Percent	Valid Percent	Cumulative Percent
-99	26	28.9	28.9	28.9
Abonos	1	1.1	1.1	30.0
Arroz	4	4.4	4.4	34.4
Cacao	4	4.4	4.4	38.9
Cafe	14	15.6	15.6	54.4
Frijol	12	13.3	13.3	67.8
Ganado	8	8.9	8.9	76.7
Hortaliza	6	6.7	6.7	83.3
Lacteos	1	1.1	1.1	84.4
Leche	2	2.2	2.2	86.7
Maiz	6	6.7	6.7	83.3
Malanga	1	1.1	1.1	94.4
Mani	1	1.1	1.1	95.6
Miel	2	2.2	2.2	97.8
Sorgho	1	1.1	1.1	98.9
Turismo	1	1.1	1.1	100.0
Total	90	100.0	100.0	

What is your yearly Gross Sales Value?

	Frequency	Percent	Valid Percent	Cumulative Percent
Don’t know	45	50	50	50.0
1.000.000 US$	2	2.2	2.2	52.2
10.000.000 C$	1	1.1	1.1	53.3
10000 US$	1	1.1	1.1	54.4
110.000 C$	1	1.1	1.1	55.6
1150000 C$	1	1.1	1.1	56.7
12.500.000 C$	1	1.1	1.1	57.8
128.000 US$	1	1.1	1.1	58.9
1400000 C$	1	1.1	1.1	60.0
147.000 US$	1	1.1	1.1	61.1
16.000 US $	1	1.1	1.1	62.2
17.000.000 US$	1	1.1	1.1	63.3
175.190 US$	1	1.1	1.1	64.4
19.000.000 US$	1	1.1	1.1	65.6
2.000.000 C$	1	1.1	1.1	66.7
2.800.000 US$	1	1.1	1.1	67.8
20000C$	1	1.1	1.1	68.9
22.000 US$	1	1.1	1.1	70.0
228.000 US$	1	1.1	1.1	71.1
25.000 C$	1	1.1	1.1	72.2
25.000 US$	1	1.1	1.1	73.3
25000 C$	1	1.1	1.1	74.4
253.400 US$	1	1.1	1.1	75.6
290.00 US$	1	1.1	1.1	76.7
3.000.000 US$	3	3.3	3.3	80.0
3.500.000 US$	1	1.1	1.1	81.1
300.000 C$	1	1.1	1.1	82.2
300.000 US$	1	1.1	1.1	83.3
4.340.000 US$	1	1.1	1.1	84.4
45.000 US$	1	1.1	1.1	85.6
45000 C$	1	1.1	1.1	86.7
5.000.000 US$	1	1.1	1.1	87.8
5.390.000 C$	1	1.1	1.1	88.9
500 US$	1	1.1	1.1	90.0
500000 C$	1	1.1	1.1	91.1
55.000US$	1	1.1	1.1	92.2
595.925 C$	1	1.1	1.1	93.3
6.200.000C$	1	1.1	1.1	94.4
600.000 C$	1	1.1	1.1	95.6
650000 C$	1	1.1	1.1	96.7
67.900 C$	1	1.1	1.1	97.8
7.854.000 US$	1	1.1	1.1	98.9
8000 C$	1	1.1	1.1	100.0
Total	90	100.0	100.0	

Position of the Organization inside the network

	Frequency	Percent	Valid Percent	Cumulative Percent
National Organization	12	13.3	13.3	13.3
Regional	6	6.7	6.7	20.0
Cooperative third Level	2	2.2	2.2	22.2
Cooperative second Level	14	15.6	15.6	37.8
Cooperatives first Level	54	60.0	60.0	97.8
not applicable/ other	2	2.2	2.2	100.0
Total	90	100.0	100.0	

Connection with NLA

	Frequency	Percent	Valid Percent	Cumulative Percent
Non NLA member	44	48.9	48.9	48.9
NLA Member	38	42.2	42.2	91.1
Outsider	8	8.9	8.9	100.0
Total	90	100.0	100.0	

Connection with NLA

	Frequency	Percent	Valid Percent	Cumulative Percent
No Member/ No Connection	52	57.8	57.8	57.8
Member/ Connection	38	42.2	42.2	100.0
Total	90	100.0	100.0	

