



Evaluation of Rural Sector Cooperation between Nicaragua and Finland

**Final Evaluation Report for:
Integrated Rural Development Programme (PIDR)
and
Livestock Development Programme
(PRODEGA)**

Authors:

**Maaria Seppänen
Lars Eriksson
Benicia Aguilar
Kristina Boman
Thomas Pijnenburg**

**Impact Consulting Oy Ltd
May 2013**

INDEX

1	Executive summary.....	6
2	Introduction.....	13
2.1	Organization and background of the mission	13
2.2	Objectives of the evaluation and topics addressed.....	15
2.3	The report's structure	17
3	Description of the Intervention.....	19
3.1	Background.....	19
3.2	Project formulation.....	21
3.3	The three phases of PRODEGA.....	24
3.3.1	PRODEGA I: PIDR 1990-1993	24
3.3.2	Phase II: PRODEGA 1994-1998	28
3.3.3	Phase III of PRODEGA (1999 – 2003)	30
3.4	Conclusion of the project and subsequent development.....	32
4.	Impact of PRODEGA on the Dairy Sector.....	36
4.1	Status of the cooperatives	36
4.2	Situation of the Dairy Sector at the National Level	38
4.2.1	Value chains, their potential and market.....	38
4.2.2	PRODEGA's impact on the dairy sector	39
4.2.3	Probable economic impact	41
5.	Environmental impact	45
5.1	Advance of the agricultural frontier.....	45
5.2	PRODEGA environmental activities	47
5.3	Assessment of PRODEGA's impact on environment.....	49
6.	Cross-cutting Objectives: Gender Equality	53
7.	Special Aspects of PRODEGA.....	56
7.1	Different impact in different contexts	56
7.2	Challenges remaining in the dairy sector.....	57
8.	Conclusions	59
8.1	Relevance and design.....	59
8.2	Implementation; continuity, feedback and adaptation	59
8.3	Efficiency and effectiveness	60
8.4	Political changes	60
8.5	Social capital and trust	60
8.6	Aid for Trade	61
8.7	Trickle-down theory	61

8.8 Impact and sustainability.....	61
9. Recommendations.....	62
10. Lessons learned.....	64
10.1 Implementation modalities.....	64
10.2 Ex post evaluations.....	65
Annexes.....	66
Annex 1 Consulted documents.....	66
Annex 2 People interviewed.....	69
Annex 3 Terms of reference.....	72

ABBREVIATIONS

ACO	Milk Collection (component of PRODEGA)
ALBA	Bolivarian Alliance for the Americas
ALI	Cattle Feeding (component de PRODEGA)
APEN	Nicaraguan producers and Exporters Association
APP	People's Property Areas
BCN	Central Bank of Nicaragua
CAFTA-DR	Dominican Republic – Central America Free Trade Agreement
CAM	Road Maintenance (component of PRODEGA)
CANISLAC	Nicaraguan Chamber of the Dairy Sector
CAP	Training and extension (component of PRODEGA)
CARUNA	National Rural Bank
CAS	Sandinista Agricultural Cooperatives
CDC	Peasant Development Centre
CENILAC	Nicaraguan Dairy Commercial Exporter
CEPAL	United Nations Economic Commission for Latin America and the Caribbean
CONAGAN	National Livestock Commission of Nicaragua
COOPA	Acoyapa Cooperative
CTA	Chief Technical Advisor (of a project)
ECO	Agricultural economy (component of PRODEGA)
EEUU	United States of America
ET	Evaluation Team
FADES	Promotion of Social Self-development (Finnish project)
FAGANIC	Farmer and Rancher Federation of Nicaragua
FEM	Female Development (component of PRODEGA)
FENACoop	National Federation of Agricultural Cooperatives
FIN	Farm improvement (component of PRODEGA)
FINNIDA	(formerly) Finnish International Development Agency
FNUAP	United Nations Fund for Population Matters (UNFPA)
FOMEVIDAS	Promotion of Sustainable Means of living (Enhancement Programme for Rural Development and Poverty Reduction in Boaco and Chontales)
FondeAgro	Agricultural Development Fund
FUNDE	Foundation for Development of Nicaragua
GAD	Gender and Development
GON	Government of Nicaragua
ha	hectare
IADB	Inter-American Development Bank
IDR	Rural Development Institute
INTA	Nicaraguan Institute of Agricultural Technology
MFA	Finnish Ministry for Foreign Affairs
MAG	Ministry of Agriculture and Livestock
MAGFOR	Agricultural and Forestry Ministry
MEC	Agricultural Mechanisation (component of PRODEGA)
MIDINRA	Ministry for Agricultural Development and Agricultural Reform
MIFIC	Ministry of Development, Industry and Commerce
MIPYMES	Micro, Small and Medium Business
MZ	Manzana; surface measurement (0.705 hectares)
NIFAPRO	Nicaragua-Finland Agro-biotechnology Programme
NIO	Nicaraguan Córdoba (the currency)
NITLAPAN	Institute for Applied Research and Promotion of Local Development
OECD-DAC	Organization of Economic Cooperation and Development – Development Assistance Committee

ONG	Non-Governmental Organization
PANIF	Environmental Programme Nicaragua-Finland
PIDR	Integral Rural Development Programme (first phase of PRODEGA)
PLC	Liberal Constitutional Party
PNDR	National Rural Development Programme (predecessor to IDR)
POP	Promotion of Producer Organizations (component of PRODEGA)
PRODEGA	Rural Livestock Development Project
PRODESA	Foundation for Promotion and Development
PROPEMCE	Enhancement of Small Business in Nicaragua through the Development of Existing Value Chains
PRORURAL	Rural Sector Development Programme
QUE	Construction of Cheese Processing Plants (component of PRODEGA)
REF	Reforestation (component of PRODEGA)
Sida	Swedish International Development Agency
UAT	Ultra High Temperature
UCA	Central American University
UNAG	National Farmers and Ranchers Union
UNFPA	United Nations Fund for Population Affairs (FNUAP)
USD	United States Dollar
VET	Animal health (component of PRODEGA)
WFP	World Food Programme
WID	Women in Development

1 Executive summary

Background and evolution of the intervention (1987 – 2003)

This report uses the name PRODEGA for all three phases of the project, which was executed between 1990 and 2003, although this name was officially adopted for regular use during the second phase (1994-1997); prior to this, it was officially known as PIDR (Integrated Rural Development Programme).

The origins of the project idea date back to 1980, when Finland supported the revolutionary Sandinista government in an important project, which was the rehabilitation of four milk processing plants in Managua. It was clear back then that there was not enough raw material for an important dairy industry, and that this situation had to be remedied. In 1987 there was a change in the Finnish government, and it is likely that the Nicaraguan Minister of Agriculture's visit to Finland that year, responded to the ideological solidarity between the new Finnish social-democrat Minister of Foreign Affairs and the Sandinista government at the time. It was agreed during this visit that Finland would devote 80% of its aid to Nicaragua to the agricultural sector. Late that same year, the Ministry of Agriculture and Forestry of Finland sent a delegation to Nicaragua to study the dairy sector. During the first months of 1988, another Finnish team carried out a base study of the situation in Region V, and in February 1989, the Ministry of Rural Development and Agricultural Reform (MIDINRA) presented the first project document to FINNIDA. The project was tendered in Finland in June-July 1989 based on this document, which was slightly modified in late 1989. The official project document is from January 1990.

The original plan for the first phase (1990 – 1993) was to create ten model farms, with a strong investment in resources, in order to serve as points of dissemination for experiences, and as centres for agricultural extension. As a result of opposition from the Finnish Embassy, this plan had to be changed, given that the ten model farms were obviously among the largest, and as such, most privileged from the start. The solution was to establish "reference farms", in mid 1991, ten at each development pole, for a total of 90. During the first phase, the project equipped four refrigerated milk-collection centres. It worked on "Promotion of Women", in the mechanization of the farms and the construction and improvement of rural roads. Despite the Finnish Embassy's initial contrary position, the project shifted towards the productivity approach, based on medium and medium-large ranchers.

During the design of the project's second phase (1994 – 1998), a pendulum type of movement is observed once again, this time towards an approach in favor of the poorest. The current development objective is more general, and aimed at "mitigating poverty in the project area, as well as generating permanent improvements to the standard of living of families that grow agricultural products on a small scale, particularly, but not exclusively, cattle owners". However, during the implementation of this phase, continual focus on livestock is observed; and, the expansion towards agriculture and small cattle breeders does not become a central theme.

Between the end of the second phase and the beginning of the third, PRODEGA continues operating with a "bridging phase". The third phase covers the period of 1999 - 2003. The Project Document that defines the third phase of PRODEGA indicates that according to the different evaluation and formulation missions, the project has an

activity dispersion problem and the need to reduce the number of components is identified. This implies that the project design returns to its original main topic, that is, supporting the improvement of the productivity of milk farms and to establish, develop and consolidate commercial milk farms.

Impact of PRODEGA on the dairy sector

Regarding the dairy sector cooperatives that were created and/or supported during PRODEGA's implementation, seven still survive today, although at different levels of welfare. The two most successful ones are the San Francisco Cooperative and the Masiguito Cooperative, both located in the municipality of Camoapa, in the Boaco Department. The former processes 75% of its milk for cheese and sells the rest as cold milk to Eskimo, a dairy products company in Managua, and to La Colonia supermarkets, which distribute it under their own brands. The latter is the largest Nicaraguan cheese exporter to the United States and Central America, and the fifth largest exporter in Nicaragua, behind four companies from the beef and coffee sectors.

In more general terms, a significant number of producers were organized as a result of PRODEGA's efforts during its three phases, as well as creating and improving several dairy sector cooperatives. The project enhanced milk production in terms of quality and quantity. The result – and current impact – was an improvement of the *first link* of the milk and cheese value chains. Additionally, new stakeholders in the *second link* were created and enhanced for collecting milk using a refrigeration system.

PRODEGA also appears to have had a positive impact on how business is carried out in the dairy value chain. The final PRODEGA report concludes that the project had a significant impact in raising milk prices paid to producers. The existence of new stakeholders, which paid a little more, resulted in an increase of the general price paid to cattle ranchers. According to the interviews conducted at the cooperatives, they pay better than traditional cheese producers (*manteros*) in the majority of cases. However, for cattle ranchers, the greatest advantage in selling to the cooperatives is that they pay the same price year-round, without the “milk boom” (the abundance of milk in the first months of the rainy season) affecting the price per litre; and thus producers' income becomes more predictable.

According to data gathered from these same cooperatives, in February 2013 milk collecting represented a gross income of over two million Córdobas per day for the area, which results in a sum total of over USD\$ two million per month. Finland's total investment in the project, over the course of its 13-year lifecycle, was 93.8 million Finnish Marks, equivalent to roughly 16.5 million Euros (almost MUSD 20). Although the millions of dollars in income that we are addressing in a current year are expressed in gross income, there is no doubt that PRODEGA has produced much more than its initial investment to date; it probably achieved this even prior to its conclusion in 2003. Let us remember that already in 1992, PRODEGA itself had calculated that it contributed over 1.5 million dollars per year to the area.

Finally, it must be mentioned that the importance of PRODEGA's role in the development and improvement of the milk and cheese value chains in Nicaragua is not only in what this project did by itself and directly in some municipalities of Boaco and Chontales. Additionally, PRODEGA was the precursor of a more extensive intervention of

international cooperation in the dairy sector; and its experiences and methodology have inspired subsequent interventions in other areas, in one form or another.

Environmental impact

On the level of individual farms, PRODEGA applied an important range of environmental conservation measures. Seasonal livestock migration (transhumance) and controlled burning of pastures has practically disappeared in the Boaco Department. The landscape has also changed compared to 20 years ago, as was pointed out by several observers. Farms now have trees, hedgerows and forests to shade cattle, a favourable comparison with the lands “cleaned” of all wooded vegetation from a couple of decades ago. This change was achieved by appealing to modernity: the message the project disseminated was that modern men use modern techniques and that these are good for the environment. This idea has taken root significantly in the population. Of course, PRODEGA has not been the only stakeholder in this sense; as of the 1990s there is an increase in environmental awareness worldwide. Locally though, in the municipalities of Boaco and Camoapa, PRODEGA has been the main, possibly the only, stakeholder that has made a visible difference, even among farmers that are not currently partners with cooperatives.

An environmental aspect in which the project appears to have invested less time and effort is that of soil and water pollution by milk processing plants that produce cheese. A sub-product of this process is whey, which has harmful effects on the land if it is not treated.

The most difficult environmental impact to analyze is the one related to the agricultural frontier and the following deforestation. Although PRODEGA has performed an important reforestation effort in the areas that are already used for cattle ranching, it can also have had some kind of effect on the opening of new pasture areas through the cutting down of the tropical rainforest. The main text of the report contains a rather detailed analysis of the social and ecological processes behind the advance of the agricultural border; the final conclusion is that with the data and time available for an evaluation such as this, it is not possible to determine to what extent this phenomenon is attributable to the evaluated programme and to other factors.

Gender equality

The Terms of Reference (TOR) of the evaluation confirm that in several previous evaluations or revisions it is stated that PRODEGA never had any great impact on the aspect of gender, and pose the question: why is this and why was there no progress made?

To start with, this conclusion may be premature and has to be clarified: for example, the cooperatives have female cattle ranchers as members, and in many cases, they are also found on boards of directors, more so in the Boaco Department than in Chontales. However, more progress could have been made. The first reason for this limited progress could be found in the characteristics of the project's sector itself, i.e. cattle ranching. In anthropological terms, cattle ranching societies with transhumance are among the most macho cultures, where there is a great social distance between ranchers on horseback outside of the home and women in their homes and gardens. The original

situation in place, in terms of gender roles (and roles of women) upon launching PRODEGA was very difficult for any activity within the “Promotion of Women” component. The very idea of carrying out activities with women was the object of contempt and ridicule by the other project beneficiaries and technicians of other project components.

The second reason, without a doubt, resides in how the project addressed this aspect. During the first phase, the tendency, which later became more pronounced, of implicitly identifying women with poverty, was already observed. Women’s groups within the Promotion of Women component were the poorest in the area and had little or nothing at all to do with the remaining components of the project. The “Women in Development” (WID) approach is seen in action here, which attempts to respond to the practical and immediate needs of women and not the strategic interests of the female gender. The second phase introduced an element of the “Gender and Development” (GAD) approach, which attempted to break with traditional roles and introduce non-habitual roles for women. An effort to make cooperatives elect women to boards of directors and accept them as members was made, and credit for the purchase of cattle by women was promoted. This field of activities, which attempted to structurally break what was socially permissible for women, has yielded results – apparently sustainable ones – given that currently female cattle ranchers represent between 10 and 30% of the farms, according to the cooperatives.

Special aspects

In terms of consolidating organizational processes, specifically cooperatives, a noticeable difference between those of Boaco and Camoapa is observed, the latter being noticeably more successful. Based on the information gathered during the evaluation, it was possible to formulate several hypotheses to explain this phenomenon. A difference between these two municipalities is that Boaco has a smaller surface area. This results in the distances between cooperatives being shorter in Boaco, which are better connected by roads than in Camoapa. Another factor of a geographical nature was that Boaco, as a city, was much larger than the small town of Camoapa. In Boaco, the “manteros” (artisan cheese manufacturers) were numerous and traditional. These factors coincide with the result that, due to purely random matters, achieving the loyalty of cooperatives’ members in Boaco was more difficult. Another factor, social in this case, is that all the original cooperatives in Boaco were of CAS type, meaning Sandinista agricultural cooperatives, which began to fall apart shortly after the change of government in 1990. Another factor mentioned in the interviews was social capital, or lack thereof. While in Camoapa cattle ranchers soon understood the advantages of service cooperatives in facing production challenges, in the Boaco cooperatives many social differences manifested themselves, along with a lack of trust and the desire to maintain social distances.

Despite the positive impact of PRODEGA and other external cooperation projects, several bottlenecks and challenges for the dairy sector value chains remain, both in terms of the quality and quantity of milk. It is estimated that only 40% of milk production is collected in the country, and in order to export more of it, its quality must be improved. In regards to the implementation modality, flexibility is needed in policy changes; however, on the other hand, strong support from the Government is needed, which should not politicize cooperation, particularly in projects geared toward the

private sector, such as the cooperatives in the case of PRODEGA. The project would not have had this degree of success if after the change of regime in 1990 the new GON would have wished to earmark the project solely for cattle ranchers which were ideologically close to the “contra” of the 1980’s.

In order to support an improvement process, a state policy that stimulates national and foreign investment, introduces new quality systems, encourages producers to adopt more modern production mechanisms; and invests in milk collecting and processing links, is required. In order to support commercial links between producers, milk collectors and the processing industry, independent quality control of milk, which can ensure proper measurement of the product sent from collecting centres to the industry, is also needed; for example, in the form of an independent laboratory. An additional recommendation for public policies in Nicaragua would be to better control artisan producers of cheese, who are not very strict when it comes to the quality of milk they purchase. Cooperatives perceive “*manteros*” as disloyal competition, who take producers from them; additionally, the lack of control can affect public health. Nicaragua also needs a public policy of territorial planning and development in which regions are defined where promoting cattle ranching is possible, and others where it is strictly forbidden, and have this applied rigorously. In the end, cattle production needs to be intensified, and the productivity per hectare increased beyond the level reached with PRODEGA.

Conclusions and recommendations

The table on the following pages summarizes the findings, conclusions and recommendations related to the main topics or evaluation questions.

SUMMARY TABLE

FINDINGS	CONCLUSIONS	RECOMMENDATIONS
<i>Design</i>		
The project had three phases, each one with a different design	The changes of design between phases reflect, in part, certain ambivalence between the objective of productivity increase and that of poverty reduction. However, the changes in the design are mainly derived from the real experiences performed throughout the implementation.	In projects that intend to reduce poverty, definitions of a certain precision must be established, in terms of the type of poverty it intends to reduce and regarding the criteria that will be applied to determine who is poor.
The implementation modality has been that of an independent project	The modality was appropriate due to the flexibility it gave the activities. On the other hand, a project with territorial definition cannot conceive and direct actions beyond its territorial area.	An independent project with a territorial definition should be able to transcend beyond its area and take into account the impact it has outside its geographical area, particularly in terms of environmental impact.
<i>Relevance</i>		
The project, during its three phases, had a high relevance to Finnish and Nicaraguan development policies. It was also relevant in terms of the problems and needs it was targeted to solve or satisfy; whether this involves “poverty reduction” or “productivity increase”. The project addressed both topics in varied degrees throughout its 13 years of implementation.		
<i>Efficiency</i>		
It is difficult to judge the efficiency of a 10-year project after it has concluded, but from the scarce documentation available and, above all, from the interviews conducted, it can be deduced that the project had acceptable efficiency, in general terms.		
<i>Effectiveness</i>		
The fulfilment of specific objectives and goals has been varied between different components and topics, between different participating communities and between different stages.	The overall effectiveness of the project has been good, which is verified by the impact and sustainability it has had.	

<i>Impact</i>		
<p>The project has played an important positive role in the cattle sector's development process, although it is impossible to identify precise and quantifiable attributions.</p>	<p>The project has enhanced the value chains in the area of dairy products, and has contributed to the quantifiable growth of this sector and the qualitative improvement of it. Although environmentally sustainable production methods have been introduced in areas that have been already exploited, it is likely that it has also contributed to the progress of the agricultural frontier towards forest areas.</p>	<p>In projects such as this, it would be important to pay more attention to the environmental aspect. In this and other cases, it has been evident, that no matter how much technology improves, cattle ranchers continue to have a tendency to invest their profits in the expansion of their herds and lands, should they have any, and not in increasing the efficiency in cattle management and in the use of the lands they already have.</p>
<p>At the time, the project played an important positive role in the peace and reconciliation that followed the war of 1980s.</p>	<p>A project implementation modality that is ideologically neutral, or at least acceptable to all parties in an armed conflict (in this case service cooperatives), can be instrumental in pacification and reconciliation in a post-conflict context.</p>	<p>In conflictive situations, or of strong ideological opposition, it is advisable to avoid modalities and instruments that have a strong political connotation.</p>
<i>Sustainability</i>		
<p>10 years after the conclusion of the project, the survival of a part of the milk cooperatives created or supported by the project has been observed, along with the strong growth and strengthening of some of them. As a result, a large number of families have been able to improve their incomes and quality of life on a long-term basis. This is sustainability.</p>		<p>It would be useful to carry out a more in-depth study of the mechanisms and approaches with which this project achieved its impacts and sustainability. This evaluation has been able to identify some lessons learned that may serve as support or as a warning to other similar projects, but without a doubt, there are others equally important, that could only be compiled with more time available.</p>

2 Introduction

2.1 Organization and background of the mission

The PRODEGA evaluation is part of an evaluation of three interventions of the cooperation between Finland and Nicaragua in the rural sector. In addition to PRODEGA, the programmes known as “Strengthening of Small Enterprise in Nicaragua through Development of Existing Value Chains (PROPEMCE)”, and the “Nicaragua–Finland Agrobiotechnology Programme (NIFAPRO)” were also evaluated. The latter focused on the specialization of Nicaraguan professionals in the field of biotechnology applied in the agricultural sector.

A single tender was made for the evaluation of the three projects, which was awarded to Impact Consulting Oy Ltd. The consultants contracted by this company were:

Lars Eriksson Team Coordinator, International expert in evaluation of programmes, management by results and local/rural development.

Maaria Seppänen, International expert in evaluation, gender and good government.

Kristina Boman International expert in value chains and economic development.