Are you working together with FUNICA?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	17	18.9	44.7	44.7
	Yes	21	23.3	55.3	100.0
	Total	38	42.2	100.0	
Missing	-99	52	57.8		
Total		90	100.0		

Are you working together with CATIE?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	27	30.0	71.1	71.1
	Yes	11	12.2	28.9	100.0
	Total	38	42.2	100.0	
Missing	-99	52	57.8		
Total		90	100.0		

Are you working together with CRS?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	23	25.6	60.5	60.5
	Yes	15	16.7	39.5	100.0
	Total	38	42.2	100.0	
Missing	-99	52	57.8		
Total		90	100.0		

Are you working together with FENACOOP?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	34	37.8	89.5	89.5
	Yes	4	4.4	10.5	100.0
	Total	38	42.2	100.0	
Missing	-99	52	57.8		
Total		90	100.0		

Are you working together with SNV?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	35	38.9	92.1	92.1
	Yes	3	3.3	7.9	100.0
	Total	38	42.2	100.0	
Missing	-99	52	57.8		
Total		90	100.0		

Are you working together with VECO Ma?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	37	41.1	97.4	97.4
	Yes	1	1.1	2.6	100.0
	Total	38	42.2	100.0	
Missing	-99	52	57.8		
Total		90	100.0		

Who is the most important Partner you are working with?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FUNICA	14	15.6	36.8	36.8
	CATIE	7	7.8	18.4	55.3
	CRS	11	12.2	28.9	84.2
	FENA-COOP	3	3.3	7.9	92.1
	SNV	2	2.2	5.3	97.4
	VECO Ma	1	1.1	2.6	100.0
	Total	38	42.2	100.0	
Missing	-99	52	57.8		
Total		90	100.0		

What is the position of your partner in the network?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	International Organi-zation	5	5.6	13.2	13.2
	National Organization	4	4.4	10.5	23.7
	Regional Organiza-tion	22	24.4	57.9	81.6
	Cooperative third Level	3	3.3	7.9	89.5
	Cooperative second Level	4	4.4	10.5	100.0
	Total	38	42.2	100.0	
Miss-ing	-99	52	57.8		
Total		90	100.0		

How often do you participate at the reunions of your NLA- partner?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not that frequently	2	2.2	5.3	5.3
	Frequently	2	2.2	5.3	10.5
	every	34	37.8	89.5	100.0
	Total	38	42.2	100.0	
Miss-ing	not applicable	52	57.8		
Total		90	100.0		

How much people of your Organization are involved in the work with the NLA/ Have direct contact?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	12.2	28.9	28.9
	2	6	6.7	15.8	44.7
	3	8	8.9	21.1	65.8
	4	5	5.6	13.2	78.9
	5	2	2.2	5.3	84.2
	6	2	2.2	5.3	89.5
	7	1	1.1	2.6	92.1
	8	2	2.2	5.3	97.4
	10	1	1.1	2.6	100.0
	Total	38	42.2	100.0	
Miss-ing	-99	52	57.8		
Total		90	100.0		

Which years were/ are you working with the NLA?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1st cycle	9	10.0	23.7	23.7
	1st and 3rd cycle	1	1.1	2.6	26.3
	1st and 2nd cycle	1	1.1	2.6	28.9
	1st, 2nd and 3rd cycle	1	1.1	2.6	31.6
	2nd cycle	16	17.8	42.1	73.7
	2nd and 3rd cycle	2	2.2	5.3	78.9
	3rd cycle	8	8.9	21.1	100.0
	Total	38	42.2	100.0	
Missing	-99	52	57.8		
Total		90	100.0		

How many guides did they teach you?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	2.2	5.3	5.3
	3	3	3.3	7.9	13.2
	5	33	36.7	86.8	100.0
	Total	38	42.2	100.0	
Missing	-99	52	57.8		
Total		90	100.0		