Benicia Aguilar Local expert in environment, livestock and rural development

Thomas Pijnenburg Expert in rural development and evaluation

Fieldwork in Nicaragua was performed between January 28 and March 6 of 2013. The present report uses the name PRODEGA for all three phases of the project (I, II and III), though the name PRODEGA was officially adopted for regular use during the second phase (1994-1997); prior to this, it was officially known as PIDR (Integrated Rural Development Programme).

The report is based on a large number of interviews with people involved in the implementation of the project, and its beneficiaries (list in Annex II), on the study of documentation produced by and for the project, and on other material related to the issue of rural development, originating from academic research. By being an evaluation that was conducted well after the conclusion of the project, it has taken the ET much more time than usual to find the people that were involved with the project at the time. For the same reason, the report pays particular attention to the issue of project impact, partially leaving to one side the evaluation concepts related rather to the short-term (particularly efficiency and effectiveness). Before anything else, the evaluation has had to reconstruct the project’s history

Except for figures relating to the milk sector value chain, the cooperatives, and the micro-credit system left by PRODEGA, this report deals with, above all, qualitative, not quantitative information. This is to a certain point a limiting factor in regards to conclusions, but the time and resources assigned to the simultaneous evaluation of three projects were not measured to allow a gathering of first hand statistical information on the target group (approximately 1,500 families) in an extensive geographical area. To remedy this limiting factor, the ET has tried to take into account all available statistics relating to the topics relevant to the evaluation. In other words available secondary

resources on the intervention have been used as much as possible. Another way to increase the reliability of the information has been triangulation: the report does not express findings or conclusions unless several persons expressed the same observation. This has also been the case as regards to lessons learned and general conclusions; there is a high degree of consensus on the project results. On the other hand, there were divergences in memories, particularly in those related to details such as exact dates.

The Evaluation Team wishes to make clear that the documentation provided by the MFA for the purpose of evaluation was extremely scarce, consisting only of the three project documents, one for each phase, their respective final reports and two midterm evaluations (first and second phase). Additionally the Team received the gender mainstreaming strategy prepared for the third phase. The Finnish Embassy in Managua did not have many documents on PRODEGA either: only two binders that mainly contained procurement contracts signed for or by the project. Some documents of lesser importance, particularly of the third phase, were found in one of the cooperatives that collaborated on the project (Mayales de Juigalpa).

During fieldwork, the ET became incidentally, and through contacts not involved with the evaluation, aware of the fact that the complete PRODEGA documentation was found in the MFA archives in Helsinki, a fact that neither the Embassy nor the Unit for Latin America and the Caribbean were seemingly aware of. Fortunately it was possible to organise a brief stay at the archives prior to the delivery of the final report draft, in order to review some data. However, there was no time for a complete review of the documentation, which was abundant in terms of the two first phases of PRODEGA and the first year of the third phase. However, almost no documents dating from after the year 2000 were found. It is probable that the reason for this is that during that year, the MFA introduced its electronic filing system and the documents that were stored electronically were not printed. As such, even though it appears to be contradictory, the ET had a great deal of information on the first ten years of the project available, but no documentation from the most recent years relating to the conclusion of the project, including the issue of why it was decided to terminate it.

The documentation contained in the Helsinki archives consisted mainly of the correspondence between the Finnish Embassy in Managua and headquarters in Helsinki, reporting on the political environment for each moment and on eventual problems or decisions made in and for the project. Besides two Supervisory Board minutes of the second phase of PRODEGA, there was no project documentation properly speaking. It is worth underlining here that the ET has not had access to plans or quarterly and/or annual reports, nor to project financial reports, and ignores where all the original documentation produced by the project is located.

We would like to thank Professor John Sumelius, from the University of Helsinki, for providing the ET with the base study performed in 1988 and the original project document of the project from February 1989.

2.2 Objectives of the evaluation and topics addressed

The Terms of Reference (ToR) of the evaluation (Annex III) present four main objectives for this evaluation, ten years after the conclusion of the project: 1) define the impact of the project on a local, regional and national level, including the negative or unintentional impact caused by the project; 2) analyse the implementation model (independent project); 3) analyse the sustainability of the project's achievements, particularly in relation to the beneficiaries and the value chain created; and, 4) record conclusions, lessons learned and recommendations for future Finnish and Nicaraguan projects in support of the private sector and for projects in support of commerce (Aid for Trade), among other aspects.

These objectives must be seen in the context of the grouping of the three evaluations and of the termination of the bilateral, inter-governmental cooperation between Finland and Nicaragua. One of the relevant topics in this sense is the possibility that the cooperation between both countries remains on a commercial relationship level, meaning, particularly through the private sector. As a result, a particular interest in how the public sector should relate to the private sector, especially in matters of development and support to private economic stakeholders.

Of the three evaluations, two address projects that have been implemented as independent projects with their own implementation (or administrative) units: PRODEGA and PROPEMCE. This fact must be looked at with the Finnish cooperation backdrop, which as of the end of PRODEGA in 2003, began to channel its cooperation projects and programmes with Nicaragua into what has become known as "institutionalised projects". This somewhat *sui generis* denomination referred to initiatives without an implementing unit, in that the total implementation responsibility was in the hands of a local institution or ministry, with the budget channelled through the National Budget and the work plan (overall annual operational plans) integrated into the institutional plans. This was somewhat novel at the time, given that the Paris Declaration on Harmonisation and Alignment came out a couple of years later (March 2005). After the year 2007, the tendency has been in the opposite direction. The PROPEMCE project was initiated in this context, with many delays in its implementation, at least partially as a result of its implementation modality as an independent project, while at its time, PRODEGA had been considered a success – and precisely due to its independent project modality, with an autonomous implementation unit.

On a theoretical level, this evaluation of PRODEGA is situated in the crossroads of some tendencies of a debate, underlined by several persons interviewed; particularly those directly involved in rural sector cooperation projects. This debate revolves around the difficulty – or even the impossibility – of combining in a single intervention the objectives of immediate reduction of (extreme) poverty, and the support to trade, commerce, production or productivity. It is an issue that cuts through the present evaluation, taking as a starting point the fact that, in order to render sustainable results in any objective, the support must be aimed at stakeholders – regardless of their size – which may take full advantage of it; if not, this support becomes "assistentialism", non-sustainable subsidy keeping some people above the poverty line but without reducing poverty in the long run. This is the paradox of many development projects. It is the firm conviction of the ET that this debate has been an undercurrent during the entire implementation of the project and its three phases, leaning alternatively towards one or

the other of the extremes, and sometimes creating tensions between involved stakeholders and leading to dispersion of efforts. At the same time, this observation means that PRODEGA was never aimed at a well-defined group of beneficiaries.

Meanwhile, this debate revolves around the so-called “trickle-down effect” as a development theory (Rostow’s trickle down). If such a trickle down exists, the support to economic stakeholders with a certain production and commercialization capacity and with possibilities of sustainability (and which for this reason are not the poorest) has multiplying effects, which “trickle down” the wealth created in their environment to the poorest. The PRODEGA project can be seen from this point of view as a laboratory where the trickle-down theory is tested. In reality, from its original conception in 1987-88 during the Sandinista regime, PRODEGA has had the trickle-down effect as one of its theoretical foundations, with the model of development poles as its geographical expression (which supposedly “trickle down” development in their environment), although at the time, they were officially called Rural Development Centres (CDC) in Spanish¹.

As is always true – unfortunately, one could add -, it is easier to assess the impact and sustainability of something that can be observed, than to evaluate something that is no longer visible. The ET has faced this problem in its fieldwork. It appears that the agricultural cooperatives (vegetables, basic grains) and the women’s groups PRODEGA promoted no longer exist; as such, they cannot be evaluated for sustainability. The evaluation has been able to confirm that some of the women’s vegetable gardens or productive activities survive, but it would have been impossible to search farm by farm for what has remained of these initiatives in order to estimate their extent and depth. As a consequence, for better or worse, this evaluation focuses strongly on what has indeed remained and what continues to be observable, namely the milk cooperatives in the Boaco Department, and to a lesser degree, in the Chontales Department.

Concerning PRODEGA’s environmental impact, the matter has been studied within the evaluation from a general point of view, without limiting the evaluation to only the identification of project activities in the field of reforestation and their impact – which is not to be minimised – but rather in a larger perspective. It involves the general process of the progression of the agricultural frontier towards the East of Nicaragua and the hypothetical role of the project in said process. The observations made in the framework of this evaluation indicate that it is possible, even likely, that PRODEGA has participated to a certain degree in this process, which has occurred in other Latin American countries over recent decades. However, it has been impossible to estimate the extent of the process during, and in connection with, PRODEGA, due to the poor availability of statistical information of the areas where the project was carried out (which do not correspond to any official geographical unit), and in the extension of the area. Agricultural statistical figures do exist by municipality in the agricultural census of 2001, but it is of little use for the evaluation, given that the previous census dates back to 1963 (!); as such, it does not offer a point of comparison with how the situation in the PRODEGA area was towards the end of the 1980s. The solution to remedy this situation has been to contrast the project factors that possibly have minimised the progress of the

¹ In all texts in English relating to PIDR/PRODEGA, the term ‘development poles’ is used instead of the direct translation ‘development centres’.

agricultural frontier, with others that may have boosted it. However, the ET is aware that a correlation in time and space does not necessarily constitute causality.

Regarding the general problem of attribution [of certain impact on an intervention], it is even more complicated than normal to verify a causality among the activities of a project and a particular effect or impact, when said project was launched 23 years ago, and ended 10 years ago. However, based on what has been said and analysed in the interviews, the ET is confident in stating that PRODEGA has been an important participant - if not exclusive – in many of the processes that have been presented in the area, and also on a national level since 1990.

2.3 The report’s structure

This report has a slightly different structure than usual. Considering it deals with an ex post evaluation, the report focuses on the impact the project has had. Following a project description, with its background and political-historical context (Chapter 3), the two most important impacts (related to the dairy sector and the environment) are presented, each one in its individual chapter (Chapters 4 and 5).

Impact (or the lack thereof) on gender relations and /or the empowering of women, is analyzed in Chapter 6. Two special, important topics are analysed in Chapter 7: the difference between what was achieved in two different municipalities and the reasons for this; and, the need for additional enhancement in the dairy sector. Finally, in Chapters 8 – 10, the conclusions, recommendations and lessons learned from the evaluation are presented.

For many reasons, among them the aforementioned serious limiting factors, in regards to the availability of information (some anticipated by the evaluators, and others not), it has not been possible to answer each and every one of the questions that are included in the TOR. The following table contains comments on this situation.

Unanswered questions	Comments
<p>Cross-cutting objectives (1 question of 4) What are the possible effects of the project on the development of local democracy?</p>	<p>The three project phases did not include this issue in its objectives and activities. It was not included in the TOR of the evaluation either (which dealt with the “accountability” between cooperatives, the State and the municipalities). However, it has been possible to confirm that the project aided in pacifying and reconciliation following the armed conflict, which can be considered as an aspect of, or condition for, local democracy. For its important participation in the National Dairy Council and in the formation of CANISLAC, it can be stated that a positive relationship has existed between the State and the PRODEGA cooperatives. By its mere size, they also are financially accountable to the municipalities (Tax on Real</p>

	Estate) and to the State (in the form of income taxes of State Revenue and capital income).
<p>Efficiency (1 question of 3)</p> <p>In terms of quantity, quality and opportunity, how well were the available resources in anticipated products/results transformed?</p>	The rather scarce documentation available does not allow for a useful evaluation of the efficiency of the project in these matters. It is worth considering however, that the observed impact suggests that the degree of efficiency must also have been at least acceptable.
<p>Effectiveness (1 question of 2)</p> <p>What was the quality of the capacity building activities?</p>	The available documentation does not allow for a useful evaluation of this aspect. It has not been possible to see any training materials produced by the project.
<p>Impact (1 question of 5)</p> <p>Did PRODEGA contribute towards improving collaboration relationships and accountability between the state, municipalities and non-state stakeholders (private sector, NGO)? Existence of alliances between the private and public institutions?</p>	See answer above in Cross-cutting objectives. Additionally, the project has indirectly contributed to a greater organization of the sector on the regional Central American level; the president of the regional cattle rancher federation is the former president of one of the PRODEGA cooperatives.
<p>Management and administration (1 question of 4)</p> <p>Has this type of intensive traditional and focused aid in the field has been more effective and of greater impact than the institutionalised modality?</p>	This question has been partially answered. The evaluation concludes that PRODEGA's "traditional" modality was likely an important factor behind its achievements. However, for obvious reasons, it cannot be demonstrated with concrete evidence that an "institutionalised" modality would have been less effective. In any event, the "institutionalised" modality was not practiced at the time of PRODEGA, which is why the question is hypothetical.
<p>Aid effectiveness (1 question of 1)</p> <p>Was there proper cooperation or coordination with other Finnish or other donors' projects in Boaco and Chontales?</p>	This issue was not analysed because it was assumed that it would be difficult or impossible to find institutional memories addressing it so long after the implementation of the project, and that looking for them would risk not being efficient use of time. However, some points were observed. There was no cooperation with FADES; there was coordination in order not to work in the same areas (only in Acoyapa and Cuapa did both projects coincide). In a previous evaluation (FOMEVIDAS), no evidence was found that PRODEGA could have contributed as background for the creation of the current cooperatives.

3 Description of the Intervention

3.1 Background

During the course of the 1980s, Finland had supported the Sandinista revolutionary government in an important project, which was the rehabilitation of four milk processing plants in Managua. These plants, two of which had been expropriated from their previous owners while the other two were publicly-privately owned, were equipped and modernised with Finnish technology, whose provider was the quasi-monopoly Valio, through its subsidiary Valiotekniikka. These dairy plants obtained their stainless steel tanks and state-of-the-art (for the times) pasteurisation and refrigeration systems from this company. The ET does not know if this support by Finland had its origin on the Nicaraguan side through a request to Finland, or whether the initiative for this support of the dairy sector was taken by Finland. In any event, the project began in 1983 or 1984, and was reaching its conclusion towards 1987.²

These years corresponded to a tendency in Finnish cooperation which an academic historian has named instrumentalist³. It was common knowledge that the cooperation funds financed massive projects for the export of manufactured products from Finland, and donations and loans were tied to acquisitions from Finland. One study mentions – besides dairy technology – electricity generators, paper, Sisu trucks and milk powder.⁴ Particularly up to 1987 they were mainly agricultural technology and products, and we can assume that this fact was not unrelated to the Minister for Foreign Affairs of the time, representative of the Centre Party (former Agricultural Party). It is worth noting that it was only in 1991 that Finland created the position of Minister of Development Cooperation as a separate portfolio within the Ministry for Foreign Affairs.

According to what can be deduced from interviews and the archived documentary material, the origin of PRODEGA comes from the following sequence of events, which constitute a likely chain of causes and effects.

It is useful to remember that during the 1980s, Nicaragua was a country at war, with a partially destroyed infrastructure, and which suffered from shortages due to the commercial embargo imposed by the United States. Cattle herds had suffered drops just prior to and following the year 1979, during the Sandinista revolution, due to indiscriminate slaughter and clandestine exporting; the literature includes declining figures of 2.5 million head of cattle (1973) to 1.7 million in 1988. In Chiltepe near Managua, there was a milk farm created in 1984 with 7 thousand imported milking cows, as an investment by the State to guarantee raw material for the dairy industry and national supply. Chiltepe supplied 70% of the fresh, liquid milk that processing plants used (which in and of itself was only 20 – 40% of the commercialised milk in the country; see below for the issue of milk powder). Meanwhile, Chiltepe functioned as a

² The Finns who worked on this project were known in Managua as Snow White (the interpreter) and the seven dwarves (the 7 project engineers).

³ Koponen, 2005.

⁴ Finnish Value-Added: Boon or bane. p. 109

gene centre for the improvement of the national livestock. However, the Chiltepe project required highly expensive inputs (fuel for generators, improved nutrition, fertilizers and skilled labour), and the planned number of 16,000 cows was never achieved. Additionally, according to eyewitnesses, the Chiltepe cows and calves were undernourished and frequently ill due to being of European milking races, which were little adapted to tropical conditions. It is likely that the low economic feasibility of the Chiltepe farm shifted the balance in favour of less centralised and less input-intensive solutions.

In 1987 there was a change in government in Finland, and it is likely that the Nicaraguan Minister of Agriculture, Commander Jaime Wheelock's visit to Finland that year, had to do with the ideological solidarity between the new Finnish social-democratic Minister for Foreign Affairs and the Sandinista government of the time. There was also a representative from the Nicaraguan Farmers and Ranchers Union (UNAG) as part of the delegation, and one person from the board of directors of the state dairy company, which coincidentally was in Finland for training at the time. During this visit it was agreed that Finland would devote 80% of its aid to Nicaragua to the agricultural sector⁵. The decision appears to have had a political motivation: Nicaragua assigned the Fifth Region (Region V) to Finland as a field of action in the cooperation, given that it was a cattle ranching area where the Sandinista Front did not have a strong traditional support such as it did in the coffee-growing areas to the North, and the revolutionary government wanted to strengthen its presence and reputation through cattle ranching cooperatives. In retrospect, it was a courageous decision by Finland to agree to earmark its cooperation to an area that was one of the main scenes of the civil war, and it is to be supposed that the donor calculated that its reputation as a neutral, non-aligned country would yield the challenge easier.

According to witnesses present during the visit, the Nicaraguan delegation did not bring a univocal message. On one hand, the minister actually underlined a productivity-focused approach, speaking in favour of large production units (over 200 *manzanas* -- MZ; >140 ha), the UNAG representative advocated for supporting smaller producers and the director of the state milk company spoke in favour of raw material for the milk industry.

The same year of the Nicaraguan ministerial visit, the Agricultural and Forestry Ministry of Finland sent a delegation to Nicaragua to study the dairy sector (October-November 1987); only one person from the delegation was from MFA⁶. (N.B. the strong influence of the Finnish agricultural lobby on matters of cooperation, which were not being exclusively defined by the MFA, at the time.) During the first half of 1988, the MFA also sent a mission to Nicaragua to perform a base study on a future cattle ranching project in Region V. This mission was made up of five people, among them a representative of the MFA (subsequently the Head of the future Embassy in Managua), and at least two university professors.

Before continuing on to the description of the project context, it is useful to mention a special matter, which appears in the documentation on the bilateral cooperation

⁵ This and following data come from a personal communication via email from Professor Emeritus Juhani Koponen on 11/2/2013, who by chance was doing research on the history of the bilateral cooperation with Nicaragua in the MFA archives in January-February 2013.

⁶ The delegation was led by Reino Uronen, Director of Cabinet of the Ministry of Agriculture and Forestry. The MFA representative was future Ambassador Kari Karanko.

between Nicaragua and Finland. The issue is the importation of milk powder to Nicaragua, which concerns the internal coherence of the Finnish cooperation, along with the coherence of Nicaraguan governmental policies. In fact, Nicaragua imported powdered milk for dairy industry purposes. One of the importation channels through which Finnish milk powder could have entered was the humanitarian aid by the World Food Programme (WFP) but there was also direct importation. According to archived data, part of the loan granted by Finland to Nicaragua in 1985 was used to purchase Finnish milk powder, and in 1986-87, powdered milk arrived in the form of a donation through FinnChurchAid, the cooperation agency of the Finnish Lutheran Church. The value of the Finnish milk powder imports was 17 million Finnish Marks still in 1992 (approximately USD\$ 4 million). According to same sources, PRODEGA complained about the disloyal competition which the importation of milk powder represented in 1991, and again in 1993, inciting the Government of Nicaragua (GON) to control this import, given that it harmed the commercialisation of the milk produced within the project's framework, as well as having an impact on the external balance of payments and on foreign debt.

Here we have a situation in which both governments incorporate contradictory interests. On the one hand, Nicaragua needed raw materials for its dairy industry, and as a result needed to develop the dairy cattle sector, for which it pushed strongly for a sole livestock project from the very beginning; and, on the other, it favoured the importation of milk powder in order to have inexpensive milk ("reconstituted" milk) for urban consumers⁷. Meanwhile, Finland did not reconcile itself between "idealistic" sectors grouped around development cooperation (the "developmental" tendency), and the instrumentalist interests that encouraged the export of Finnish manufactured products through development cooperation channels. This situation continued through at least 1993, but subsequently (according to interviews), PRODEGA itself was able to negotiate the end of official milk powder imports at the National Milk Council's framework (towards the mid 90s).⁸

3.2 Project formulation

During the initial months of 1988, the second Finnish mission, commissioned by the MFA, performed a base study on the situation in Region V. The report, totalling close to one hundred pages, presents a description of the cattle industry in the region, ecology⁹, education and training on the issue of agricultural extension and production, the economy of farm production and the management of farms. Additionally, it presents an analysis of the socioeconomic structure, including the situation of women farmers. In this phase, the intervention is still not defined, but a description of some, more deeply analyzed locations, is given; however, these are not those which were the municipalities finally selected for the future project except for one, Tierra Azul in the Boaco

⁷ It is called reconstituted milk and it is produced from water, milk powder and butter oil.

⁸ Although a dairy processing plant from Managua continued to import powdered milk from Costa Rica outside state control.

⁹ The environment is presented as a focal point from the very beginning by Finland (TOR of the base study of 1988).

Municipality. The term “development poles” still does not appear, but the document offers a starting point to compare *a grosso modo* with the current situation.