How much people participated at these trainings?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	2.2	5.3	5.3
	2	10	11.1	26.3	31.6
	3	4	4.4	10.5	42.1
	4	3	3.3	7.9	50.0
	5-9	8	8.9	21.1	71.1
	10 or more	11	12.2	28.9	100.0
	Total	38	42.2	100.0	
Missing	-99.00	52	57.8		
Total		90	100.0		

Are you a member of any other group/ Are you interacting with others?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	20	22.2	22.2	22.2
	Yes	70	77.8	77.8	100.0
	Total	90	100.0	100.0	

What is the position of your partner in the network?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	International organiza-tion	6	6.7	8.6	8.6
	National organization	28	31.1	40.0	48.6
	Regional Organization	12	13.3	17.1	65.7
	Cooperative 3rd Level	4	4.4	5.7	71.4
	Cooperative 2nd Level	18	20.0	25.7	97.1
	Cooperatives 1st Level	2	2.2	2.9	100.0
	Total	70	77.8	100.0	
Missing	-99	20	22.2		
Total		90	100.0		

How often do you participate at the reunions of your partner?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not that frequently	3	3.3	4.3	4.3
	Frequently	5	5.6	7.1	11.4
	every	62	68.9	88.6	100.0
	Total	70	77.8	100.0	
Missing	not applicable	20	22.2		
Total		90	100.0		

Did you ever leave a group/ IP/ Cooperative?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	64	71.1	71.1	71.1
	Yes	26	28.9	28.9	100.0
	Total	90	100.0	100.0	

Year of founding

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1917-1959	2	2.2	2.2	2.2
	1960-1969	3	3.3	3.3	5.6
	1970-1979	2	2.2	2.2	7.8
	1980-1989	5	5.6	5.6	13.3
	1990-1999	38	42.2	42.2	55.6
	2000-2009	35	38.9	38.9	94.4
	2010-2014	5	5.6	5.6	100.0
	Total	90	100.0	100.0	

Active as an input supplier

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	83	92.2	92.2	92.2
	Yes	7	7.8	7.8	100.0
	Total	90	100.0	100.0	

Active as a producer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	16	17.8	17.8	17.8
	Yes	74	82.2	82.2	100.0
	Total	90	100.0	100.0	

Active as a trader

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	21	23.3	23.3	23.3
	Yes	69	76.7	76.7	100.0
	Total	90	100.0	100.0	

Active as a processor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	40	44.4	44.4	44.4
	Yes	50	55.6	55.6	100.0
	Total	90	100.0	100.0	

Active as a NGO

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	83	92.2	92.2	92.2
	Yes	7	7.8	7.8	100.0
	Total	90	100.0	100.0	

Active as a research institute/ university

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	87	96.7	96.7	96.7
	Yes	3	3.3	3.3	100.0
	Total	90	100.0	100.0	

Active as a funding agency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	88	97.8	97.8	97.8
	Yes	2	2.2	2.2	100.0
	Total	90	100.0	100.0	

Active as a government

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	88	97.8	97.8	97.8
	Yes	2	2.2	2.2	100.0
	Total	90	100.0	100.0	

Active as a financial organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	33	36.7	36.7	36.7
	Yes	57	63.3	63.3	100.0
	Total	90	100.0	100.0	

Active as a service Provider

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	5	5.6	5.6	5.6
	Yes	85	94.4	94.4	100.0
	Total	90	100.0	100.0	

Active as an other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	78	86.7	86.7	86.7
	Yes	12	13.3	13.3	100.0
	Total	90	100.0	100.0	

3. Form of Organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government	3	3.3	3.3	3.3
	NGO	8	8.9	8.9	12.2
	Private	5	5.6	5.6	17.8
	Public	1	1.1	1.1	18.9
	Association	14	15.6	15.6	34.4
	Organization	2	2.2	2.2	36.7
	Cooperative	57	63.3	63.3	100.0
	Total	90	100.0	100.0	

First Source of funding

	Frequency	Percent	Valid Percent	Cumulative Percent
Operation generated cash	25	27.8	27.8	27.8
NGO funded	37	41.1	41.1	68.9
Government funded	7	7.8	7.8	76.7
Membership fees	10	11.1	11.1	87.8
Credit (private sector)	11	12.2	12.2	100.0
Total	90	100.0	100.0	

Second Source of funding

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Operation generated cash	24	26.7	28.2	28.2
	NGO funded	13	14.4	15.3	43.5
	Government funded	7	7.8	8.2	51.8
	Membership fees	34	37.8	40.0	91.8
	Credit provided by private sector	7	7.8	8.2	100.0
	Total	85	94.4	100.0	
Missing	-99	5	5.6		
Total		90	100.0		

Number of employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	12	13.3	13.5	13.5
	1	8	8.9	9.0	22.5
	2	5	5.6	5.6	28.1
	3	8	8.9	9.0	37.1
	4	6	6.7	6.7	43.8
	5	2	2.2	2.2	46.1
	6	2	2.2	2.2	48.3
	7	7	7.8	7.9	56.2
	8	6	6.7	6.7	62.9
	9	1	1.1	1.1	64.0
	10-19	14	15.6	15.7	79.8
	20-29	6	6.7	6.7	86.5
	30-39	5	5.6	5.6	92.1
	40-49	1	1.1	1.1	93.3
	50-59	2	2.2	2.2	95.5
	60-69	1	1.1	1.1	96.6
	100- 700	3	3.3	3.4	100.0
	Total	89	98.9	100.0	
Missing	-99.00	1	1.1		
Total		90	100.0		

Number of Organizations which are members of your organization or influenced by it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	76	84.4	86.4	86.4
	1-9	7	7.8	8.0	94.3
	10-19	1	1.1	1.1	95.5
	20-29	2	2.2	2.3	97.7
	50	2	2.2	2.3	100.0
	Total	88	97.8	100.0	
Missing	-99.00	2	2.2		
Total		90	100.0		

Number of Cooperatives of 2nd level which are members of your organization or influenced by it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	72	80.0	81.8	81.8
	1-9	12	13.3	13.6	95.5
	10-19	4	4.4	4.5	100.0
	Total	88	97.8	100.0	
Missing	-99.00	2	2.2		
Total		90	100.0		

Number of Cooperatives of 1st level which are members of your organization or influenced by it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	59	65.6	67.0	67.0
	1-9	10	11.1	11.4	78.4
	10-19	7	7.8	8.0	86.4
	20-29	4	4.4	4.5	90.9
	30-39	4	4.4	4.5	95.5
	50	1	1.1	1.1	96.6
	100-250	3	3.3	3.4	100.0
	Total	88	97.8	100.0	
Missing	-99.00	2	2.2		
Total		90	100.0		

Number of Producers which are members of your organization or influenced by it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-99	26	28.9	29.5	29.5
	100-499	27	30.0	30.7	60.2
	500-999	9	10.0	10.2	70.5
	1000-4999	16	17.8	18.2	88.6
	5000-9999	3	3.3	3.4	92.0
	10000-19999	4	4.4	4.5	96.6
	20000- 30000	2	2.2	2.3	98.9
	50000	1	1.1	1.1	100.0
	Total	88	97.8	100.0	
Missing	-99.00	2	2.2		
Total		90	100.0		

Number of male Producers which are members of your organization co influenced by it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	2	2.2	2.3	2.3
	0-99	31	34.4	35.2	37.5
	100-499	26	28.9	29.5	67.0
	500-999	7	7.8	8.0	75.0
	1000-4999	13	14.4	14.8	89.8
	5000-9999	3	3.3	3.4	93.2
	10000-19999	5	5.6	5.7	98.9
	37500	1	1.1	1.1	100.0
	Total	88	97.8	100.0	
Missing	-99.00	2	2.2		
Total		90	100.0		

Number of female Producers which are members of your organization co influenced by it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-99	49	54.4	55.7	55.7
	100-499	16	17.8	18.2	73.9
	500-999	12	13.3	13.6	87.5
	1000-4999	7	7.8	8.0	95.5
	5000-9999	3	3.3	3.4	98.9
	10000-19999	1	1.1	1.1	100.0
	Total	88	97.8	100.0	
Missing	-99.00	2	2.2		
Total		90	100.0		