The report describes the ecological situation in Region V. It is clear that the agricultural frontier was already to the East beyond the Boaco and Camoapa municipalities in 1988, where it had been located in the 1950s and 1960s, due to the arrival of the peasants from the West, expelled from their lands as a result of the cotton boom. According to the document, the progression of the agricultural frontier follows the following mechanism. Landowners that have wooded areas offer peasants that do not own land, a plot (of a few acres) to cultivate. The peasants then deforest the land and plant it for a few years, but given that they do not have the capital to invest in fertilizers, the land’s productivity drops after three to four years. Subsequently, they deforest another bit of land, and the owner takes on the “improved” parcel as pasture, obtaining free of charge, the wooded area’s conversion work into pastureland. This deforestation process, as a result of the progression of the agricultural frontier has been documented in Nicaragua (for example, in Soto Joya 2011), in Central America and in Latin America, in general. Another reason behind deforestation was the need for domestic firewood; the base study highlighted the fact that the vast majority of households only had an open fire for cooking, which consumes large quantities of wood with low energy efficiency.

The classification of the farms in this report described cattle ranchers that had a maximum of 30 *manzanas* (MZ) of land as small. 360 private ranches under this category were identified in the Boaco and Camoapa municipalities. Small ranches presented a different profile than medium and large ranches (there were 480 ranches in this category), geared more towards dual purpose cattle (milk and beef), while the larger ranches (over 140 MZ) above all, produced cattle for beef. The reason was that small ranches could not “fatten” (grow) livestock to slaughter age due to lack of land, and thus they sold calves to larger ranches devoted to livestock, and commercialized the milk (or used it to produce cheese). Thus, from the moment the decision is made to support the production and commercialization of milk above all, this by definition favours small and medium producers but not large ones.

The study also describes an approximation of social stratification in one of the areas that were subsequently included in the project: Tierra Azul (by the northern frontier of Boaco, 15 km from Muy Muy). The agricultural sector in Tierra Azul integrated four cooperatives formed on expropriated lands of a hacienda, in the possession of its former workers, with 113 members and over 1.400 hectares of land (between 240 and 735 hectares for each cooperative). Two large private ranches had over 200 hectares apiece; and, there were also two ranches with a surface area of 70 to 100 hectares, and three ranches with 30-70 ha of land. There were 11 small ranches of less than 30 ha, 30 peasants without land and 18 officials (unspecified). In total, there were 18 private ranchers.

The base study recommends activities in the following topics for a future project: plant nurseries and reforestation for ecological reasons (soil and water source conservation) and to produce firewood; improvement of infrastructure (rural roads) and agricultural mechanization; agricultural extension services, improved feed for cattle, commercialization and processing of milk; genetic improvement of herds.

The improvement of the situation of women was added to the technical topics. In this last topic, it was recommended to establish quotas for women in all the extension and credit activities, the organisation of day-care centres (kinder garden) and prepared

meals for children of women working away from the household. The report acknowledged the existence of two target groups for a project: on the one hand, the potentially commercial cattle ranchers, which had the capacity to easily increase their productivity, and on the other, the smallholders that could be supported in the production of basic grains, fruit trees, education centres and health services.

In February of 1989, staff of the Ministry for Rural Development and Agricultural Reform (MIDINRA) in Region V, with the support of four consultants, presented the first project document for FINNIDA. The plan resumes quite faithfully the topics recommended in the base study of the previous year. At this stage, the project area has been defined: it includes five Peasant Development Centres (CDC), called development poles in the document in English, in the Boaco municipality (Tierra Azul, Cafen, San José de la Vega, Santa Elisa and San Buenaventura) and two in the municipality of Camoapa (Villa Revolución – commonly known as La Calamidad – and the Embassy). Additionally, it proposes the installation of a cheese factory in Camoapa, in the milk collecting centre that already existed in Rancho Rojo, although at the time, milk collection had almost disappeared given that PROLACSA, based in Matagalpa, had stopped collecting in the area due to the poor quality of the roads and the low level of milk produced (quantity and quality-wise). It is possible that the Boaco and Camoapa municipalities were selected because a project previously mentioned in the 1988 base study, TECNOPLAN, proposed for Boaco and Camoapa in 1987, did not prosper and the Finnish project was suitable for compensating that shortfall. (The base study had however concluded that the TECNOPLAN project could not serve as a model for the Finnish project given that it lacked a “social” component aimed at very small producers and poor peasants.)

At this stage, the target group of the future Finnish project was defined as consisting of small and medium cattle producers and the Sandinista cooperatives. There were 28 Boaco and Camoapa cooperatives with 682 members and 20,000 hectares of land (approximately 28,500 MZ); which represented 8% of the land in the area. Small producers – with up to 20 hectares of land and approximately 20 head of cattle – constituted 55% of total producers. According to the description given in the documents, these were actually poor producers, although the amount of land may seem large. Even with 20 hectares of land, they had to work outside of their ranches as salaried employees in larger ranches in order to survive, or had the right to use parts of the land of the larger landowners for their crops as compensation for their work. The explanation is that cattle-grazing was so extensive, and with such a low yield due to a lack of credit and capital inputs, that even having their hectares of land, this did not allow them to live comfortably or escape poverty. In this extensive system, a *manzana* of land could sustain less than one head of cattle¹⁰. It is precisely because of the relatively poor soil quality, not well suitable for agriculture, that this area of Nicaragua has traditionally been the country’s cattle-grazing “basin”.

Medium producers were defined as those who had between 50 to 200 MZ (35-140 hectares) and 20-40 heads of cattle. They would hire up to four day labourers at certain times of the year for planting and harvesting, and did not need to work outside their ranches.

¹⁰ The figure 0.3 heads per *manzana* at the initial times of PRODEGA has been found in the documentation. The national average in 2002 was 0.62 head of cattle per MZ, 0.6 in Boaco and 0.5 in Chontales (corresponding roughly to a carrying capacity of about 1 head of cattle per ha).

According to the available documentation, the poorest in the area were the peasants grouped into cooperatives (CAS, Sandinista agricultural cooperatives). They were former hacienda labourers, with a low educational and technical level. These cooperatives slowly disintegrated as of 1991, and no information on what happened with their members has been found. They may have migrated towards the agricultural frontier or to Managua, become members of the service cooperatives created by PRODEGA/PIDR, or the CAS lands were re-privatized to their former owners, with the resulting proletarianisation of the cooperative members. A single reference to this matter was found in the archives, and it suggested that the Sandinista cooperatives were divided into smallholdings among the members. If this really was the case with all of them, those who were originally the primary beneficiaries of the project were automatically left out of the project, given that it is highly unlikely that the smallholdings that resulted from this division had sufficient resources to become cattle ranches.

The project was tendered in Finland in June-July 1989, based on this document from February 1989, but the project document was slightly modified after inter-governmental consultations in late 1989, and the official project document is dated January 1990.

3.3 The three phases of PRODEGA

3.3.1 PRODEGA I: PIDR 1990-1993

The Chief Technical Advisor (CTA) of PIDR arrived in Nicaragua in January of 1990, and the project document has that same date. The bilateral agreement on the project was signed on February 22. It so happened that only three days after the signing of the agreement, the National Liberation Sandinista Front FSLN lost the elections, resulting in a change of government in late April. This significantly affected the launch of the project. The implementing agency of the project had been placed in the Sandinista structure, specifically in the Peasant Development Centres¹¹ (CDC, which had been translated from the beginning as development poles in the English versions of the documents). A few months after the project was launched, and as result of the change in government, this structure began to disintegrate leaving the project unprotected from an institutional point of view. Six of the CDC (development poles) intended as implementing entities were Sandinista agricultural cooperatives (CAS), but these had already disintegrated by 1991. The project had to invent a new structure for its implementation.

The envisaged alternatives were the producer organisations (of the type of UNAG and the Farmers and Ranchers Federation FAGANIC), which presented the disadvantage of being ideological structures, one Sandinista and the other actually from the “contra”. The solution the project found after the original suggestion of a Sandinista-leaning local political personality was the cooperative of services, a-political. The idea of service cooperatives was sufficiently “socialist” to make the Sandinistas happy, but sufficiently “capitalist” so that the former “contras” – and the new Government – could accept it, given that it was based on private property.

¹¹ Development poles: Boaco, Tierra Azul, San José, Cafen, Santa Elisa, The Embassy, San Buenaventura, La Calamidad and the Camoapa development pole (information dated November 1991).

At the beginning, the idea of cooperatives faced strong opposition from cattle ranchers given that the term cooperative in and of itself had been discredited by the experience of the previous decade when peasants had been forcefully “co-operativised”. The fact that the project set out to promote cooperatives, albeit of the Nordic Gebhardian type, can be seen as a courageous decision in these circumstances, and great strength of conviction was needed, along with a little of blackmail, to convince the cattle ranchers of the area to create cooperatives (“or there are cooperatives or there is no project”, in the words of some of those interviewed). The cooperatives were officially created in the second half of 1991.

The development objective of the project, stipulated in the programme document was:

Improve the Nicaraguan people’s general standard of living through the increased production of milk and beef, and in particular that of the small and medium producers of Region V.

The project began with eight sub-programmes:

1. Cattle feeding (ALI)
2. Ranch improvement (FIN)
3. Reforestation (REF)
4. Milk collection (ACO)
5. Road maintenance (CAM)
6. Cheese plant construction (QUE)
7. Promotion of Women (FEM)
8. Training and extension (CAP).

Following a midterm evaluation (late 1991 and early 1992), two additional sub-programmes or components were added:

9. Agricultural mechanisation (MEC)
10. Promotion of producer organisations (POP)

And finally, two more components were added to the project:

11. Animal health (VET)
12. Agricultural economy (ECO).

The first official document (January 1990) established that the project would work in seven development poles, or CDCs, in the Boaco and Camoapa municipalities, but two more (Rancho Rojo in Camoapa, and the Santiago cooperative in Boaco-Las Cañas) were added, quite likely because service cooperatives were created in these locations. Meanwhile, the change in government, and the subsequent falling apart of the counterpart structures on the national and local levels, caused the project target group to expand and incorporate part of the larger cattle ranchers.

The original plan was to create 10 model ranches, with a strong investment of resources, in order to serve as experience dissemination points and as agricultural extension

centres. The selection was made based on the accessibility of the ranches and the will of the owners to commit to the project. As result of the opposition from the Finnish Embassy, this plan had to be changed, given that the ten model ranches were, obviously, among the largest and as such, privileged from the very beginning. The solution were the reference ranches, created in mid 1991, ten at each development pole (90 in total). This change discouraged the owners of the 10 original model ranches and separated them from the project, causing delays in its implementation. Additionally, the budget had to be planned again as there were insufficient funds for ninety ranches. Looking back, everyone considered already in 1992 that this was the right decision and that it increased the project's effectiveness.

In 1991, the decision to postpone the construction of the cheese plant in Camoapa-Rancho Rojo was made in mutual agreement between Finland and Nicaragua. This decision was resented within the cooperatives of Camoapa, which proceeded on their own with the construction of their artisan cheese plant (without pasteurisation), with a loan from the World Food Programme (WFP). No explanation for the postponement of the cheese plant has been found, but it could have been due to the Finnish budgetary cuts after the over 30% devaluation of its currency in 1991, to the expansion of 10 model ranches to 90 reference firms which made the project to review its budgets, or from opposition by the Finnish CTA because, according to him, the supply of milk still did not allow for an industrialisation of the milk into cheese.

The project equipped four milk collection centres with refrigeration:

1. El Paraíso: the San Felipe Cooperative;
2. La Calamidad-Villa Revolución: the Masiguito Cooperative;
3. Las Cañas-Boaco: the Santiago Cooperative; and
4. Camoapa-Rancho Rojo: the Francisco de Asís Cooperative.

Of these four, the Masiguito in Villa Revolución-La Calamidad was not connected to the national electric grid, but it had to use power generators for refrigeration, with the result that the collection of milk became too expensive. As a result, the San Francisco Cooperative offered Masiguito a plot of land in Ranch Rojo to place its milk collection centre, given that Rancho Rojo was connected to the national electric grid; and since then both cooperatives coexist in harmony side by side.

The Promotion of Women component consisted of production activities of 200 low-income women, organized in groups of 25 people each. They were taught to create gardens with vegetables or to plant fruit trees and medicinal plants. The objective of this approach was to improve nutrition and increase incomes through the sale of products, but it obviously had little to do with the rest of the project, functioning separately from the other components.

An activity which had, and continues to have, capital importance was the construction and improvement of rural roads. During the first phase, over one hundred kilometres of all-weather roads, and over 350 km of dry-season access roads were built. Among the achievements of this phase one can count the increase of 30-50% of milk produced per cow per day, along with one million tree saplings planted in ranches. By 1993, calf mortality had dropped from 20% to 6.6%. A good part of the trees planted still stand today at the ranches, and in some cases (for example the teak and mahogany plantations) shall bring in significant income for their owners upon their cutting and

sale (USD 50,000 per ha at this stage of growth). In 1993, the project itself calculated that the value of the collected milk was three million dollars per year, with a net income of 1.5 million to the almost 400 cooperative partners.

In short, it can be concluded that the project gave a shift towards the medium and large cattle ranchers during the course of its first years for two main motives. First, the change in the political system and the structure of land ownership following the Sandinista electoral defeat caused the project to no longer be able to envisage its implementation through the CDC, and the Sandinista cooperatives that represented the poorest part of the original target group disappeared. Second, as clearly appears in the interviews, there was a disagreement regarding the target group among the Finns. On the one hand, the Embassy represented the idea that the project had to focus on the small and medium producers, and on the other, the project team advocated for an approach that was geared more towards productivity, and for the non-exclusion of large producers. This clash, which at times became verbally violent, had its expression in the Embassy's intervention in the case of the model ranches, which is why the reference ranch system was imposed. – Therefore already in the first phase one can observe the pendulum between the two objectives (poverty reduction and improving productivity), which was seen within the Nicaraguan delegation that visited Finland in 1987, and that the project was never able to reconcile. Although in retrospect, the part that left a lasting impact was the productivity approach.

Another project impact in this initial phase was not planned: pacification or reconciliation. Following the demobilisation of the armed groups and the formation of the service cooperatives, the project was able to convince the area's cattle ranchers that they had to forget about political rivalries and work together to improve the standard of living and increase milk production for the benefit of all. This achievement was particularly appreciated by the new Government and was mentioned in all the interviews as an achievement of PRODEGA¹². This implies that the project had certain flexibility – including political flexibility – of adapting to new circumstances. Thanks to this capability, the new Government offered strong support to PRODEGA-PIDR: an office in Managua on the floor of the MAG Ministry, frequent ministerial visits to the project, so much so that at times, half the Government was lodged in the “Finnish houses” neighbourhood in Boaco, where the offices and houses of the PRODEGA advisors had been built. Although on the other hand, the project had recurrent and serious problems with local staff wages.

In some interviews, criticisms against certain Finnish activities in the zone were expressed. These had to do with the importation of Valmet trucks, which actually was not unanimous in Finland either. According to the criticisms, it was not suitable technology; the topography in Boaco is too uneven for the use of tractors it was claimed, thus the donation was not properly exploited. On the other hand, the ET has observed Valmet tractors in perfect working order in the project area. PIDR imported 7 tractors and a caterpillar for the cooperatives, and the donation was accompanied by training in, for example, ploughing according to curves perpendicular to the gradient.

¹² This is also registered in the minutes from the Board of Director's meeting of December 1993: “Finally, the producers thanked the Finnish government for the strong support and interest they have had towards the Boaco and Camoapa producers, proof of which is that all political tendencies were put aside, and work was carried out jointly, as in a large family.”

3.3.2 Phase II: PRODEGA 1994-1998

Prior to the conclusion of PIDR, the Governments of Nicaragua and Finland decided that there was sufficient reason to fund a second phase. The Cattle Breeding Development project, PRODEGA, began in 1994 when this name appeared for the first time, although PRODEGA is actually a continuation of PIDR, and can be considered the second phase of a single intervention. The back and forth movement towards an approach that favours the poorest is again observed. The second phase has a more general development objective in its design, that of “mitigating poverty in the project area and of generating permanent improvements in the standard of living of families that grow agricultural products on a small scale, particularly, but not exclusively cattle owners”.

In this second phase, the action is expanded to no less than 16 components:

1. Institutional development
2. Mechanisation of ranches
3. Rural workshop services
4. Milk collection and commercialisation of milk
5. Rural road construction
6. Rural road maintenance
7. Cattle nutrition
8. Animal health
9. Crop production
10. Gender issues
11. Agricultural diversification
12. Direct material assistance
13. Environmental protection / natural resource conservation
14. Monitoring and evaluation
15. Genetic improvement of cattle
16. Promotion of cooperatives

Optimum coordination between those responsible for each area is what is sought in this multitude of disciplines, and the project is geared towards the sustainability of results: the improvement of milk commercialisation, the transfer of technology, the improvement of women’s position, the mitigation of poverty and the protection of the environment. This last issue acquires a more comprehensive dimension than before; it no longer deals simply with nurseries and the planting of trees, but rather introduces a shaded pasture (“*silvo-pastoral*”) approach. The “Promotion of ‘Women’” also gives way to a more comprehensive cross-cutting approach in regards to gender in all subject matter areas; it is not known with any certainty if this approach was successfully mainstreamed or not in the project’s activities. What does appear in subsequent documentation is that the introduction of the agricultural cooperatives was partially inspired by the will to promote the income of women, and which in fact managed to increase considerably the percentage of credits for women, including those for the purchase of cattle.

Within the design of this second phase, attempts to pay more attention to the poor are detected, but in practice, the strategy, which continues to be focused on cattle breeding, does not change significantly; the expansion towards agriculture and small cattle breeders does not become a central theme. In 1996 the project expands its coverage to San Lorenzo and Santa Lucía, and in 1997 to Teustepe. This in part feeds the thematic expansion as well, given that these areas are not apt for cattle breeding, and there are marked differences in the production dynamics, compared to Boaco and Camoapa. Teustepe, Santa Lucía and San Lorenzo occupy very dry areas. In these areas, the project focuses on male and female farmer cooperatives that require a different competency from that which previously existed in the project. An expansion to the North is also envisaged in the second phase (Muy Muy and Matiguás in the Department of Matagalpa) and towards the South, to Comalapa in the Department of Chontales, a municipality bordering Camoapa. These locations were selected because their inhabitants were already delivering milk to the milk collection centres organized by PRODEGA. This phase also saw a disagreement between the Government of Nicaragua and Finland, since according to MAG, the project should have continued to work on dairy and livestock improvement as a priority, and not expand geographically or thematically. The GON did not agree with the definition for “small producer”, either. This had been defined as a ranch of less than 50 MZ (c. 35 ha), but according to MAG, other indicators such as productivity, total income and the number of family members, had to be taken into account.

The midterm evaluation report for this phase (in 1996) mentions the partial achievement of the objectives, but also points out that the project continued to have problems with motivating producers to come together, a legacy of the forced “cooperativising” from the 1980s. However, there is real progress in terms of productivity. At the beginning of the PIDR in 1990, production per cow/day was on average 3 litres, and in 1997 it reached almost 6 litres. At this point, the milk collection centres installed by PRODEGA handled 30% of national milk production. On the other hand, the report expresses concern in relation to the sustainability of results, both in terms of the long-term feasibility of the cooperatives’ economic activities, and in terms of institutional feasibility, and the lack of a national development policy for the cattle breeding and dairy sector. The project itself estimated that it had aided in the creation of 4,000 jobs in the rural areas of Boaco.

At the end of the second phase, out of the 13 cooperatives created¹³, the consensus is that only 2 find themselves in a consolidated state and could already be viable and sustainable. It must be mentioned that during this phase, the Embassy Cooperative in Camoapa had been dissolved and incorporated into that of Masiguito, thus, both consolidated cooperatives actually represent three previous cooperatives. A third is close to reaching this point (probably San Felipe). 10 cooperatives are having problems that threaten their existence without external support, and the project continues to feed them in a desperate attempt to strengthen them – in the long term, this effort proves to be in vain given that these dairy and agricultural cooperatives disintegrate upon the conclusion of PRODEGA III, at the latest.

At this stage, there already existed examples of projects that intended to function as micro-credit entities, always with extremely poor results, given that people tend to think

¹³ PRODEGA Phase III Project Document in Boaco and Chontales 1999 – 2003. March 1999, Page 9. At this point in time there are 10 dairy/milk cooperatives and 3 agricultural cooperatives.

that the loans are a donation, with low levels of recovery. By the end of the second phase, PRODEGA works with the José Nieborowski Foundation for the management of the credit fund (original capital USD\$ 643,000). However, this activity is not completely delegated to the intermediary, but rather it is PRODEGA that decides to whom and for what activity to grant credit; in fact, it acts as a collector, and this activity requires a great deal of energy from the project personnel.

If during the first phase, the project had enjoyed the unconditional political support from the Government of Nicaragua, by the middle of this second phase, the counterpart organisation responsible for PRODEGA becomes part of the National Rural Development Programme (PNDR – later baptized IDR) instead of MAG, and changes in the sector's political leadership affect the implementation of the project. For example, the Nicaraguan financial counterpart in local staff shrinks to a third of what was anticipated (a 66% reduction), and the new PNDR takes time to formulate its working modalities and finding its role within the sector. One of the consequences of the cutbacks in the Nicaraguan financial counterpart was that the expansion of the project towards areas of Matagalpa and Chontales (Comalapa) was suspended. PRODEGA never managed to work in the municipalities of Matagalpa or in Comalapa during the third phase.

3.3.3 Phase III of PRODEGA (1999 – 2003)

Between the conclusion of the second phase and the beginning of the third, PRODEGA continues operating with a “bridging phase” (1998). The third phase was launched in 1999.

The Project Document that defines the third phase of PRODEGA indicates that the different evaluation and formulation missions had identified a problem of dispersion of activities in the project and the need to reduce the number of components:

“This implies that the project design returns to its original, main theme, [that is,] support for the improvement of dairy sector productivity and to establish, develop and consolidate the milk commercialising cooperatives. Meanwhile, the project must become more and more integrated within the local structures, and lean more on local resources.”¹⁴

On the other hand, the geographical expansion of the project towards the South, including the reactivation of some already existing cooperatives in four municipalities¹⁵ of Chontales, is a significant change. As is already stipulated in the project document, the intention is to expand the action by request from these cooperatives and because in this way, an increase in the volume of milk can be achieved, and thus, a more solid position for the cooperatives as a whole. Additionally, the Government of Nicaragua also requests the expansion of the project to the other cattle-grazing department, Chontales. The selection of the locations is coordinated with another Finnish local and municipal development project, FADES, which worked, above all, in the semi-humid area of Chontales (to the East of the Amerrisque mountain range), and it is decided to work in four dry municipalities where seasonal cattle migration (transhumance) is practiced, (towards the great lake in three of them, and towards the Eastern humid zone in the Cuapa municipality).

¹⁴ PRODEGA Project Document, Phase III, page vii.

¹⁵ Comalapa, Cuapa, Juigalpa and Acoyapa

However, the lessons learned from the first and second phases could not simply be applied in the case of Chontales, given that the reality was something else entirely; the fact that the area is dryer, and as such, producers found themselves forced to practice seasonal migration, which had almost fallen out of use in Camoapa and Boaco, is particularly highlighted. With the inclusion of the Chontales cattle-breeders, the average surface of ranches supported by the project increases, as well as the average number of heads of cattle per ranch¹⁶. Among other adjustments, the training modules had to be redesigned due to the different agro-ecological conditions in Chontales; thus doubling costs.

On the other hand, the document stipulates that the credit would be transferred to a trust fund, administered entirely by the José Nieborowski Foundation. As such, in 1999, PRODEGA ends up delegating the management of the credit to this financial intermediary.

The challenges for the project in this final phase are the viability of cooperatives and the greater involvement of institutions, both necessary things for the sustainability of results. This is reflected in the focus of support on milk cooperatives and in a certain neglect of other activities. The conclusion is reached that during the third phase there is a need to focus on the quality of milk, the economic and organisational feasibility of the cooperatives, including the commercialisation of milk, in order to guarantee sustainable project results. Additionally, the level of institutionalisation of PRODEGA must be increased.

The third phase general Objective is:

“The Reduction of poverty in the project area through a lasting improvement in the standard of living of small and medium family production units.”

The immediate Objectives are:

“The dairy sub-sector in Boaco and Chontales is improved through: 1) an increase in the productivity and quality of milk on a ranch level, 2) local processing and commercialisation of the milk is controlled by producers.”

The seven components of PRODEGA’s Phase III are:

1. Consolidation and development of cooperatives in Boaco
2. Extension services in Boaco
3. Funding of investments through the Credit Fund in Boaco
4. Establishment of milk cooperatives in Chontales
5. Extension services in Chontales
6. Funding of investments through the Credit Fund in Chontales
7. Improvement of rural access roads in Chontales

In this final PRODEGA phase, both the issues of gender and the environment are considered cross-cutting issues, as was established by the Finnish cooperation policy at the time. As frequently happens, the “cross-cutting” of an issue means that it disappears; when it is no longer “owned” by anyone in particular, but rather by all, it tends to

¹⁶ The data comes from the same phase III project document, page 17, based on a survey 1996-1997 that of the six categories in Chontales, the most frequent are the farms of between 100 and 250 acres.

become “owned” by no one at all. In fact, this appears to have been the case in PRODEGA phase III. Particularly this applies to the environment, which no longer was present on the list of components. From the interviews one gets the impression that the project no longer had the same impetus in the reforestation of its new area of action, Chontales, as it had had in earlier years in Boaco, despite tree seeds being distributed; however, a few farms continue to have fruit trees donated by the project. In terms of the practical implementation, as of 1997, following PLC’s victory in the elections, the situation becomes polarised on a national level and the project does not escape the tensions caused by the changes imposed on local staff by the new government. Among the problems mentioned, there was the politisation of the national advisors who worked as counterparts to the international experts, arbitrary dismissals of project staff (a political purge), judicial embargo of project funds, refusal to pay compensations for unjustified dismissals and the imposition of these payments on the project, etc. IDR also attempted to impose a winner in a tender for the San Felipe cooperative, although the cooperative was a private legal entity, not a public entity. An additional fact, greatly lamented by the cooperatives, was the withdrawal of the road construction modules used by them, due to which this activity was practically suspended.

3.4 Conclusion of the project and subsequent development

Already prior to the conclusion of the PRODEGA project, some cooperatives had disappeared or ceased to function. The annual operational plan of 2002 already spoke of only four dairy cooperatives in Boaco (San Felipe, Masiguito, San Francisco, Casatboy) plus the three agricultural production cooperatives created during the second phase (10 de Mayo in Santa Lucía and San Lorenzo and Santa Elisa in the Boaco municipality), along with the four livestock cooperatives reactivated during the third phase in Chontales. All the other dairy cooperatives had already ceased to function (Santiago, San Buenaventura). Casatboy disintegrated practically upon the conclusion of PRODEGA, and there are few subsequent traces of the three agricultural cooperatives whose partners were mostly women. The Santiago cooperative even sold the equipment of the milk collection centre donated by PRODEGA in order to cover its debts, something that some interviewed persons considered an indicator of very poor management and of lack of strategic vision. On the other hand, the cooperatives that remained, particularly in Camoapa, managed to increase their milk collection through the years (more on this in Dairy Sector Impact Ch. 4.2.3).

Although no exact date for the purchase of the pasteurisation equipment was found (nor remembered with precision by any interviewee), from references in the archived documents it can be deduced that the industrial production of pasteurised cheese began in 1997. Following the purchase of the necessary equipment, cheese processing had a dramatic boom. Already during the year of their opening, the cheese plants of Camoapa (San Francisco and Masiguito) exported USD 8000,000 of cheese to Honduras. Exportation to El Salvador began in 2002 and to the United States in 2005. The Masiguito plant currently exports half a million pounds of cheese each month (226,796 kg), half to El Salvador and the other half to the United States (over 2.7 million kilograms per year), generating an annual income of approximately 13 million dollars (c. 10 million

Euros). The San Felipe Cooperative, which does not currently produce cheese, also have kept the heated cheese curdling tank donated by PRODEGA, and hopes to put it to work in the near future.

Currently, almost all the cooperatives accept new partners, the most notable exception being Masiguito. In general, the membership fee is affordable for the majority of cattle-ranchers (around USD\$ 50), but the member candidate must also contribute a fee corresponding to the investments already made by the members from their own pocket, which in essence limits participation in the cooperatives. For example, in the COOPA of Acoyapa it is USD\$ 2,500, a sum that is already beyond what a small cattle owner can afford. On the other hand, the cooperatives generally do not engage in discrimination based on membership for the price paid for milk, but rather the associated members receive the same amount as other producers per litre delivered.

A small revolving credit fund of USD 225,000 had already been created during the first phase, whose initial objective was to support training and technology transfer activities aimed at beneficiaries. The fund recipients were the 9 development poles with 10 reference farms in each one, at a value of USD\$ 2,500 for each reference farm. In December of 1992 an agreement for the management of funds with the Nicaraguan Development Foundation (FUNDE) was signed, but the contract was broken in mid 1993, and the project directly assumed the follow up and recollection of funds. There was also a small fund for loans for the 200 women participating in the “Promotion of Women” component. By 1995, there were three types of funds: a fund to be used by cooperatives for the amount of USD 450,000; a credit fund for cooperative members (USD 400,000) and a USD 100,000 Fund for Women.

As of the second phase, PRODEGA had begun to work with the José Nieborowski Foundation of Boaco, which had branches throughout Region V. First, as previously mentioned, it was the project that made the decisions regarding whom to grant loans to, but at the conclusion of the project, it was decided to give the remaining amount (USD 940,000) in conditional property to the Foundation. The conditionality demanded regular audits, which were performed with satisfactory results, and close to a year after the conclusion of the project, the PRODEGA fund was given in property to the José Nieborowski Foundation. Another sum, close to half the fund in Boaco (USD 486,000), was given to a microcredit institution from Juigalpa (PRODESA). The act of conditional delivery was signed in 2004, and the final delivery was signed in November of 2005. The agreements for the transfer of the FADES project credit funds, in the amount of USD 768,000 were signed on the same dates. It is worth mentioning that the original fund given conditionally to both, was of a lower amount, and the final donation corresponded to the seed capital increased with the interests created in the credit activity.

These two funds had the objective of guaranteeing easily accessible credit for cattle-grazing in the areas that PRODEGA had functioned in, although the target group was not exclusively comprised of cooperatives supported by the project or its partners. José Nieborowski and PRODESA were organisations that were recognised within the microcredit sector in early 2003. They had a good presence in Boaco and Chontales, and also had experience in the sector of livestock. There were not many other organisations with these experiences. At the time, Nieborowski was an organization that was recognized, and in 2005 it received the IADB award microcredit institutions. Subsequently, the fate of these microcredit foundations has been quite different, and the PRODEGA beneficiary cooperatives have practically not used these funds.

Nicaragua's micro-finance sector grew strongly during the first years of the decade of 2000 and there was a surplus supply of funds in general and above all for consumption credits. Concurrently, there was a general tendency to relax the application of policies and requirements to grant credits. The result was an over-indebtedness of many clients and a bubble, similar to what happened in other markets such as that of the subprime credits in the U.S. The international economic crisis of 2008 aggravated the situation of the microcredit sector in Nicaragua, for example by the reduction in remittances from abroad. Concurrently, the country experienced a "non payment" movement, surreptitiously encouraged by the highest political hierarchies. The movement was launched by debtors who demanded a renegotiation of their debts and the end of property embargos as a result of creditor requests. Divergent opinions exist regarding the importance of this no-pay movement during the crisis. It was likely not the most decisive factor, but in the field it was recognised as having seriously affected the microcredit institutions and having aggravated the crisis.

Between 2008 and 2012, the microcredit supply was reduced by approximately 50%, from around USD 550 million to USD 300 million. In 2009, all sector institutions had losses. The losses in assets of the microfinance sector were greater than 45%, that is to say, almost half of the assets of the entire microcredit sector disappeared, signifying losses of almost USD 70 million. The supply of funding to the sector (from banks and other financial institutions) was also significantly reduced by close to 40%.

The Nieborowski Foundation is no longer operating as a microcredit institution (but continues to be a foundation with business centres). The organisation began to have problems in 2007-2008, and in early 2010 it declared bankruptcy. The reasons for the fall were a combination of internal struggles between boards of directors, the old one and a new one, which took their disagreements to court, and poor management, the new board granting itself generous personal loans, among other things. Surely, the sector-wide crisis contributed to the fall.

The micro-financier PRODESA continues to operate, having become a credit corporation with assets worth 11 million dollars; it also acts as a foundation with social purpose (a holding owning the corporation). It has 11 branches in different cities throughout the country, and it is expanding to Panama and Costa Rica to offer credit to Nicaraguan immigrants. The Finnish donation (PRODEGA and FADES combined) has served as leverage (own capital) to capture funds from other donors and financial institutions. In 2003, 65% of its clients were cattle ranchers, but after 2007 the demand for credit for livestock has dropped, because PRODESA has to face the competition from CARUNA, which operates with subsidized funds from ALBA, originating from Venezuela. In its portfolio, the impact of the non-payment movement was not significant, and in 2009, defaults of over 30 days accounted for 9% of overall defaults; currently, it is at 1.6% and even lower in the case of livestock. 400 clients stopped paying in 2009. In order to maintain discipline and a culture of payment, their collateral was confiscated (houses and lands), but without resorting to evictions, and former owners are currently recovering their properties through monthly reimbursements. But for the first time in 21 years of operations, PRODESA is pessimistic of the future, and does not exclude the possibility of becoming a savings and credit cooperative or a bank, given that it cannot compete with subsidized credit and the culture of easy money without having the function of savings as a means of lowering loan interests. They now must loan money at market interest rates in order to increase supply.

It can be asked if the decision to leave the PRODEGA credit funds in donation to micro-financiers at the time was correct, although it complied with a directive from MFA from 1998 of favouring professional, local microcredit institutions. The Finnish funds participated in the dramatic increase of the supply of microcredit. In the unanimous opinion of the cooperatives however, leaving the funds to the micro-financiers was the biggest mistake made by PRODEGA, and they consider that the money would have been better utilised within the cooperatives themselves, which all, even the almost extinct Candelaria de Comalapa, offer a credit service to its members. In fact, the cooperatives created by PRODEGA have not used the credits given by Finland to the micro-financiers; thus, from their point of view, it was a loss of resources.

4. Impact of PRODEGA on the Dairy Sector

4.1 Status of the cooperatives

Of the dairy sector cooperatives that were created and/or supported during PRODEGA's implementation, seven survive to date, although they are at different levels of consolidation.

In the Camoapa municipality there are two cooperatives which function properly. The San Francisco Cooperative, which processes 75% of its milk for cheese and sells the rest as cold milk to ESKIMO in Managua and to La Colonia supermarkets, which distribute it under their own brand. The San Francisco Cooperative is well positioned in the national market with its registered brand Camoapán (fresh milk and cheese), though it does not have commercial access to the largest supermarket chain (property of the multinational corporation Walmart) and must also resort to retail in small stores and the markets of Managua. The Masiguito Cooperative operates successfully; it is the largest Nicaraguan exporter of cheese to the United States and Central America, and the fifth largest Nicaraguan export company, after slaughterhouses and coffee growers. Both Cooperatives in Camoapa have a fuel station where producers that deliver milk may pay for their fuel with their milk account, and have an agricultural credit system for their members.

The Acoyapa Cooperative (in the municipality of the same name) shows gradual progress and finds itself in the process of expanding with support from the industrial dairy company Centrolac, to install a new milk collection centre in San Miguelito, which is the dry-season pasture area on the shores of Lake Nicaragua. With this investment, it can also take advantage of milk produced during the dry season, when other cooperatives of Chontales have no milk collection due to the lack of collection centres in areas of transhumance. The cooperative also benefits from the construction of the new highway, now improved and asphalted all the way down to San Carlos and which shall soon be connected with an international bridge over the River San Juan between Nicaragua and Costa Rica. Some years ago they were already in negotiations with the Costa Rican dairy "giant" Dos Pinos to sell milk to Costa Rica, but they suspended the process because they found they are still too small to deal with the largest dairy corporation in the region. Besides other services, COOPA has a well-stocked store, which sells agricultural items at discount prices for members.

The Mayales Cooperative in Juigalpa collects small quantities of milk (half the amount of their economic sustainability level), although it has been affected by seasonality and, according to some of those interviewed, by certain punishments by the dairy industry due to its prominent leadership role in CANISLAC. It has managed to negotiate favourably the transfer of administrative costs and services to Parmalat, the milk buyer, in order to continue collecting milk.

The Candelaria Cooperative in Comalapa continues to exist but has depleted its capital. It has not collected milk in 6 years and maintains as its only function the managing of credit among members. Some of its associates deliver milk to the Masiguito Cooperative at a distance of only about 10 km, and others are specialising in livestock for meat. The San Felipe Cooperative in Boaco, which had declined, finds itself in the process of

recovery with support from the Masiguito Cooperative. Following an internal crisis due to poor management and the lack of trust of the members, the San Felipe Cooperative turned to Masiguito to request technical assistance, and the Camoapa Cooperative granted it a significant loan free of interest. San Felipe was able to reimburse the loan in less than two years and renewed its operational systems, currently finding itself in a strong boom. The key to the recent success has been the creation of trust and loyalty among the affiliates, as well as improved business management.

Although purely economic common interests cannot be excluded in order to explain this fraternal aid from Masiguito (for example, collaboration to combat disloyal competition of intermediaries), it was noteworthy that all the individuals interviewed explained this technical and financial assistance to the sister cooperative precisely in terms of solidarity between cooperatives.

Chart 1 describes the cooperatives' situation. It should be underlined that the number of partners and the areas by cooperative, and those by partner, may have changed, this data is from 2001, two years prior to the conclusion of the project.

Table 1. Summary of the situation of the PIDR-PRODEGA cooperatives

NOMBRE DE LA COOPERATIVA	MUNICIPIO	ACTIVIDAD PRODUCTIVA	No. SOCIOS 2001	AREA MZ	PROMEDIO DE MZ POR SOCIO	SITUACIÓN ACTUAL
10 de Mayo	Santa Lucía	Agrícola	93	1000	11	Decae en tercera fase de PRODEGA y no continúa
San Lorenzo	San Lorenzo	Agrícola	40	450	11	Decae en tercera fase de PRODEGA y no continúa
Santa Elisa	Boaco	Agrícola	58	6000	103	Decae en tercera fase de PRODEGA y no continúa
Santiago	Boaco	Ganadera	27	1000	37	Se desintegra y algunos socios se pasan a la San Felipe
San Felipe	Boaco	Ganadera	100	9000	90	En situación de recuperación con apoyo de Masiguito
Casat Boy	Boaco	Ganadera	32	2000	63	Se desintegró cuando terminó PRODEGA, vende los equipos.
San Francisco	Camoapa	Ganadera	110	12000	109	Funcionando Bien, procesando y posesionado en mercado nacional
Masiguito	Camoapa	Ganadera	145	8000	55	Funcionando Exitosamente, procesando y es el mayor exportador de Queso a Estados Unidos, y Centroamérica
Candelaria	Comalapa	Ganadera	85	10000	118	Existe como cooperativa, pero se han descapitalizado, tienen alrededor de 6 años de no acopiar y con única función de crédito entre socios.
Unión	Cuapa	Ganadera	58	8000	138	Existe, sobrevive con un acopio tanque prestado por PARMALAT, de quien tienen total dependencia.
Mayales	Juigalpa	Ganadera	79	13000	165	Funcionando, con acopio de pequeñas cantidades afectados por la estacionalidad y algunos castigos de la industria por el liderazgo en Canislac, han llegado a negociar a su favor con Parmalat la transferencia de costos administrativos y de servicios a fin de continuar acopiando.
Acoyapa	Acoyapa	Ganadera	90	36000	400	Funcionando, progreso paulatino y en proceso de ampliación con apoyo de Centrolac para instalar nuevo acopio en San Miguelito. Beneficiados por la construcción de carretera hacia San Carlos.
			917	106450	116	

Fuente; Datos Mz por socios encontrados en: Análisis de Género en Prodega, 20-12-2001.

Las Cooperativas San Buenaventura, Tierra Azul, Cafen y La Embajada, no pasan a III fase, La Embajada fue sumada a la Masiguito.

4.2 Situation of the Dairy Sector at the National Level

4.2.1 Value chains, their potential and market

Within the Nicaraguan dairy sector, four important value chains stand out; i) fresh milk and UHT milk¹⁷ for the national market; ii) UHT milk for export; iii) cheese for export and; iv) cheese for the national market. These chains form part of the country's livestock sector.

Cattle ranching, with all its diverse products (milk, cheese, beef and leather), is one of the sectors with the greatest growth and a strong contribution to the Nicaraguan national economy. According to analysts from the Nicaraguan National Cattle Commission (CONAGAN), the sector generates close to 660,000 direct and indirect jobs. In 2011, the value of cattle production increased to USD 850 million, of which close to 640 million were generated through exports. The dairy sector exports have grown since 2002 and between 2010 and 2011 there was a 30% growth. These days, Nicaragua is the largest exporter in Central America, with exports of over 176,000 tons/year, followed by Costa Rica with 80,000 tons¹⁸. In terms of milk production worldwide, Nicaragua occupies the 77th place, with a production of 718,882 tons per year. The following chart shows data of the Central American dairy sector situation in 2007, presented in a CEPAL study from 2010.¹⁹

Table 2. Central American dairy sector 2007

Country	Population	Production in tons/year	Exports in tons/year	Imports in tons/year
Costa Rica	4,133,884	916,677	80,433	27,116
El Salvador	6,948,073	541,615	6,021	176,443
Guatemala	12,728,111	340,800	4,238	222,647
Honduras	7,483,763	703,902	20,180	100,508
Nicaragua	5,675,356	718,882	176,388	30,031

As can be seen from the Table, Central America presents a dynamic intraregional commerce of dairy products; Costa Rica and Nicaragua are the large exporters of the region. Costa Rica is the largest exporter of fresh milk, and Nicaragua is the largest and main regional exporter of cheese. Honduras is the third exporter in dairy products and El Salvador and Guatemala are net importers of dairy products, while El Salvador exports dairy sub-products to the United States, although in small quantities. Costa Rica and Nicaragua are net exporters of dairy products, being the only Central American countries that achieve this condition. Guatemala and El Salvador present a negative

¹⁷ UHT: Ultra High Temperature. Milk is warmed to 135 – 150 °C for 4 seconds, to destroy all pathogen germs and spores, giving the milk up to a 90 day shelf life.

¹⁸ Data from FAO.

¹⁹ Source CEPAL, 2010. However, in other sources such as a SIECA 2010, Nicaragua is shown as the most important regional producer.

commercial balance in all items, which reflects the lack of development achieved by the dairy sector in these countries.

The ET's interviews with CANISLAC and with representatives from the private sector, as well as with cooperatives supported by PRODEGA, confirm this encouraging situation for Nicaragua. CANISLAC is of the opinion that the dairy sector is dynamic in demonstrating a growth in exports of close to USD 136 million in 2011 and USD 188 million in 2012, which is an increase of 30%. In addition to exports, the national market has the potential to increase the production and industrialisation of milk.