1. Most important channel of communication you usually use for your Business?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mobil phone	32	35.6	35.6	35.6
	Computer	33	36.7	36.7	72.2
	Radio	2	2.2	2.2	74.4
	TV	1	1.1	1.1	75.6
	Direct Contact	4	4.4	4.4	80.0
	Meetings	17	18.9	18.9	98.9
	Postal	1	1.1	1.1	100.0
	Total	90	100.0	100.0	

1. Second most important channel of communication you usually use for your Business?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Telephone	1	1.1	1.1	1.1
	Mobil phone	40	44.4	44.4	45.6
	Computer	25	27.8	27.8	73.3
	newspaper	1	1.1	1.1	74.4
	Direct Contact	8	8.9	8.9	83.3
	Meetings	14	15.6	15.6	98.9
	Postal	1	1.1	1.1	100.0
	Total	90	100.0	100.0	

2. Most important source of information about the Business/Production?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Telephone	1	1.1	1.1	1.1
	Mobil phone	15	16.7	16.7	17.8
	Computer	45	50.0	50.0	67.8
	Radio	2	2.2	2.2	70.0
	TV	1	1.1	1.1	71.1
	magazines	1	1.1	1.1	72.2
	Direct Contact	7	7.8	7.8	80.0
	Meetings	18	20.0	20.0	100.0
	Total	90	100.0	100.0	

2. Second most important source of information about the Business/Production?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Telephone	1	1.1	1.1	1.1
	Mobil phone	31	34.4	34.4	35.6
	Computer	20	22.2	22.2	57.8
	TV	2	2.2	2.2	60.0
	magazines	3	3.3	3.3	63.3
	Direct Contact	9	10.0	10.0	73.3
	Meetings	22	24.4	24.4	97.8
	Extension agents	2	2.2	2.2	100.0
	Total	90	100.0	100.0	

3. Have you ever shared business/production information with others?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	6	6.7	6.7	6.7
	Yes	84	93.3	93.3	100.0
	Total	90	100.0	100.0	

If Yes How often per year

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	8	8.9	9.5	9.5
	2.00	16	17.8	19.0	28.6
	3.00	14	15.6	16.7	45.2
	4.00	8	8.9	9.5	54.8
	5.00	3	3.3	3.6	58.3
	6.00	3	3.3	3.6	61.9
	7.00	1	1.1	1.2	63.1
	8.00	1	1.1	1.2	64.3
	9.00	1	1.1	1.2	65.5
	10.00	2	2.2	2.4	67.9
	12.00	14	15.6	16.7	84.5
	24.00	2	2.2	2.4	86.9
	52.00	5	5.6	6.0	92.9
	104.00	1	1.1	1.2	94.0
	365.00	5	5.6	6.0	100.0
	Total	84	93.3	100.0	
Missing	-99.00	6	6.7		
Total		90	100.0		

15. Do you have business partners that you do NOT trust?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	34	37.8	37.8	37.8
	Yes	56	62.2	62.2	100.0
	Total	90	100.0	100.0	

13. Have you ever received any training on Business/Production?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	2	2.2	2.2	2.2
	Yes	88	97.8	97.8	100.0
	Total	90	100.0	100.0	

How many in the last year?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	12.2	12.5	12.5
	2	18	20.0	20.5	33.0
	3	16	17.8	18.2	51.1
	4	12	13.3	13.6	64.8
	5	7	7.8	8.0	72.7
	6	13	14.4	14.8	87.5
	7	1	1.1	1.1	88.6
	8	2	2.2	2.3	90.9
	10 or more	8	8.9	9.1	100.0
	Total	88	97.8	100.0	
Missing	-99.00	2	2.2		
Total		90	100.0		

(Source: Own data collection and analysis)