In conclusion, the Nicaraguan dairy sector has a good development track record and very good prospects for the future in terms of demand and pricing. It is a comparatively stable market: it does not struggle with ups and downs in the same manner as the coffee growing sector, which is the other important branch of the national economy. Nicaragua demonstrates capacity and comparative advantage in dairy production thanks to its natural resources and its low labour costs. According to CANISLAC, Nicaragua's fodder based production (extensive production), along with those of India, Brazil and Argentina, means low production costs. In fact, the investment cost for produced milk is one of the lowest in Latin America: from USD 0.20 to 0.42/litre of milk²⁰. However, this boom has an ecological cost, which is the disappearance of native forests as result of the progression of the agricultural frontier.

4.2.2 PRODEGA's impact on the dairy sector

In 1979, once the revolutionary armed struggle had ended, the Nicaraguan dairy sector's situation was precarious. During the 1980s, while some milk processing industries were beginning to function once again (with Finnish cooperation), there began to be limitations in the access to the primary product. There was not enough milk due to the lack of collection and transport systems. PRODEGA was a logical response to this situation.

As a result of PRODEGA's efforts in its three phases it was possible to organise a significant number of producers and set up and strengthen several cooperatives within the dairy sector. The work improved milk production in terms of quality and quantity. The result – and now impact – was a strengthening of the *first link* of the milk and cheese value chains.

Additionally, new stakeholders in the *second link* were created and strengthened for the collection of milk with a refrigeration system. Naturally, other stakeholders, such as small traditional cheese producers (*manteros*) and some private milk collecting companies were present in the market, although they could not satisfy the demands of the dairy industry. PRODEGA's intervention aided in achieving an increase of the supply of raw material; the supply of milk in greater volume and of better quality was essential for the dairy industry.

It is quite likely that PRODEGA has also positively influenced the significant development of cheese exports (to El Salvador and the United States), which has happened since 2002, as well that of UHT milk, which has grown during the last few years; Venezuela is an important buyer. This influence has come about in two ways: first,

²⁰ CONAGAN, El Ganadero, December 2012.

through direct exports as is the case of Masiguito, and second, through the increase in supply of liquid milk of better quality, which is the basis for any exportation.

PRODEGA also seems to have had a positive impact in the manner in which business is done in the value chain. The final PRODEGA report concludes that the project had a significant impact in raising milk prices paid to producers. The existence of new stakeholders, which paid slightly more, resulted in an increase in the general price paid to cattle owners. According to the interviews at the cooperatives, they pay better than traditional cheese producers in the majority of cases. However, for cattle owners the greatest advantage of selling to cooperatives is that they pay the same price year round, without having the so-called “milk boom” (the abundance of milk in the first months of the rainy season) affect the price per litre; producer’s incomes are thus more predictable.

An additional advantage is that the cooperatives have greater contact and a greater possibility of dialogue and contact with producers, compared to a regular private company. This also results in greater potential for providing necessary technical assistance for the improvement of milk quality and increase in milk quantity, although this activity has dropped in some cooperatives, which are not sufficiently profitable to be able to afford technicians.

In regards to impact, it is important to mention the creation of CANISLAC, which was supported by PRODEGA. According to information received by the ET, CANISLAC was the first coordination and cooperation experience between producers and the industry in Nicaragua. The chamber plays a key role in promoting the sector’s common interests, and serves as a platform to improve relations between the different stakeholders and to discuss ideas to improve the milk and cheese value chain.

Finally, it should be mentioned that the importance of PRODEGA’s role in the development and strengthening of the milk and cheese value chains in Nicaragua is not only in what this project did by itself and directly in some municipalities of Boaco and Chontales. Additionally, PRODEGA was one of the earliest stakeholders in a more extensive intervention of international cooperation in the dairy sector; its experiences and manner of working have inspired other subsequent interventions in other areas, in one way or another. One of them has been the FondeAgro programme, funded by Sweden, which was executed in the Department of Matagalpa, in the so-called Milky Way²¹, between 2001 and 2010. Already in the first years of implementation, the “PRODEGA model” was adopted by the Nicaraguan government at the time, which began to promote the idea of development poles with a range of activities, practically copied from the Finnish project, the organisation of cooperatives included. For example, machinery donated by Japan was given on loan to 35 cooperatives in different parts of the country to improve roads, in an attempt to imitate PRODEGA. The ET has no concrete information on the fate of these other cooperatives, which were promoted by governmental policy, but according to some interviews, the vast majority of them have not been very successful, probably because the support offered to them was not at the same level as what was had by the PRODEGA cooperatives.

²¹ Area comprised of the Muy Muy Matiguás and Río Blanco municipalities

4.2.3 Probable economic impact

In another section of this report, it has been pointed out that PRODEGA had already recovered the Finnish investment by the 2003 conclusion date, in terms of the increase in the incomes of producers that participated in the project. It is not possible to make a more precise cost-impact analysis, given that PRODEGA never had a baseline or a systematic monitoring system that would have recorded quantitative data during the entire implementation of the project, and even less after its conclusion, which also occurred 10 years prior to the evaluation. To give an idea of what can be an analysis of this kind in terms of methodology and results, it may be useful to offer a very brief summary of the cost-impact analysis of the aforementioned FondeAgro project, performed during its final year, 2010. Both projects have a good degree of similarity: FondeAgro also worked on farm level, with the improvement of milk production in terms of quantity and quality, and with organisational and administrative improvement of several cooperatives, as well as in the improvement of the refrigerated milk collection network in every sense, and with the improvement of commercialisation with several large industries (CENTROLAC, ESKIMO, PROLACSA, PARMALAT).

The aforementioned FondeAgro study²² deals with a period (2003 – 2010) subsequent to that of PRODEGA (1990 – 2003), but allows for the drawing of some relevant and acceptably reliable conclusions with respect to what part of the dairy sector's growth, the cooperatives' economic growth and that of individual producers can be attributable to an external project such as these.

In the case of FondeAgro, in order to estimate the economic benefit of the “cold network” (refrigerated milk collection network), three measureable impacts were defined, based on the available information. Firstly, the difference between the price paid by network cooperatives on one hand, and by other buyers (cheese producers, intermediaries, private processing plants and neighbours) on the other, was estimated. To this end, information that had been recorded annually since the 2003-2004 agricultural cycle was used, which took into account the significant fluctuation in milk prices between winter and summer.²³ It was assumed that, had the network not been developed, the members would have continued to deliver milk to cheese producers and private plants and intermediaries. This calculation resulted in an estimate of “direct impact” which, when considering the price differences for the 2003-2010 time period obtained a value of USD 3,064,198.

As a secondary impact, and as a result of a price survey conducted on traditional cheese producers that operate both inside and outside the area of influence of the “cold network”, it was observed that the former paid a greater price for milk during the September 2009-May 2010 period. It was estimated that this was due to greater competition in the region, originating in part from the “cold network” cooperatives, which represent 37.5% of total volume. Applying the specific price figures to the estimated production processed by the traditional cheese producers group, located in

²² Berra, Carlos and Alejandro Galetto 2010.

²³ In Nicaragua, winter is the rainy season which normally occurs between June and November. Pastures improve with rain, which in turn significantly increases milk production. This leads to a drop in prices. This change has traditionally been so strong that it has come to be called “the milk blow”. One of the objectives of the improvement in the feeding of cattle during the summer is, in fact, to gradually eliminate the difference in productivity between both seasons and, as a result, have greater production and price stability year-round.

the region and that were surveyed (though the total amount is greater), an “indirect impact” was estimated, due to greater competition, equivalent to USD 453,780, taking only the last three years (2007 -08 to 2009-10) into account.

The third measureable impact was that of the creation of jobs, which grew to a total of 54 new jobs among the three analyzed regional cooperatives. These jobs were valued at 5,500 C\$/month, equivalent to 168,100 USD/year; when evaluating a period of only 3 years, an impact value resulting from direct jobs creation reaches the figure of USD 504,300.

In order to determine the benefit/cost rate – or impact/cost – of the “cold network” the total FondeAgro investment (investment by Swedish cooperation) in this activity was taken into account. This investment was estimated at USD 1,258,400.00, although part of it was basically producer credits that were in the process of being returned. The investment made by the producers themselves was also added, which was estimated at USD 449,600.00, basically through capital contribution for the formation of the cooperatives. The total thus reached USD 1,708,000.00, effectively paid out up until the moment of the case study. When this sum is subtracted from the total gross benefit, the result is a net benefit of USD 2,314,200.00. Here the benefit/cost relationship is 1.35, which is generally considered a favourable benefit rate.

The possible future impacts were also estimated, using a 10-year horizon and an annual discount rate of 25%, reaching an additional future value of USD 12,681,200.00 (adding all three impacts), while the estimated additional investment (to complete a cheese processing plant and a collection centre) would be USD 383,600.

In the case of PRODEGA, the available information does not allow for sufficiently reliable calculations on incomes and expenditures; for example, there is no recorded data on the development of milk prices during the period between 1989 and 2003 or on the investments that the cooperatives themselves had made during this time. It would likely be possible to obtain this type of data with a corresponding investment in time and human resources, but it is not a task that can be performed in the context of an evaluation such as this. However, as part of the field work and interviews conducted with representatives of the Boaco and Chontales cooperatives, the ET has managed to compile a rather important amount of information regarding the growth in milk volume which has been recorded since 1991 to date (Table 3). Please note that the figures presented in this Table are based entirely on verbal information recorded during the interviews at the cooperatives, and that they may present slight differences with data that could be found in accounting systems and files. The total volume of milk collected by 6 of the 7 evaluated cooperatives has increased from around 70,000 litres in 2003 to 210,000 litres in 2013, which is equivalent to a 200% increase over the ten-year period since PRODEGA’s conclusion. For the two cooperatives that facilitated data for 1991, growth was from 6,000 litres initially up to 50,000 litres in 2003, the year PRODEGA concluded, and up to 140,000 litres in 2013. All these figures clearly demonstrate the impact and sustainability of what was achieved by PRODEGA.

The cooperatives point out that they currently pay to producers an average of 10 córdobas per litre of milk (between 9.25 and 11 córdobas). This price, minus transport costs, is paid to both members and non-members alike. The milk collection thus represents a gross income of over two million córdobas per day for the area, which yields a sum of over two million US dollars per month (1 USD = 24.21 NIO in February 2013), which is clearly over USD 20,000,000 per year.

Table 3: Development of milk collection in the PRODEGA zone, 1991 – 2013

Cooperative	Milk stockpiled per day (litres)			No. of producers	Litres/day/producer
	1991	2003	2013	2013	2013
San Felipe, Boaco	--	--	22,000	253	87
San Fr. de Asís, Camoapa	4,000	30,000	40,000	--	--
Masiguito, Camoapa	2,000	20,000	100,000	>700	<143
La Unión, Cuapa	n/a	5,800	2,000	25	80
Cooperativa de Acoyapa	n/a	5,000*	43,000	>400	<108
Mayales, Juigalpa	n/a	6,400	3,200	79	41
Candelaria, Comalapa	n/a	4,000	0	85	0
Total		71,200	210,200	> 1,457	≈144

Source: Own elaboration

*Year 2000

The total Finnish investment in the project, over its 13-year lifecycle, was 93.8 million Finnish Marks, equivalent to about 16.5 million Euros, or close to 20 million dollars. Although the twenty million dollars in yearly income mentioned above refers to gross income, PRODEGA has without a doubt produced far more than its initial investment by now, and the project likely achieved this result even before its closure in 2003. Let us remember that already in 1992 PRODEGA itself had calculated that it contributed over a million and a half dollars per year to the area, only slightly less than what its annual budget was at the time.

Other important observations must be added to this attempt at demonstrating the profitability of the Finnish investment in PRODEGA. There is currently a significant demand for milk, particularly in the case of export-oriented cooperatives. Masiguito, and to a lesser degree San Francisco, have a practically limitless demand for their products. Among those factors which benefit the dairy sector is the free trade agreement (CAFTA-DR) which opened up the North American market (initially under the heading of ethnic products), as well the membership in ALBA, which has led to the exportation of UHT milk to Venezuela. On the other hand, the entire world is experiencing a food transition, mainly in Asia, as a result of which, people in general have begun to consume animal proteins instead of vegetable proteins. This transition has certain negative aspects, but for a dairy exporting country, it is an advantage in the short and medium term.

If we round up the number of producers that deliver milk to these cooperatives to 1,500, these generate income for at least 6-7,000 people. In relation to the redistributive effect of milk collection, the cooperatives endeavour to take advantage of every single drop of milk, and collect milk also from very small producers. In the case of Acoyapa, the smallest among them deliver 6-20 litres per day, and 70% of all small producers deliver less than 50 litres per day. Small producers in San Francisco and Masiguito, which

deliver between half a “*pichinga*”²⁴ to one *pichinga* per day (that is 20-40 litres), represent 70% of all producers. In San Felipe there are providers that may deliver as little as half a gallon (2 litres) of milk per day and their milk is accepted when situated directly on the collecting route.

Even the least consolidated of the cooperatives has been able to improve the quality of milk: if in 2000, 80% of milk was category C, currently, 13 years later, this has been reversed and the cooperatives are capable of producing milk of which 80% of total volume is of category A. During the last few years, dairy industries have increasingly implemented a differentiation of the prices they pay for the different qualities of milk they purchase from the producers.

On a macroeconomic level, the reduction and gradual disappearance of the import of milk powder may have had a positive impact on the balance of payments. For example, still in 1993 Nicaragua imported milk powder for the value of 30 million dollars, while the country is currently a net exporter of dairy products.

If the necessary data to perform a complete impact/cost analysis of PRODEGA had been available, it is possible that the analysis would have yielded even more favourable results than the one carried on about FondeAgro. The conditions at the starting point of PRODEGA were even more precarious than in the case of FondeAgro: upon the launch of PRODEGA (a decade prior to FondeAgro), there were many small producers that could not sell their milk, even to traditional cheese makers, but rather ended up throwing away the quantities which were not consumed by their families (in these cases, milk was an almost worthless sub-product). In general it is easier to achieve strong economic growth when starting from a lower level than it is from a higher level; Table 3 again shows how the Masiguito Cooperative, for example, had a 900% increase in its milk collection between 1991 and 2003. The sole source of this increase is originally the PRODEGA project, given that in 1990 the area had no formal milk collection system.

²⁴ Pichinga; name used in Nicaragua for the 40 liter metallic container (canister) used to transport milk

5. Environmental impact

5.1 Advance of the agricultural frontier

The colonisation processes on the agricultural frontiers of Latin America have been extensively described in the research literature through studies in several countries in the region. A study of the Nicaraguan case²⁵ reveals that the social mechanisms in this process are no different from those described for other countries. The penetration of settlers in uncultivated or indigenous territory occurs through access created by logging or mining activities, and in most cases, these settlers are families of significantly scarce resources. Their motives are generally the desire to have land, and their only means of production is their own labour. In their wake, there usually arrives a second wave of settlers with a little capital, who purchase the “improvements” which consist of the conversion of woods into agricultural lands, but above all into pastures for cattle-grazing activities. The original colonists usually do not possess the capital to become cattle ranchers, and have no other option but to sell their lands and repeat the process further inland, thus moving the agricultural frontier with them. This agricultural and pastureland colonization process is not simply a human settlement process, but also a process of natural resource degradation (woods, soil and water), and of land concentration in the hands of the relatively more fortunate, and a process of permanent expulsion of the poorest to more distant and inhospitable territories. Some cases in which the spearhead of the expansion is used by illegal trafficking of precious wood, in order to achieve logging free of charge, have been observed.

The issue of the progression of the agricultural frontier was described by the Finnish team in their basic study from 1998 in the same manner as the process in the Mining Triangle (Siuna) was by the research of Soto Joya in 2011 – with one difference however. Concerning the Boaco area, migration did not enter into the picture, but deforestation was described as part of a process in which farmers that possess wooded lands leave parcels to be deforested to poor families that have no land of their own, or whose land is insufficient to survive on. Once the parcel is no longer fertile, it becomes pasture for cattle and the settler peasant deforests another parcel. Another Nicaraguan investigator describes this process quite graphically in the following quote:

“Let us take a look at the following dynamic, which is quite common on the agricultural frontier: a poor peasant from Yaoya-Siuna sells his small plot of land in the hope of getting more area –with its “montaña” included – and thus achieve his dream of becoming a farmer one day. Small cattle-breeder from Mulukukú, who needs more land area to expand his cattle, sells his land and buys a larger area around Yaoya, in order to achieve his dream of expanding his cattle herd. A medium-large cattle-breeder looks for another farm to use it as pasture for his cattle during the dry season, and makes some of his settlers into workers, while the rest of his settlers advance along the agricultural frontier in search of a new employer.” (Mendoza 2004)

²⁵ Soto Joya, Fernanda. *Ventanas en la Memoria: Recuerdos de la Revolución en la Frontera Agrícola*. UCA Publicaciones 2011

This process had begun on a large scale in the 1950s, 60s and 70s when the promotion of the expansion of the agricultural frontier began as State policy. However, if we give credit to research literature, the “colonising narrative” may have had its background already in the XIX century with the first modernising push and the “conquest” of the lands in the East of the country (Soto Joya 2011). The development model being promoted was that of the logging and expansion of areas for agricultural and cattle-grazing purposes, as well as for the exploitation of forests. The State “popularised a colonising narrative which crowned the work of those who migrated. According to this speech, ‘brave’ and ‘hardworking’ migrants are the legitimate and true citizens of the Nation, as they are the ones who civilise the lands...” (Soto Joya 2011, 31). Natural forests were called uncultivated forests. The modernising push meant the massive deforestation of lands, particularly in the 1950s. In order to show that one was the owner of a plot of land, it had to be completely deforested, and even in the early 1990s, a piece of land could not be used as collateral for a bank loan if it still contained trees. Even today it is still common to hear people speak of “improvements” in relation to deforestation; it was through the investment in work and capital in (and on) the land that an individual demonstrated that he owned it. This ideology can be seen as an extreme variant of the old Latin American, anti-landowner revolutionary motto, “The land belongs to who works it”, which was quite popular in the 1960s and 1970s. It is a way of thinking, an attitude deeply rooted in the Nicaraguan mentality, which has only begun to change in the last 20 years.

The region of Boaco and Camoapa had already seen the culmination of the typical agricultural frontier process in the 1980s. However, it is likely that the entire concentration process had not yet occurred, given that the decade of war meant rather an impoverishment of the population in general and a set-back or halt in these processes²⁶. There is no reliable data by socio-economic sector of the local population from that time. It is known based on files from the MFA that the WFP performed a study on the socio-economic situation of the population in Boaco and Camoapa in 1991, but the ET has not had access to this document. There is no reliable data on the landowning structure and other agricultural information that allow for a comparison of the size of farms and herds on the departmental or municipal levels at the time of PRODEGA’s implementation either, given that Agricultural Census were conducted only in 1963 and in 2001, that is to say, with an interval of almost 40 years.²⁷ The reference year 1963 is not useable for the purpose of this evaluation, as there were too many changes during the 1970s and 80s to contrast with the situation during the launch and conclusion of the project.

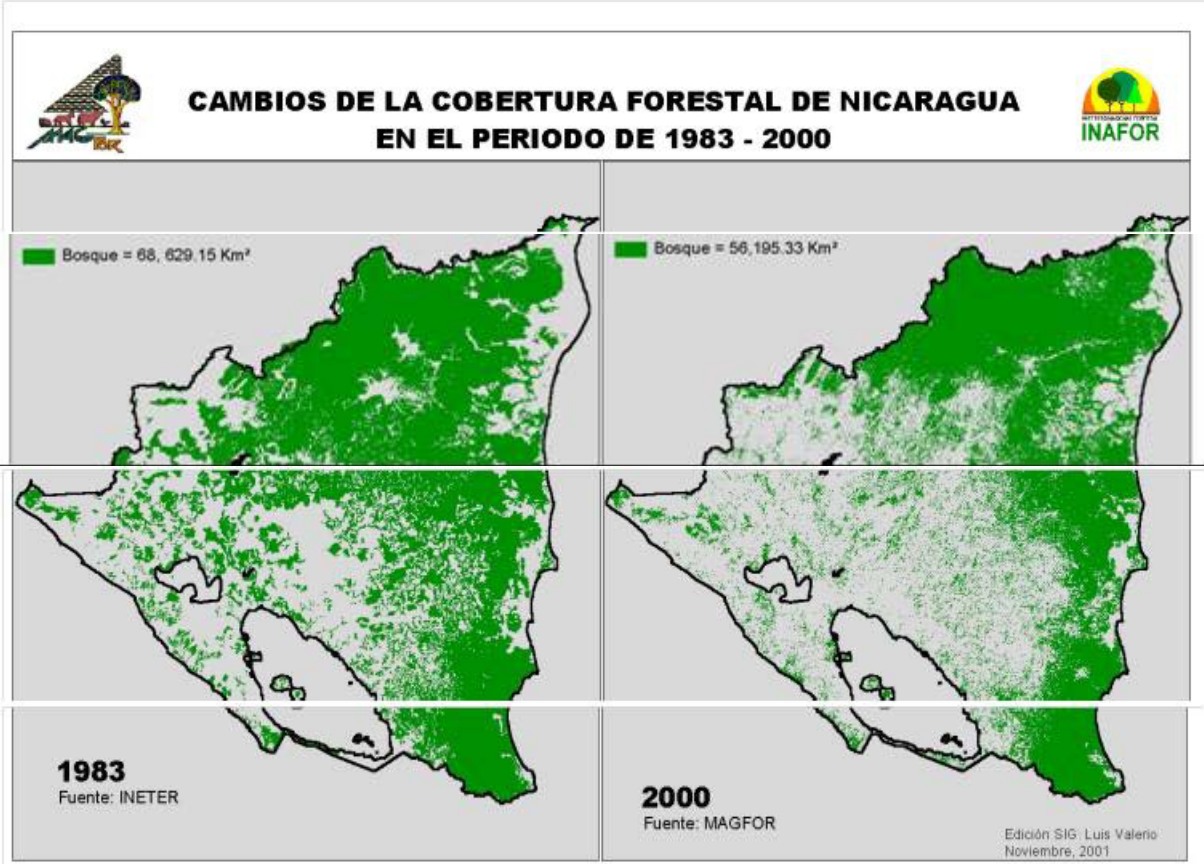
However, if the disappearance of the Sandinista agricultural cooperatives from the project activity zone, and their division into smallholdings is taken into account – and/or the emigration of their members – it would not be too risky to state that the process of concentration of property had not reached its peak in Boaco and Camoapa in 1990 when PRODEGA was launched. Another element that had to do with the access to land was that after the war, a process of delivery of land both to ex-resistance groups and those demobilised by the army as a result of its cutbacks, was carried out, thus creating more smallholdings.

²⁶ Ligia Gómez and Helle Munk Ravnborg: *Investment in milking: a drop that does not expand. Territorial dynamics in the Santo Tomás, Chontales, Nicaragua milking area* Rimisp, Work document N° 73.

²⁷ An agricultural census was performed in 1971, but the forms, data bases and all the census information was lost during the 1972 earthquake

Population growth in the zone is another important factor to mention. With the post-conflict stabilising-reactivation and support for production activity, the end of the war, the construction of roads in mountainous areas, a greater number of conditions existed for the expansion and development of towns. Despite the vast emigration from Nicaragua to Costa Rica in the early 1990s due to unemployment, with the improvement of cattle-grazing the population grew threefold in relation to the beginning of the project.

The advance of the agricultural frontier between 1983 and 2000 means the loss of forest cover, as shown in the maps of the period's beginning and end: almost 12,500 square kilometres of forests (approximately 10% of the national territory) disappeared in just 17 years, which represents a deforestation index of 73,140 hectares per year. This change in land use is made in favour of basic grains production (maize, rice and beans), natural grass pastures and the cultivation of grazing lands for cattle. The impact of this deforestation on climate is estimated at a net median of 2 degrees Celsius.



5.2 PRODEGA environmental activities

The environmental issue formed part of PRODEGA, in one way or another, since the very beginning. The environmental issue is mentioned in the base study of 1988 and its TOR. Aside from a few problems in relation to domestic access to water, the large problem

that was identified was deforestation and its consequences: the negative impact on water flows and soil erosion. Two causes were pointed out: the logging process for the planting of basic grains by the poor, and the subsequent integration of "cleansed" land plots as pastures, and for firewood. During the first phase, the logical solution was to reforest! New community nurseries of trees were created and the planting of saplings was encouraged. The other activity in the Promotion of Women component was the installation of improved kitchens (stoves made of mud and sand) in order to save firewood when cooking. On the farm level, the effort began to reduce the burning of pastures and bushes, which was a habitual practice during dry season, which naturally destroyed plant seedlings as well along with the bush. The feeding of cattle component, above all, had activities that related directly to the environment (the planting of pastures and grazing lands, ensilage, etc.) in the form of intensifying cattle-grazing aimed at reducing deforestation, but at the same time increasing cows' milk production through better feed.

During this first phase, the project's achievements included the planting of over 350 km of hedges, and over one million seedlings grown in nurseries.

During the second phase there is a visible environmental concern integrated in the project approach, and the environment is considered in the project in a more cross-cutting manner, both at the farm level and in the project areas in general. It is conceptualised in terms of environmental protection and conservation of natural resources, and this was the largest of the project components, representing 12% of the budget earmarked for activities (excluding salaries). Environmental educational radio spots were broadcast. The establishment of hedgerows and the introduction of shade trees for coffee in the coffee growing area of the Boaco municipality were encouraged. The concept of shaded pastures for cattle was introduced with the planting of shade trees, and water sources were protected against contamination by manure. One of the tasks during the second phase was the transfer of the Boaco garbage dump away from the banks of the river. During the midterm evaluation of the second phase in 1996, an overload of work for the environmental specialist is observed, as he was not able to cover the total demand related to this topic, from soil protection to the relocating of a municipal garbage dump. Subsequently, greater weight is lent to the issue through the contracting of separate specialists for these matters. At this stage in Boaco and Camoapa, seasonal migration had practically disappeared, which automatically indicates an intensifying of cattle-grazing techniques.

The second phase managed to achieve the protection of 275 MZ for natural regeneration, 1.3 million of plants produced in cooperative nurseries, and the creation of 455 km of hedgerow. During the bridging phase between the second and third phases, environment continued to represent 23% of the project's total budget (from the Finnish contribution), and was the largest of the 12 components. During this bridging phase, high quality didactic kits relating to environmental matters were created, and schoolteachers were trained on these matters. The thematic evaluation on environment in the Finnish development cooperation of 1999 points out that the reforestation activities did not benefit the poorest because that the beneficiaries were selected by the cooperatives, and it was usually the most competent or well-connected who were selected. However, the evaluation concludes that the poorest benefited most of all from the improvement of kitchens and the construction of latrines. On the other hand, the evaluation highlighted that the mechanism for making formal agreements, with clearly

established obligations and rights of the cooperatives, in terms of reforestation, were excellent and could serve as a model for other projects.

During the third phase, a decline in the efforts relating to environmental matters is perceived. The project is visibly focusing on the consolidation of what has been achieved in the organisation and management of the cooperatives in Boaco and Camoapa, and the strengthening of the Chontales cooperatives; the environment falls to a secondary level of priority, and in fact disappears from the list of project components (for being a cross-cutting issue). In the Chontales area where PRODEGA expands, no further nurseries are created but seeds are distributed to cooperative members with the idea that they establish their 2 manzanas (1.4 hectares) of forest plantation, fodder plants and fruit trees.

Although the dryer climate cannot be excluded as a cause for the relatively lower level of intensification and environmental protection in the Chontales Department, compared to the Boaco Department, the short duration of PRODEGA in Chontales is likely another cause. In any event, the expansion and depth of the intensification of cattle-grazing in Chontales did not reach the same levels as in Boaco, and all the project cooperatives in Chontales continue to practice seasonal migration.

5.3 Assessment of PRODEGA's impact on environment

In this section, we attempt to make an assessment of PRODEGA's environmental impact, contrasting the project's achievements with what it did not do, or did not achieve. In an evaluation of this kind, impact cannot be quantified, but the mechanisms that have had a positive and/or negative impact on environmental and natural resources conservation can be pointed out.

On the level of individual farms, the project applied an important range of environmental conservation measures, as has been mentioned in the previous chapter. Transhumance and the burning of pastures have practically disappeared in the Boaco Department, and the landscape has changed compared to 20 years ago, as indicated by several observers. Now the farms have trees, hedgerows, shade trees for cattle, a favourable comparison to lands "cleansed" of all wooded vegetation of a couple of decades ago. This change was achieved by appealing to modernity: the message the project disseminated was that modern men²⁸ use modern techniques, and that these are good for the environment. This idea, in the form of a change in mentality, has taken strength in the population, perhaps not to 100%, but up to a significant manner which is visible in the landscape. Of course, PRODEGA is not the only stakeholder in this sense; as of the 1990s, there is an increase in environmental awareness worldwide. Locally however, in the Boaco and Camoapa municipalities, PRODEGA has been the main, if not the only, factor that has caused a visible difference, even among farmers that are currently not members of the cooperatives: this impact has acquired a life of its own outside of the consideration of organisational sustainability of the cooperatives.

²⁸ The word "man" is used here in the first sense of the term, for the male sex. The aspect of gender in this case is analyzed in a following section.

On the national level, there might be an indirect impact related to the fact that PRODEGA was a Finnish project. In some interviews, it has been observed that high-level politicians involved with the project's implementation began to question the "coloniser narrative" and the typical Nicaraguan eagerness to "cleanse" agricultural land of all forest vegetation to show that it was used, precisely thanks to the Finnish historical experience. Finland is a country that has built its wealth almost entirely on timber: the primary accumulation of capital, a precondition for industrialisation, occurred through the use of forests²⁹ – in a country where a tree can take up to 150 years to reach harvest size, while in Nicaragua this takes between 15 and 20 years! This contrast helped change the mentality, in a context that was favourable to environmental considerations worldwide.

To the contrary, the project does not appear to have invested much time or effort in improving the environmental impact of milk processing plants, which produce cheese. Concurrently to the third and final phase of PRODEGA, another Finnish project was begun executed, PANIF (Environmental Programme Nicaragua-Finland), which did in fact facilitate a sewage treatment system (grey waters and whey) to the Camoapa cooperatives that process milk into cheese. However, the treatment system ceased to function after a few months and has not been repaired. Cooperatives that only collect milk were not taken care of; for those cooperatives, the contamination problem is of lesser consequence (water with dairy residues from the washing of milk collection tanks and involuntary milk spills) but it is sufficiently important to justify treatment measures.

Alternatively, an additional advantage in the collection and industrial processing of milk has been that previously the artisanal cheese producers salted milk up to 7% (of salt content) to increase the volume of cheese produced, which yielded the whey non-useable, which in turn had to be disposed of by dumping it on land; this was a serious environmental problem in the 1980s, as reported in some documents in the archives. The salted whey of the cheese producing cooperatives in Camoapa (though it contains less salt than before) has less usefulness and demand than sweet whey, which is used in the feeding of pigs and cows, although in small volumes. The cooperatives are not too concerned with this matter.

The third level of analysis of PRODEGA's environmental impact is the macro level, that is, the project in the context of the progression of the agricultural frontier. It is clear that in this aspect, PRODEGA has not taken into account the advance of the agricultural frontier as a social process, but rather addressed the matter of deforestation simply as an ecological issue, and acted accordingly. The core problem, that is, the advance of the agricultural frontier as a consequence of poverty, could not be attacked through this approach. In the base study of 1988, deforestation was connected conceptually as an effect of the landowning structure (farms that were too small to offer their owners a decent subsistence); in subsequent phases, however, this observation did not influence the project design. For example, the change of approach of model farms to a system of reference farms was justified with social justice arguments, but without any connection to the larger process that is the agricultural frontier. Even more serious perhaps is that the environmental thematic evaluation of the entire Finnish cooperation in 1999, in its analysis of Nicaragua did not consider the larger process, and instead observed the

²⁹ Thanks to the landowning system, where practically all agricultural units possess both crop fields as well as forests, this primary accumulation had a strong multiplying effect and benefitted the rural population in its entirety, and part of the urban population which owned the forests.

project only in terms fixed by the logical framework and its objectives, of which the reduction of emigration to the agricultural frontier in order to reduce deforestation, was not a part.

On the other hand, precisely because the expansion of the agricultural frontier is a social process caused by poverty, which has an ecological impact, an increase in the standard of living and income can curb the advance of the “spearhead” of deforestation, given that it allows for the increase of productivity per hectare. In the words of a Nicaraguan academic:

“The exclusion of mestizo-peasant families and indigenous populations from the market, an exclusion that on the agricultural frontier affects everybody, represents a colossal contradiction in this day and age in which the market is proclaimed as the total solution on a daily basis. This exclusion does not conserve the forest. The reality is that by having less access to the market – and the lower the value of the peasant or indigenous product-, there will be greater pressure to destroy the forest.”
(Mendoza 2004)

And if PRODEGA accomplished anything, it was to offer a market for a product (milk), although it did so without considering the agricultural frontier – market access relationship.

Thus, in terms of the environmental assessment of the project, we face a contradictory situation. On the one hand PRODEGA was not able to conceptualise and later operationalise its role in the advance of the agricultural frontier, remaining largely blind to the macro process, although it did a great job in environmental protection and natural resource conservation on the local level. On the other hand, and particularly at this stage of time with a dairy sector boom of 10 years following the conclusion of the project, the results of the project contribute to income to approximately 1,500 families, which are direct beneficiaries of the cooperatives created by PRODEGA, which tends to “fix” the population in its place and reduce migration towards the agricultural frontier.

Unfortunately, the evaluation cannot quantify this process of agricultural frontier expansion for the Boaco and Camoapa municipalities, since it has not found any information regarding the fate, for example, of the Sandinista cooperatives and of their members at the moment of dissolution. Only a phrase, which referred to the cooperatives’ division into smallholdings, was found in a document; it is as if the CAS and their members disappeared from the project’s radar. However, a study on migrations in Nicaragua, conducted in 2008 by UNFPA (United Nations Fund for Population Affairs, 2009) indicates that Boaco and Chontales were the two Nicaraguan Departments with the most negative migratory balance, particularly between 1990 and 1995, but also between 2000 and 2005. The evaluation is not in condition to establish a cause-effect connection between the project and emigration, but one cannot exclude the possibility that the project focused, in practice, on medium and medium-large cattle ranchers, an approach which may have incentivised emigration from the zone. However, according to the same study, as a Department, Boaco has “sent” emigrants mostly to Managua – not to the agricultural frontier. This migration has occurred despite the 4,000 jobs directly created in farms and cooperatives thanks to the project’s activities (according to calculations from the project itself in 1996).

That said, there is yet another “on the other hand”...During visits to the Camoapa cooperatives it was confirmed that a large part (we do not know what percentage) of the members of the more successful cooperatives have bought second or third cattle farms

in the Department of Matagalpa, placing their relatives there as custodians. Though the evaluation cannot quantify the spread of the phenomenon, it can confirm however that PRODEGA, in spite of its efforts in favour of the environment, has participated in the expansion of the agricultural frontier and the deforestation this implies. What is not known is what would have happened in this aspect without the project.

The issue of the impact of a livestock project on the progression of the agricultural frontier would deserve a more in-depth study, for instance, by means of a doctoral thesis that would allow for an exhaustive gathering of all data that this evaluation has not been able to obtain.

6. Cross-cutting Objectives: Gender Equality

As acknowledged in the Terms of Reference of this evaluation, when the first phase of PRODEGA was designed in late 1980s, the concept of cross-cutting issues or objectives was not addressed so explicitly, nor with the same insistence than it currently is. However, the TOR of this evaluation set forth that it would be interesting to evaluate the cross-cutting issues using the criteria and standards of today's cooperation. They proceeded to list all the known cross-cutting issues and also pointed out that special emphasis should be given to all: gender, social equality, human rights, marginalized groups, good governance and environment. In regards to the topic of the environment, vulnerability and impact, climate change and risks of disaster are included. The only cross-cutting objective excluded from the list is that of HIV/AIDS.

In the case of PRODEGA, environmental issues cannot be considered as sole cross-cutting, but rather as consubstantial issues to all other productive topics of the project. As such, the environmental aspects are treated as a core issue in this report. The same thing happens with issues such as social equality and marginalised groups; the relative attention given by the project to small and large producers, respectively, is discussed. The issue of governance is the object of analysis in terms of the development of the management of cooperatives. The only cross-cutting issue this evaluation does not address as such is that of human rights, due to its distance from the project's core matters – and because it was considered necessary to prioritise other themes in the use of time of the ET.

What remains is the issue of gender, in respect to which several different opinions can be had as regards to its being a central theme or its being a cross-cutting issue; the latter is chosen here. The TOR of the evaluation confirm that in various prior evaluations or revisions, it is confirmed that PRODEGA never had a major impact on the aspect of gender, and they ask: Why is that? Why was there no progress?

First, these conclusions may prove to be somewhat premature and they must be clarified a bit: for example, the cooperatives have female cattle ranchers as members and in many cases, they are also found on boards of directors, particularly in the Boaco Department. The absence of women among its members and directive board is particularly noticeable in the Acoyapa cooperative, which unites the largest cattle ranchers. Prior to the project, it was almost unthinkable that a woman could access the decision making level in an activity branch as markedly masculine as is livestock. In broad terms however, while it is true that PRODEGA has not revolutionised gender roles, it has been able to alleviate the concrete situation on an everyday basis for poor women through access to water sources and latrines, rearing of livestock and growing of vegetables and herbs. There are also indications that the micro credit fund for poor women may have benefitted between 200 and 400 women, although no documentation on this has been found.

The first reason for this limited progress could very well be the project's sector itself, cattle-grazing. In anthropological terms, cattle-grazing societies with transhumance are among the most male dominated cultures, where there is great distance between the men's space, on horseback, spending a great deal of time away from home (the "cowboy" culture), and the private space of women in the homes and gardens. The situation in terms of gender roles (and of women) upon the launch of the project was very difficult for any activity in the "Promotion of Women" component. The very idea of carrying out activities with women was the object of disdain and constant ridicule from beneficiaries

and the advisors of other components. A case is known where men who benefitted from the project went as far as sabotaging this work: they burned the Santa Elisa women's medicinal plant garden after it was visited by a Ministerial Delegation from Managua³⁰. It is also known that the gender system of a society that so intimately defines what it means to be a man or a woman is perhaps the most difficult to change for any project. Neither generational differences, nor social stratification, racism or other attitudes and behaviours, present the same degree of rigidity that gender roles do. One can "whiten" one's face and smooth things over with money, one goes generationally from childhood to old age through the course of one's life, and there can be upward social mobility related to enrichment, etc. But few are those who change gender. – In the interview of a former project expert it was even suggested that gender roles negatively impacted the other project results, particularly harming the intensification efforts of cattle ranching because men imagined that they would no longer be able to continue with their free lives out in the open field, but would end up spending all their time at home or its immediate surroundings ("under the aprons of women").

The second reason, without a doubt, resides in how the project addressed this aspect. During the first phase, this tendency was already noticed – which later deepened – of implicitly identifying women with poverty. The female groups of the Promotion of Women component were the poorest in the area and had little or nothing to do with the rest of the components; the desire to benefit the poorest was one of the reasons for the geographical expansion of the project to dry, non-cattle ranching areas. The "Women in Development" approach is observed here, in that a project attempts to respond to the practical and immediate needs of women, and not to the strategic interests of the female gender. Following the disappearance of the Sandinista cooperatives from the project's radar during the early 1990s, it was women who personified poverty, and the reduction of extreme poverty as the project's objective.

The second phase introduced an element of the Gender and Development (GAD) approach, which attempted to break traditional roles and introduce non-habitual roles for women. An effort was made to force cooperatives to elect women for boards of directors and to accept them as members, and credit for the purchase of livestock for women was encouraged. This field of activities, which attempted to structurally break what was socially allowed for women, has indeed yielded results –apparently sustainable- as currently, female cattle-breeders represent between 10 and 30% of the farms according to cooperatives; this information comes from interviews at the cooperatives. What was not done –at least no reference of it has been found in the documentation – was to facilitate access for women to their own cattle brands³¹; the true status of a rancher is acquired through the registration of an iron with a brand at the municipality. There are no indications that the project would have worked to encourage access to land ownership by women either³².

During the first half of 1993, a gender diagnostic was performed, at the end of which the wives of cattle-breeders that lived on the farm were integrated as beneficiaries of the gender component. The reason for this was the need to make the wives clearly visible, because according to the diagnostic, the *"patriarchal attitude of a cattle-grazing society,*

³⁰ This burning was mentioned in the Strategy of Gender Mainstreaming of 1993, and in the interview of an individual that participated in the same visit.

³¹ Fierro: hot brand burned on cattle to indicate the owner.

³² According to the FIDEG study of 2007, based on the National Household Survey of 2005, of the 218,735 farms registered in Nicaragua this year, only 23,360 were owned by women.

conservative and traditional, where women are property of men just like a pair of oxen; where a cow's calving labour is more important than a wife giving birth; where women carry out invisible work: domestic, reproductive and productive labour for 14-15 hours a day", reigned. This diagnostic, considered quite controversial at the time, set out the rules for geographical expansion to the Santa Lucía, Teustepe and San Lorenzo municipalities, which were not a cattle-grazing area, so that PRODEGA could benefit the poorest women with the possibility of generating an income. It has not been confirmed if this involvement by the wives at the cooperatives improved their situation as was described in the aforementioned quote, or if rather – as was suggested in certain interviews – it benefited the concentration of power in the cooperatives following the integration of well-to-do men's wives in the work of the cooperatives.

In any case, the diagnostic demonstrated that "promiscuity" on the ranch (in the sense of a lack of hygiene due to the intimate coexistence within the domestic space between humans and animals) negatively influenced the health of the family and the livestock through contagious diseases. It observed that the income produced by women with their livestock and vegetables, served as an investment for cattle-grazing through the purchasing of medicines and other inputs, which in turn served to alleviate prejudice against the female component. The diagnostic also confirmed that women in general considered that livestock was the business of men and that that is how it should be...

During the third phase, a gender diagnostic was also performed, with the formulation of a strategy. The diagnostic partly explained the little success had by the Santa Lucía and San Lorenzo cooperatives in terms of being cooperatives (that is, not as individuals belonging to them). During the consolidation of these cooperatives, whose members were very poor women for the most part, the obstacle was the low level of empowerment of the women, who had not acquired a sufficient level of emancipation yet, in order to see themselves as agents of change and as capable of "standing on their own" as cooperatives.

Thus it can be concluded that the work with women of PRODEGA was largely in charge of the reduction of (immediate) poverty within the project, while the other components were geared towards productivity and commercialisation. As was confirmed in the introduction of this report, the development work carried out with the poorest of the poor is not always sustainable, but rather it tends to remain on the level of poverty-alleviating assistance. This has been the case with PRODEGA, particularly when it comes to matters of underlying philosophical change of the female component (first WID and then GAD). There simply was no time to consolidate the empowerment of women at the agricultural cooperatives in favour of a commercial approach, because these cooperatives were created only during the second phase and abandoned during the third. The notable exception is the work done to break barriers against the participation of women in the cooperatives and their boards of directors. Even though progress can be seen as numerically small (10-20% of the members of boards of directors are women except in certain cases), it is qualitatively significant, unthinkable some decades ago, and apparently sustainable in time.