Appendix 5: Comparison of NLA-members and Non-members

	Membership of NLA					
	No Member		Member		Total	
	Mean	Std. Dev.*	Mean	Std. Dev.*	Mean	Std. Dev.*
Year of Birth	1969,2	10,0	1971,4	9,1	1970,1	9,6
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 on-going activities.	4,38	,66	4,29	,73	4,34	,69
11. Our value chain partners exchange information about their on-going 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
1. Trust is important for the activities with our business partners.	4,71	,50	4,71	,52	4,71	,50	
2. Our organization's business partners always give us correct information.	4,13		,86	4,29	,61	4,20	,77
3. Our organization's business partners always try to informs us if problem occurs.	4,25		,76	4,16	,82	4,21	,79
4. Our organization's business partners always keep their promises.	3,75		,81	3,68	,77	3,72	,79
5. The business partners' actions and behaviors are not very consistent.	2,46		1,06	2,32	,84	2,40	,97
6. The frequency of contact has a positive influence on the trust.	4,31		,76	4,45	,55	4,37	,68
7. Our organization has confidence in all its business partners.	3,88		,63	4,03	,82	3,94	,72
8. We only maintain relationship with our business partners with clearly written terms and conditions.	3,60		1,25	3,82	1,16	3,69	1,21
9. We only develop relationship with business partners who are fair to us.	3,82		,93	4,26	,89	4,01	,94
10. We prefer to have long term relationships.	4,50		,64	4,47	,83	4,49	,72
11. We believe the information provided to us by the groups we participate in.	4,19		,69	4,21	,58	4,20	,64
12. The NLA has a lot of knowledge about the work that needs to be done.	4,34		,71	4,47	,69	4,41	,70
13. The NLA is known to be successful at the things it tries to do.	4,32		,70	4,32	,62	4,32	,66
14. We do not mind paying the NLA subscription fee to get services relevant to us.	4,06		,83	3,82	,80	3,95	,82

1. Representatives of the NLA facilitate innovation at the national level.	3,72	1,16	3,73	1,04	3,73	1,10
2. Platform members communicate their achievement in other organized groups.	3,73	1,11	4,11	,65	3,91	,93
3. The Learning alliance lobbies for policy changes on national level.	3,61	1,23	3,42	1,08	3,51	1,15
4. 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
5. 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
6. 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
7. We have improved our product in the last 5 years.	4,38	,72	4,45	,60	4,41	,67
8. 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
9. We have a better access to the market than 5 years before.	4,00	1,02	4,03	,94	4,01	,98
10. The NLA has created smaller platforms at regional/ provincial level.	3,74	1,05	3,76	,91	3,75	,98
11. The NLA actively supports the work of other innovation platforms at provincial/ regional level.	3,88	,99	3,89	,95	3,89	,96
12. 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
1. 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
2. It was easier in the last 5 years to get inputs & services needed for our business.	3,50	1,08	3,63	,88	3,56	1,00
3. I can get inputs and services at better conditions than 5 years ago.	3,69	,98	3,68	1,12	3,69	1,03
4. Total quantity of produced goods has increased since 5 years ago.	3,71	1,09	3,89	1,06	3,79	1,08
5. We have developed new products in the last 5 years.	3,59	1,31	3,84	1,00	3,70	1,19
6. We have added other activities to our business in the past 5 years.	3,83	1,20	4,18	,69	3,98	1,03
7. 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

8. In the past 5 years, we have adopted new practices in business /production.	4,04	,97	4,16	,68	4,09	,86
9. 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
10. 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
11. Our networking activities are contributing to some policy changes in government offices.	3,55	1,15	3,53	1,03	3,54	1,10
12. 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)

Appendix 6: Model summary for regression analyses

Model summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1*[1]	.699[a]	.488	.350	.81379364
2*[2]	.693[a]	.480	.404	.77205812

*[1]. Dependent Variable: Factor: Trustful relationships

*[2]. Dependent Variable: Factor: Innovation

(Source: Own data collection and analysis)

Appendix 7: ANOVA table for both regression analyses

ANOVA						
Model		Sum of squares	df	Mean square	F	Sig.
1*[1]	Regression	42.275	18	2.349		
	Residual	44.371	67	.662	3.546	.000
	Total	86.646	85			
	Regression	41.294	11	3.754		
2*[2]	Residual	44.706	75	.596	6.298	.000
	Total	86.000	86			

*[1]. Dependent Variable: Factor: Trustful relationships

*[2]. Dependent Variable: Factor: Innovation

(Source: Own data collection and analysis)

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Sworn declaration

I certify that I have made the work independently and without using any sources or aids not specified or named. All points taken literally or in spirit from publications or other sources are identified as such.

Göttingen, the

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