7. Special Aspects of PRODEGA

7.1 *Different impact in different contexts*

In terms of the consolidation of the cooperatives' organisational processes, a noticeable difference between the Boaco and Camoapa is observed, the latter being much more successful. This raises the question of why PRODEGA, as a single project, had such success in one place and not in others. Based on the information collected during the evaluation, several hypotheses can be formulated to explain this phenomenon.

PRODEGA was originally designed to support the CDC, Sandinista development poles which numbered 4 in the Boaco municipality and 2 in Camoapa (La Calamidad and La Embajada); at that time, Rancho Rojo (subsequently under the name San Francisco de Asís) did not form part of the group. A difference between the two municipalities is that Boaco was, and is, smaller in terms of surface. This meant that distances between the cooperatives were shorter in Boaco, and they were slightly better connected by roads than in Camoapa. Another factor of a geographical nature was that Boaco, as a city, was much larger than the small town of Camoapa (which now in 2013 seems more like a city from the Californian gold rush of the 1850s). In Boaco, the *manteros* (makers of artisanal cheese) were numerous and traditional. These factors coincided in the result that, due to purely casual or fortuitous reasons, achieving the loyalty of cooperative members in Boaco was more difficult: there were more alternatives for commercialisation for these cooperatives than there were for those in Camoapa. Another factor, social in this case, is that all the original cooperatives from Boaco were CAS, that is, Sandinista agricultural cooperatives that began to fall apart soon after the change in government of 1990. To summarise, the multiplication of cooperatives that could have been a good strategy in terms of the absence of conditions for roads, and political or ideological motives, was actually not very sustainable when connectivity through roads was improved and the government's ideological support disappeared.

Another factor mentioned by the majority of those interviewed was what could be called social capital or the lack thereof. While in Camoapa both the Sandinistas of the UNAG (later grouped in San Francisco de Asís) and the others (of a rather more "contra" tendency – FAGANIC) soon understood the advantages of service cooperatives to face the challenges of production through joint action. Several social differences, mistrust, and the desire (or the subjective need) to maintain social distances, manifested themselves in the Boaco cooperatives. Boaco is a very stratified society and that made cooperation between cooperatives difficult, while PRODEGA made an effort to unite the cooperatives into a Departmental union, or join the non-viable cooperatives to form a larger, more feasible one. On several occasions, the interviewees mentioned that in Boaco, the boards of directors of the cooperatives treated their members as underlings, not as equals. Only San Felipe, which has attracted some members from the San Buenaventura and Santiago cooperatives, has avoided this tendency, and only recently when it was rescued from collapsing through the fraternal technical assistance of Masiguito.

In Camoapa however, San Francisco, Masiguito and La Embajada not only consolidated the cooperatives early on and efficiently, but they also formed a legal alliance in 1995, and Masiguito merged with La Embajada, assuming its routes and members when the

later, the farthest away and most isolated of all, showed signs of weakening. There was no lack of individuals who attributed this Camoapa capability to cooperate (in every sense) to prior training in the principles of the cooperative movement in Sweden during the 1980s, within the context of the “peasant shops” project.

The Camoapa cooperatives also understood early on the need for having a professional staff specialised in the processing of milk, management, administration and commercialisation that are matters in which a regular member of the directive board may not necessarily be an expert in. In Boaco, according to interviews, directors gladly functioned as managers and, faced with this situation, the project funded managers in cooperatives even during the third phase. The fact that PRODEGA did not know how to “wean” these cooperatives was considered a mistake by some interviewees. On the other hand, it is always difficult for a project to let go of something it has invested so much effort (and money) into. Additionally, nothing would have guaranteed that the cooperatives would suddenly learn to stand on their own feet without project support.

To summarise, the key to commercial and economic success was social capital defined as the capacity to work together, in trust and with transparency, that made the cooperatives function effectively, which in turn aided in securing the members’ loyalty to the cooperative. Social capital and social trust are among the most difficult things to create for a development intervention, and rarely is it accomplished in the total prior absence of these elements.

It is worth adding that only the Boaco cooperatives have been mentioned in this section, not farms or individual cattle-breeders, many of which continue to remain strong after PRODEGA’s conclusion, and commercialise their milk through other channels.

7.2 Challenges remaining in the dairy sector

Despite the positive impact of PRODEGA and other external cooperation projects, various bottlenecks and challenges remain for the dairy sector’s value chains. It seems important to analyse this as part of the current ex post evaluation, considering the important impact of PRODEGA in the dairy sector on a national level, and the importance of said dairy sector on the national economy and for the income and wellbeing of a large rural population, including poor segments of the population.

The first link in the cattle chain is characterized for having a double purpose (beef and milk), which reduces the risk for the producer, but means that milk productivity per cow is low, compared to other countries, and it needs to be increased. The quality of the milk is another important dilemma for the chain. Quality problems due to the lack of hygiene and innocuousness during the milking stage still exist. It is a problem mentioned by both private companies and cooperatives. Another delicate issue is that extensive production entails environmental costs due to the advance of the agricultural frontier.

Concerning the second link, a significant lack of milk collection capacity is noted. According to CANISLAC estimates, the refrigerated collection system manages to collect 40% of potential milk production. The limitations are the lack of access ways, electric energy and collection centres. However, socio-economic and territorial development analyses must be performed here in order to avoid the expansion of cattle-grazing to any area people desire, with the following environmental factors that from a certain point

cause the society costs that are higher than the additional benefits produced by the expansion of this economic activity (see also Recommendations).

In a CEPAL study on dairy agro-industrial value chains from 2010, the conclusion was that “cooperatives are another important stakeholder given that they collect milk from rural producers; however, they have not generated investment structures in technology to process it and stop being producers of inputs for multinational companies.”³³ This conclusion is not valid for all surviving cooperatives supported by PRODEGA, but it does reflect the situation in several cases. All the visited cooperatives that still do not process milk into cheese, dream of becoming producers of pasteurised cheese, which would open to them the possibility of exporting, the majority of them, however, do not have the resources to acquire the necessary equipment. The only one with the funds to invest in technology is the Masiguito cooperative; this cooperative is now going through formalities to install a livestock feed processing plant with the object of increasing milk productivity per cow.

The variation in the price of milk during the year, as well as the tendency for disloyal behaviour by producers and intermediate buyers of milk entails ruptures in relationships and commitments, which affects the competitiveness of the chain itself.

The processing capacity also needs to increase in order to improve the chain’s productivity. More formal processing capacity is required, which complies with the processing and final product quality norms. There is a demand in countries such as the U.S. and Mexico for white cheese, which currently cannot enter these countries due to limitations in processing and certification. The quality of milk also needs to improve in order to increase exports.

An additional factor that currently affects the largest of the cooperatives, that of Masiguito, is the new Nicaraguan tax law, which came into effect in January of 2013. Within the law, the fiscal treatment given to cooperatives whose annual gross income is over 40 million córdobas, is exactly equal to the treatment given to companies. In this law, the status of a service cooperative disappears. During the evaluation, the cooperative had not yet made a decision regarding the strategy to be assumed, and the critique presented by the members of the Directive Board was aimed, above all, against the fact that this change was so sudden; it left no time for adjustments.

³³ CEPAL data quoted in Zúñiga G., The Development of Agro-industrial Value Chains in Nicaragua, El Salvador and Costa Rica, the case of the dairy agro-industry, 2010.

8. Conclusions

8.1 Relevance and design

PRODEGA was, and continued to be until the end, eminently relevant both for Finnish development policy and Nicaraguan public policies. It is of special importance to note that the project underwent four Nicaraguan governments and a radical change in terms of the political paradigm without falling apart, and that, on the contrary, it was able to advance effectively over 13 years, adapting to changing conditions.

The design of the first phase of the project was composed of several solid works: i) during October-November of 1987, a study of the dairy sector performed by a delegation from the Finnish Ministry of Agriculture and Forestry; ii) in early 1988, a base study for a future cattle-grazing project in the Boaco and Chontales Departments, conducted by a delegation from the Finnish Ministry for Foreign Affairs, which was composed of 5 persons, including the chief of mission of the future Finnish Embassy in Managua; iii) in February of 1989, the elaboration of the first project document for FINNIDA, by personnel from the Ministry of Rural Development and Agricultural Reform (MIDINRA) in Region V, with the support of four consultants.

The following two phases or projects were designed with due attention to accumulated experiences during the precedent phases, and to the conclusions of various evaluations. Despite the fact that Finnish legislation did not allow the approval of funding for cooperation projects for periods over 4 years, the three PRODEGA phases were executed with a high degree of continuity.

8.2 Implementation; continuity, feedback and adaptation

The thematic emphasis in the implementation of this series of projects PIDR-PRODEGA, with its three phases and a bridging phase, has varied considerably throughout the years.

The first phase (PIDR) had a clear emphasis on the livestock/dairy issue. During the second phase, the menu of activities was strongly expanded, leading to a project with 16 components. During the third and final phase, the main focus was once again directed towards the dairy sector. This pendulum type movement could have been interpreted as a consequence of a lack of direction or a clear strategy; however, this evaluation team interprets it, without a doubt, as a consequence of sensible and opportune reactions to observations made and lessons learned over time, as well as of the changes in the political and economic environments.

The focus of the project on the dairy sector is, of course, one of the reasons why this final evaluation deals with this component to a high degree. Another reason for this special attention to the dairy sector is that it is there where impact and sustainability can be observed. The agricultural cooperatives have ceased to exist, while a good deal of the dairy cooperatives have survived, are visible, and continue to advance effectively in different directions.

Another issue that has also absorbed a great deal of this evaluation's efforts is the attention to the environmental aspect in the implementation of the project. Environmental sustainability is an essential condition for cattle-grazing in tropical areas,

and PRODEGA worked a great deal with reforestation and related technologies (shaded pasture cattle-grazing).

8.3 Efficiency and effectiveness

The absence of documentation or other forms of institutional memory makes it impossible to measure PRODEGA's efficiency with any kind of objective foundation, understanding "efficiency" as the degree in which a project converts inputs into products or results in a timely manner and at a reasonable cost. However, there are other forms of efficiency, though less tangible; one of them is the manner in which a project dialogues, interacts and understands itself with its supposed beneficiaries and other interested parties. In this sense, PRODEGA was efficient. An aspect of this is addressed in section 8.4.

Up to the point where it is possible to issue some type of judgment on it, 10-20 years after the facts, the project was carried out with a good degree of effectiveness, having satisfactorily fulfilled its different immediate objectives and goals, as they varied over time, between the different phases.

8.4 Political changes

Faced with political changes, flexibility is required, but also strong support from the local government, which should not politicise cooperation, above all in projects aimed at the private sector, as were the cooperatives in the case of PRODEGA. The project would not have had this range of success if after the change in government in 1990, the new GON would have wanted to earmark the project only for cattle-breeders that were grouped in FAGANIC, which was ideologically close to the "contra" in the 1980s.

A less positive situation was seen in the project following the 1996 elections and the beginning of the new government (1997-2002). At this stage, there was a politicisation of appointments and other GON interventions in the activities of PRODEGA, with the intent to favour its political sympathisers, which seriously harmed the project's work (embargo of goods, judicial processes, arbitrary dismissals, etc.). It is therefore confirmed that when the target group is the private sector, all political-partisan interference obstructs efforts to achieve the project's objectives.

8.5 Social capital and trust

The most essential point, and the underlying explanation for the good development of the Camoapa cooperatives (better than those of Boaco) has been to have organised and consolidated the cooperatives; this means that an organisational capacity (autonomy) was developed, which allowed for the exploitation of other technical and financial supports aside from those offered by PRODEGA. Such an organisation capacity is easier to create in conditions in which social capital exists in the sense of trust (or lack of mistrust), and the participants have the common good in mind, not only personal interests.

8.6 Aid for Trade

Although PRODEGA was not designed to be an “Aid for Trade” project – a concept that did not exist at the time (even less in the Sandinista Nicaragua of the 1980s) – it can be seen as an effort to create a structure (the cooperatives) and develop the first links (production and collection of milk) as preconditions for trade in favour of development. In any case, it became a project that in the long run ended up being extremely useful, if not indispensable, for the exporting of cheese, above all in foreign commerce to the U.S.; the other cheese exporting cooperatives, located in Chontales for the most part, export to the region.

8.7 Trickle-down theory

PRODEGA’s experience speaks rather in favour of the trickle-down theory: the wealth that is created by the project radiates income to its environment due to the increase of the livestock sector’s purchasing power, including those that are not agricultural entrepreneurs. This observation is valid in special conditions, which have come about during the course of the project’s implementation, as well as subsequently; this refers particularly to the almost unlimited initial demand (by the milk processing plants in Managua), as well as the new demand created as of 2002, following the opening of export windows. This means that the project area was selected well and in fact had a production potential that was not exploited to date. On the other hand, the experience of PRODEGA shows that the results require time to reach maturity.

It is worth adding that it cannot be stated unreservedly that the model of development poles automatically radiates wealth to all and everybody. It is possible that the trickle down in the case of PRODEGA may have occurred after the expulsion of poor people from the region³⁴, as could be deduced from the level of emigration in the Boaco Department throughout the project, and after. It is also true that there is no way for the evaluation to state that this expulsion of people from the project area was caused by PRODEGA. Again, this topic would deserve a deeper study into the connections between the project, environment and population movements.

8.8 Impact and sustainability

The project had an important impact on the livestock sector in their respective intervention zones, and also on national economy. It also had a significant impact in some environmental aspects and even in the pacifying and reconciliation following the armed conflict of the 1980s.

Given that many manifestations of the project impact are clearly observable, even ten years after their conclusion – and that they continue to show dynamism – there are good foundations to conclude that the project has achieved an interesting degree of sustainability.

³⁴ This is the conclusion reached by Gómez et al 2011 on the milk boom in the semi-humid Chontales area

9. Recommendations

In the context of an ex post evaluation (a decade after the closure of the project in this case), any comment has to refer to a larger scenario other than that of the project itself, given that the project no longer exists. In this case, the scenario for recommendations comes to be that of the dairy sector. The evaluation has concluded that the dairy chain in Nicaragua has the possibility of continuing to grow and develop but modernisation is required. As was seen in a previous section, there are bottlenecks in all the chain links.

In order to support a process of improvement, a specific public policy is required for the sector which would stimulate investment in the milk collection and processing links, introduce new systems for improvement and quality control, and drive producers to adopt more modern production mechanisms. The sector can also benefit from other public policies such as, for example, the expansion of road infrastructure and electric energy which would facilitate access of milk producers from the farms to the processing plants and markets. To support the commercial ties between producers, milk collection and the processing industry, it would be important to have a correct analysis of the product sent to the dairy industry by the milk collection centres. Both in the case of PRODEGA as in that of FondeAgro, one of the concerning difficulties for cooperatives has been the frequent difference between quality estimated by them and the one determined by the dairy industry. A measure by the Government that could serve cooperatives and other milk producers well would be an independent laboratory to which the parties could send their samples and have an impartial opinion of the quality of the milk. If it is actually proven beyond any doubt that the quality of the milk from a cooperative shows deficiencies, this would serve as an incentive to improve it.³⁵

Similar differences have been reported several times between the quantity of delivered milk and that which is received, according to each party's own measurements. This difference may to some extent come from the still fragmented use of the metric system in Nicaragua (officially imposed in 2005). The cooperatives visited by the ET consider that a gallon is equivalent to four litres, though officially, the North American gallon contains 3.8 litres. According to these cooperatives, the dairy industry can later sell the quarter of a gallon (946 ml) as a litre. It would be important to search for a mechanism that could eliminate this type of problems; it could perhaps be a task for CANISLAC. Other important factors are the stimulation of access to funding and technical assistance to the sector and its various links.

An additional recommendation for public policies in Nicaragua would be to better control artisanal cheese producers, which are not very strict in terms of the quality of the milk they buy. The cooperatives perceive the *manteros* as disloyal competition, which take milk producers from them and reduce the members' loyalty to the cooperative. The fact that this point was mentioned already in 1992 during the first PRODEGA midterm evaluation is conspicuous, but it seems that in 21 years there has been little of any progress on this issue, which additionally can have serious implications on public health.

³⁵ All the surviving PRODEGA cooperatives practice the alcohol test to control milk acidity, and the quality control, called the reductase test: a sample is taken from each pichinga, to which Methylene blue is added, and the time it takes for the milk to turn blue is measured. If this takes three hours or less, the milk is of C quality, if this should take a maximum of 3.5 hours, it is B quality, and if it remains white for a minimum of 4 hours, it is A quality.

Nicaragua would also need a public territorial planning and development policy in which regions are defined where cattle-grazing can and cannot be encouraged – and it needs to be put into practice rigorously. Aside from the general effect of deforestation, the agricultural frontier is currently coming into contact with demarcated protected areas and indigenous territories, without anybody seemingly being able to stop the process. The recent trial and conviction (February 2013) of facilitators (or traffickers) of illegal occupation of lands in protected areas is an encouraging sign, although on the other hand, it reveals how organised, and no longer simply spontaneous, the advance of the agricultural frontier can be in protected areas. If land demarcation measures are not taken, the territory under cattle-grazing can continue to expand “down to Corn Island”, but this would be the direct path to total desertification and climatic disaster in Nicaragua. What is definitely missing is an additional intensification of livestock production by increasing the carrying capacity per surface unit, beyond what PRODEGA did during its implementation.

10. Lessons learned

10.1 Implementation modalities

Among the reasons for PRODEGA's positive results, the implementation (management) modality and the project's duration must be mentioned. The duration was made possible based on the timely formulation and approval of three subsequent phases for a total of 13 years. This experience is worth being taken into account for the design and management of other rural development projects.

The "independent project" modality that was given to PRODEGA in 1989 was the habitual modality at the time, not only in the case of Finnish cooperation, but in general. The experience accumulated during the 13 years of implementation of the project, in which a significant change in the political paradigm (1990) was seen, and then further changes in government, suggests that the independent model was the most appropriate to ensure the achievement of results. The independent PRODEGA directors knew how to get around the changes in the environment in a way that would have been difficult to emulate by any Nicaraguan governmental institution, and even for many non-governmental civil society organisations, in an environment of strong political polarisation. This evaluation team estimates that the modality of independent implementation of PRODEGA was more effective in its political-social environment than the so-called "institutionalised" modality, such as it was applied to the FOMEVIDAS³⁶ project, which also had rural development and the reduction of poverty as its objective.

On the other hand, as is demonstrated by the ecological impact at the agricultural frontier beyond the project's action perimeter, the modality of a project with a geographically limited reach does not allow address problems beyond its scope.

The long duration of the project can be seen as an aspect of the implementation modality. The ET considers that one of the keys to success, although not the only one (see the following section) in the Boaco Department, was the duration of the support to the cooperatives. Although those of Camoapa are not representative of the entire Department of Boaco, and the conditions are different, the difference in solidity with the Chontales cooperatives, which had only between 1 and 2 years of PRODEGA accompaniment, compared to 12 years in Boaco, is noticeable (the majority of the Chontales cooperatives were founded in 2000, the Unión cooperative of Cuapa in 2001). The consolidation of organisational structures created *ex nihilo*, as was the case with PRODEGA, takes its time – although knowing how to "wean" at the appropriate moment is also necessary.

³⁶ Project funded by Finland and executed between 2004 and 2011, with the Institute for Rural Development (IDR) as the Nicaraguan institution that owned the project

10.2 Ex post evaluations

The team responsible for this evaluation, and authors of this report, have vast accumulated experience in the evaluation of development projects. Among these experiences however, ex post evaluations are few – given that not many are performed – particularly those evaluations made a decade after the conclusion of the project to be evaluated. Faced with such a task, the ET has made some observations that deserve to be shared:

- The ex post evaluations should preferably be decided as part of the “exit phase”, when the implementation of a project is concluded and when the size and characteristics of the project justify an ex post evaluation. Such decisions must be made jointly between the parties (the donor and its counterpart), given that both parties must, when the time comes, actively participate in the evaluation in order to facilitate the work and to achieve evaluation results as efficiently as possible.
- It is essential that the project’s institutional memory remains accessible and systematic, in order to allow an ex post evaluation with solid foundations. This includes in the first place printed documentation files or in electronic format, data bases that have been produced by eventual monitoring and follow-up electronic systems; and records of beneficiaries and other kinds of interested parties that facilitate their location at the moment of the ex post evaluation.
- The Terms of Reference for ex post evaluations must be prepared in precise consideration to the ex post characteristic. Both the evaluation questions and the manner of work and report formats must be different to what corresponds to a final evaluation, which is conducted while the project is still active.

Annexes

Annex 1 Consulted documents

Project Documents

Cattle Farming Rural Development Project Nicaragua PRODEGA. Phase II. Mid-term review September 1996. Executive summary, 10 pp.

Documento análisis de género, 2001.

Documento de Proyecto PRODEGA, Fase III en Boaco y Chontales (1999-2003). Borrador, marzo 1999 (incl. Anexos técnicos, borrador). 47 pp.+ anexos.

Estrategia para la incorporación de la perspectiva de género al PIDR. Marzo-mayo 1993, y su correspondiente correspondencia interna MFA. 23 pp. + anexos. Signum 93.20 NCA (archivo MFA).

Evaluación de término medio. Informe principal. Programmea Integrado de Desarrollo Rural Región V. Febrero 1992.

Informe final. PIDR. Por Jussi Ojala y Pavel Molina, Boaco enero 1994. 43 pp.

Informe final. Proyecto de desarrollo rural ganadero. Boaco, Mayo 1998. Resumen ejecutivo.

Informe de terminación del proyecto. Proyecto de desarrollo rural ganadero. Boaco, mayo 2003. 82 pp.

KPMG. Muistio Finnagro Oy:n maaseudun kehityshankkeesta Nicaraguassa (PRODEGA). 08.10.1999. Signum 93.20 NCA (archivo MFA).

Nicaragua. Cattle husbandry in Región V. A basic study, FINNIDA Press, Hirvelä-Kanninen-Ryökäs-Ryökäs-Sumelius. Mayo 1988. 84 pp. + anexos.

Plan de trabajo II semestre 1994. Unidad temática de género. Junio 1994.

Plan Operativo Global POG Junio 99-Mayo 03, Boaco-Chontales, Febrero 2001. 11 pp.

Project Document. Cattle Farming Rural Development Programme, PIDR Phase II Years 1994-1997. A Project of FINNIDA and Ministry of Agriculture and Livestock. March 1994. 105 pp.+ annexes.

Project Document: Rural Development Programme Región V, Nicaragua. Finnish International Development Agency FINNIDA. Helsinki, January 1990. 46 pp. + annexes.

Propuesta para el manejo de fondos de PRODEGA aportados por el Ministerio de Asuntos Exteriores de Finlandia. Preparado por: Dagoberto Rivera R. Boaco, septiembre del 2000.

Rural Development Programme in Región V, Nicaragua. Proposal to FINNIDA, by MIDINRA Staff in Región V, con Ilkka Kimmo, Francisco Romero, Knud Kristensen, Erkki Timmerbacka. Juigalpa, febrero 1989. 45 pp. + anexos.

Signum 93.20 NCA PRODEGA. Una caja de mudanza de material en los archivos del MFA

Other documents and publications

Albrecht, Mary & Bob Albrecht. Improvement of the Nicaragua Dairy Value Chain, Camoapa Nicaragua, 28 April to 8 May, 2009. 14 pp. At: <http://fyi.uwex.edu/international/files/2010/04/09albrecht.pdf>

Carrión Fonseca, Gloria 2012. *El ALBA y los acuerdos de asociación con la Unión Europea: Dinámicas Político-Económicas en Nicaragua*. Managua: Kepa. Xx pp.

Eskola, Elina (ed.) 2003. *Rural Development Cooperation: Learning from Finland's International Projects and Programmes*. Helsinki: Ministry for Foreign Affairs. 100 pp.

Agurto, Sonia 2008. Mujeres nicaragüenses, cimiento económico familiar. Estadísticas e investigaciones de FIDEG 1986-2006. At: <http://www.fideg.org> (accessed 25.3.2013).

Berra, Carlos y Alejandro Galetto. Estrategia asociativa de la red de frío para el desarrollo lechero de Nicaragua: el caso de las cooperativas de la "Vía Láctea" apoyadas por el programmea FondeAgro. Matagalpa, junio 2010.

FIDEG (2007). *Análisis de la Encuesta Nacional de Hogares sobre Medición del Nivel de Vida 2005 con Perspectiva de Género*. Draft report May 2007 by Fundación Internacional para el Desafío Económico Global. Managua.

Gómez, Ligia & Helle Munk Ravnborg. *Inversión lechera –una gota que no se expande. Dinámicas territoriales en la zona lechera Santo Tomás, Chontales, Nicaragua*. Documento de trabajo No. 73. Programmea de dinámicas territoriales rurales. Rimisp-Centro latinoamericano de desarrollo rural: Santiago de Chile. 2011. 50 pp.

Gómez, Ligia Ivette 2003. Entorno de la pobreza rural en Boaco y Chontales. Estudio financiado por la Embajada de Finlandia, Managua: UCA-Nitlapán diciembre 2003. 76 pp.

INEC 2003. Perfil comparativo de pobreza en Nicaragua 1993-1998-2001. Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida. Programmea MECOVI. Managua: Instituto Nacional de Estadísticas y Censos, agosto 2003. 124 pp.

Koponen, Juhani. Oma suu ja kontin suu. Suppea katsaus Suomen kehitysyhteistyön historiaan. Helmikuu 2005. Borrador no publicado.

Koponen, Juhani et al. Finnish Value-Added: Boon or bane to Aid Effectiveness. Ministry for Foreign Affairs 2012.

Mendoza Vidaurre, René s.d. Productos derivados de la leche. La inserción de la Cooperativa San Francisco de Asís en los supermercados de Nicaragua. 13 pp. <http://www.regoverningmarkets.org/en/filemanager/active?fid=1066> (accessed 5.3.2013).

Mendoza Vidaurre, René. Un espejo engañoso: Imágenes de la frontera agrícola. *Revista Envío* Abril 2004, <http://www.envio.org.ni/articulo/2069> (accessed 25.3.2013).

Ministry for Foreign Affairs 1999. *Thematic Evaluation on Environment and Development in Finnish Development Cooperation. Country Report Nicaragua*. MFA Evaluation Reports 1999:3.

Ministry for Foreign Affairs 2002. Evaluation of Bilateral Development Cooperation between Nicaragua and Finland. At: <http://www.formin.fi> (accessed 30.1.2013).

Ministry for Foreign Affairs 2010. Evaluation of Agriculture in the Finnish Development Cooperation. Country Report Nicaragua. Helsinki: MFA Evaluation Report 2010:6, Annex 8. February 2010.

Soto Joya, Fernanda. *Ventanas en la memoria. Recuerdos de la Revolución en la Frontera Agrícola*. UCA Publicaciones. Managua: 2011. 165 pp.

UNFPA 2009. Migración interna en Nicaragua 1990-2005. Preparado por Daniela González. Managua: UNFPA & CEPAL-CELADE. 94 pp. At: <http://www.unfpa.org.ni/publidoc/Pob%20y%20Desarrollo%20Estudios%20e%20investigaciones/migracion%20interna-04.pdf> (accessed 1.3.2013).

Zúñiga G, *El Desarrollo de Cadenas de Valor Agroindustriales en Nicaragua, El Salvador y Costa Rica, el caso de la agroindustria láctea*, 2010.

Annex 2 People interviewed

Embassy

Embassy of Finland	Eeva-Liisa Myllymäki	Chargée d'affaires, a.i.
Embassy of Finland	Tiina Huvio	Rural Sector Counsellor 2005-2008
Embassy of Finland	Salvador Tapia	Rural Sector Advisor
Embassy of Finland	Pekka Muuttomaa	Rural Sector Counsellor 2008-2012

PRODEGA

MAGFOR	Amanda Lorío,	Vice Minister
MAGFOR	Silvio Palacios Baca	General Secretary
MAGFOR	Claudia Tijerino	Responsible for Cooperation
MAGFOR	Lourdes Prado	Technical Aspects
MARENA	Roberto Araquistain	Vice Minister
PRODEGA Staff	Paul Ward	CTA Phase III 1999 - 2003
PRODEGA Staff	Jussi Ojala	CTA Phase I
PRODEGA Staff	Inger Hirvelä-López	Ambassador emeritus
PRODEGA Staff	Markku Siltanen	CTA Phase II
PRODEGA Staff	Pavel Molina	National Director Phases I and II
PRODEGA Staff	Ronaldo Cruz	Phase I, Farm Improvement
PRODEGA Staff	Freddy Ocampo Zambrana	Phase I, Cattle Feed
	Roberto Rondón	Minister MAG 1990-95 / IDR President 1995-97
	Antonio Lacayo	Minister of the Presidency 1990-97
PNDR – (IDR)	Eva Acevedo	Project monitoring and Safety
Masiguito Cooperative	Francisco Aragón Marín	President
Masiguito Cooperative	León Wilfredo Fernández	Vice President
Masiguito Cooperative	Olfa Robleto	Secretary
Masiguito Cooperative	José Dolores Martínez	Treasurer
Masiguito Cooperative	Ernesto Miranda	Board member
Masiguito Cooperative	Ernesto Sequeira	Internal Control Committee
Masiguito Cooperative	Donali Hernández	Board member
Masiguito Cooperative	Auxiliadora Somoza	Internal Control Committee

Masiguito Cooperative	Julio Fernández.	Internal Control Committee
Masiguito Cooperative	Maximiliano González	Board member
Masiguito Cooperative	Tomás Espinoza López	Executive Manager
Masiguito Cooperative	Karelia Vanessa Aragón	Financial Administrator
Candelaria Cooperative	Julio Vargas	Founding member, Comalapa
Candelaria Cooperative	Leonor Miranda	President, Comalapa
Candelaria Cooperative	Reina Sequeira	Secretary, Comalapa
Mayales Cooperative	Wilmer Fernandez	President
San Felipe Cooperative	Juan Ramón Aragón	Chairman of the Board of Directors
San Francisco de Asís Cooperative	Armando Fernandez	Ex President San Francisco Cooperative, Camoapán Brand Business Manager. President of UNILECHE
San Francisco Cooperative	Denis Rivera Olivas	Executive Manager
La Unión Cuapa Cooperative	Holman Martínez	President
La Unión Cuapa Cooperative	Nilson Martínez Suarez	Executive Manager
COOPA RL, Acoyapa	José Iván Sevilla Siles	Administrator
COOPA RL, Acoyapa	Humberto Rodríguez	President
COOPA RL, Acoyapa	Edilberto Sevilla	Treasurer
COOPA RL, Acoyapa	Juan Alejandro Toledo	Vice president
COOPA RL, Acoyapa	Eddy José Jarquín Blandón	Board member
COOPA RL, Acoyapa	Alejandro Murillo	President of the Administrative Board
Ex Cooperative Santiago	Francisco Gutiérrez	Ex - President
Amerrisque Alliance	Agustín Sequeira	President; and Ex president de COOPA RL.
CENTROLAC	Alfredo Lacayo	Excutive Manager
CENTROLAC	Néstor Zamora	Milk collection Manager
PRODEL	Marlon Olivas	Executive Manager
Fund. PRODESA Juigalpa	Sobeyda Hernández,	President of the Foundation
Corp. PRODESA Juigalpa	Mauricio Canisales	Executive Manager, Corporation
Women's Network, Chontl.	Ma Regina Alvarado	President
Women's Network, Chontl.	Yely Orozco Bravo	Responsible, regional, of Villa Sandino
PRODEGA Project	Enrique Izarra	Mechanisation farms, 1990-91

Ariel Cajina

Consultant, ex president of
CANISLAC

Francisco Guzmán

Ex Director of National Dairy
Company (1980s)

Annex 3 Terms of reference

The Final Evaluation of Finland's Bilateral Programmes in Rural Development Sector in Nicaragua

The bilateral programmes between Finland and Nicaragua are ending by the end of the year 2012. The final evaluations of the programmes are conducted in three thematic areas covering several programmes. One of the theme areas is Rural Development.

1. Background to the ex-post evaluation

Rural development has traditionally been a priority sector of Finnish development cooperation with Nicaragua. Over the years there have been a number of important projects implemented mainly in Region V (Boaco and Chontales) such as PRODETEC (1990-1994) in agricultural technology, PRODEGA (1989-2003) in milk and dairy production, FADES (2000-2003) in local economies, PROCAFOR (1990-2002) in regional forestry, NICAMUEBLE (2001-2004) in carpentry, PANIF (1996- 2000) and PROAMBIENTE (2000-2004) on environmental issues and more recently FOMEVIDAS

(2006-2011) in rural poverty reduction, support to sectorial programme PRORURAL (2006-12), NIFAPRO (2006-12) in agro-biotechnology and PROPEMCE (2009-12) in rural value chains.

Finland is in the process of transition of its cooperation in Nicaragua and is completing its traditional bi-lateral cooperation. As a part of this process there is a need to carry out evaluations of some of the key programmes in rural sector. Due to the same timing and context, as well as similarities in thematic fields and programme / project actors, the three evaluations which are due this year (final evaluation of PROPEMCE, final evaluation of NIFAPRO and ex-post evaluation of PRODEGA), have been brought together under a single contract. This is expected to result in more efficiency and benefits when analyzing the findings, as the three evaluations can be carried out during the common fieldwork and the evaluation teams can contribute to each other's learning processes. However, each of the evaluations has its respective Terms of Reference and separate reports must be delivered. This text consists of the specific Terms of Reference for the ex-post evaluation of PRODEGA programme.

The Rural Livestock Development Project (PRODEGA), originally titled "Rural Development Project in Region V", was implemented in the provinces of Boaco and Chontales from 1990 to 2003. It was a very intensive project, which provided support to small and medium farmers in milk and beef production, as well as the development of a new kind of cooperatives. PRODEGA is considered a model of modern dairy production and industry in Nicaragua, and in the following years several other agencies, such as Swedish cooperation in Matagalpa, USAID in León or Italian cooperation in the "dairy triangle" had applied the model and developed it further. As the dairy products markets have grown and there has been an expansion of cattle grazing in Nicaragua, the country has become the most important exporter of dairy products in Central America. However, there are concerns about opportunities for Nicaraguan dairy products in the regional and international markets and the overall sustainability of the value chain. Therefore

PRODEGA, being one of the cornerstones of dairy production in Nicaragua and an example of a development investment by the Finnish Government, it should be properly evaluated.

1.1. Programme context

PRODEGA was originally designed in the late eighties (1988-89) during the last few years of the first Sandinista administration, at a time when the nation was politically very much divided and the contra war was still latent. That was especially true in the provinces of Boaco and Chontales, parts of the country, which had been partially controlled by contra forces and had suffered heavy damages during the civil war, leading to severe poverty. The Sandinistas, however, lost 1990 elections and the implementation of PRODEGA began during the new administration of President Violeta Chamorro. A new Project Document was prepared and approved in mid-1990.

The policy of the new Nicaraguan Government, which came to office as an outcome of the 1990 elections, emphasized mainly improving the standard of living in the country and consolidating the gains achieved during the revolutionary decade as concerns agrarian reform. Special priority was given to increasing livestock production and productivity, rationalizing production in general and supporting the promotion of farmer cooperatives and the coordination of small and medium producers. At local level, economic development was based on the so-called “development poles.”

Finnish development cooperation in Nicaragua started in the early eighties and concentrated on supporting agriculture and rural development, while investing also in dairy production (e.g. dairies of Eskimo and Perfecta). At that time Finnish cooperation had an idea of exporting good Finnish developing models and technologies to the developing countries. The implementation was made through intensive field programmes instead of programmematic approach applied currently.

More than twenty years later, the agricultural sector is still a priority for the current Nicaraguan Government. This is stated very clearly in the as yet unofficial Human Development Plan (PNDH, 2012-16) of the new administration, and recently a new Ministry of Family, Community and Associative Economy was established specifically for the purpose of addressing the needs of small farmers, who remain highly relevant to national exports and the economy. So, PRODEGA remains as an important exercise in the context of Nicaraguan new policies.

1.2. Description of the programme to be evaluated

The total budget for the entire project period of three phases was of FIM 93.8 million (approx. 16.5 M€). There was also remarkable counterpart financing by the Nicaraguan Government during each of the three phases. The implementing agency during the two first phases was the Ministry of Agriculture and Livestock, but in the course of the second phase, the Rural Development Institute took over. At local level the actual executors were agricultural service cooperatives and other farmer associations.

The implementation was carried out by a strong implementation unit formed by national staff of the governmental institution in-charge and international experts of Finnish consulting company. The project’s main target groups were small and medium farmers, as well as organized agricultural cooperatives (production, credit and services)

located in the Boaco-Camoapa area. There were also other beneficiaries due to improved possibilities to obtain better dairy products and thus improve nutrition of poor people.

The project's goal was never clearly defined but obviously **poverty reduction** in Boaco and Chontales provinces were primordial issues to be addressed during project implementation. Another important issue, albeit not officially announced (but described in the evaluations and discussions), was peace-building in the province of Boaco, an area which had been politically conflictive during the previous decade.

The original development objective (1990 Project Document) since inception and onset was *Improving the living standard of the Nicaraguan population in general, and of peasants and small and medium farmers in Region V in particular, through increased milk and beef production*. After the first mid-term evaluation the objective was complemented; *and the marketing of dairy products*, included.

In addition, it was defined that three major aspects were considered important in the development process. The project was to pay special attention to:

(i) maintaining and gradually improving the ecological / environmental conditions of the area;

(ii) strengthening the capability of Nicaraguan institutions to carry out development activities;

(iii) ensuring maximum sustainability of project achievements.

Prodega maintained its original goals and developments objectives along the three phases. However, every phase had its own specific objectives and operative components and during the last phase it extended its operations to Chontales. During the third and final phase, specifically in the year 2000, a significant investment in cheese production was made in Boaco. As per MFA policy, in its final year PRODEGA handed over its credit funds of approximately USD\$ 1 million to two micro-finance institutions, which caused some controversy among the cooperatives. More detailed information is found in the project documents of each phase.

1.3. Results of previous evaluations

The project was originally designed in 1989 during the first Sandinista Government, and the Project Document could be considered a rather general list of good intentions and ideas for development through seven development poles that were identified. When the project actually got underway after the change of government in early 1990, a new more operative and concrete Project Document was drawn up and approved. The mid-term review of the first phase of PRODEGA was carried out in early 1992. It recognized the work the project had done in bringing together as business partners people who had been on opposite sides during the civil war, and encouraged PRODEGA to continue along those lines. The evaluation suggested the project could work more in order to improve women's participation in the project, and also indicated it should strengthen the cooperatives' marketing capacities. The review included some quite radical changes in organization in order to reinforce the project's future sustainability. PRODEGA's role as a model for the entire country was also recognized.

The mid-term review of the second phase was carried out in mid-1996. It made two main observations, recognizing there were two different worlds inside the project: that of the farmers who owned cattle and were making significant progress in terms of their

business and income and on the other hand, the farmers who did not own cattle, despite the project's best efforts, and showed rather poor results in terms of developing their productive capacities and reducing their poverty. Further, it was noted that notwithstanding the project's efforts, there were only modest results in organizing women and improving their living conditions and income. The main recommendations were related to strengthening activities in order to diversify crop production. Mid-term review or final evaluation of the third phase or final evaluation of the entire project of over ten years duration was never carried out. The results of the third phase are, however, documented in its final report (2003). After the completion of the programme the MFA was planning to change its cooperation modalities in Nicaragua. At the same time its modus operandi was widely studied and replicated by other donor agencies, which launched a similar project in the provinces of Matagalpa and Leon.

2. Rationale, purpose and objectives of the evaluation

Rationale and purpose: Bilateral cooperation between the Governments of Finland and Nicaragua will be essentially completed at the end of the year 2012. A comprehensive evaluation will provide inputs for considering the relevance of this type of assistance under similar conditions. It will be especially valuable to have outside opinions on the effectiveness, impact and sustainability of this considerable investment made by Finland in Nicaragua (approx. 100 million FIM), as well as the conditions required for this kind of aid modality to be successful.

According to contemporary cooperation policies (1980-2000) PRODEGA was implemented as a traditional and independent project of the Government, with its own strong implementation unit and international technical assistance. It worked very closely with the farmers and their cooperatives. It would be useful to assess this manner of implementation and the role that governmental institutions and authorities should play in private sector development and regulation.

Thematically, aid for trade or commercial development has been a new area of priority for Finnish cooperation. The thematic evaluation made in 2011 on Finnish development projects in aid for trade however concluded that Finnish aid for trade lacked a clear poverty focus. PRODEGA began as a poverty reduction and peace-building programme, but later it converted to an important business development project. It may be interesting to evaluate PRODEGA from an aid for trade perspective, in order to get useful inputs to on-going or future projects related to aid for trade.

The Government of Nicaragua is also prioritizing support to value chains and agro industry as new tools in the struggle against poverty. A national agro industry programme was established in 2010 as an essential part of PRORURAL, because increased exports in the agriculture sector have shown significant results in terms of economic growth. Therefore the Government is reconsidering its approaches in economic development and poverty reduction. However, it has few proven systems, technology packages and services to support or strengthen the development of small and medium enterprises, which in sheer numbers represent a very significant share of Nicaragua's exports and GNP. In this situation, any information or lessons learned on new approaches or methodologies are of high value to the Nicaraguan Government as it develops its policies and activities in this strategic field.

Nicaraguan public values/opinions and policies clearly favor cattle-grazing, but it is also becoming a polemical and controversial value chain. Exports of beef and dairy products have merged and a cattle grazing is expanding by 3- 5 % annually. However, this growth is achieved primarily through expansion of the total area of land under pasture, which means there is deforestation and this poses a threat to biodiversity and water resources. The Government is increasingly concerned about the current trend and understands that the extensive cattle industry model is not sustainable. The evaluation of PRODEGA may produce valuable inputs to the on-going dialogue between the Government and the cattle industry.

Use of the results: The results of this evaluation are to be used firstly by the Ministry for Foreign Affairs of Finland and the Embassy of Finland in Managua. They will serve to assess the recent development cooperation in Nicaragua, and provide inputs and ideas for considering possible future partnerships in Nicaragua as commercial cooperation (or aid for trade), which has been identified as one of the potential fields in which to continue cooperation between the two countries. Along the same lines, the evaluation will produce useful information / lessons learned on thematic issues that are relevant also to many other countries.

The Nicaraguan Government has recently created Ministry of Family, Community and Associative Economy, specifically to address the needs of micro, small and medium enterprises (MSME) development. The results of the evaluation will be of high value when designing the strategies and activities of the new Ministry. Further, the feedback will serve the Ministry of Agriculture and Livestock (MAGFOR) and Ministry of Commerce, Development and Industry (MIFIC). The Evaluation is also important to private sector organizations, including some rather advanced target cooperatives and other cooperatives at varying stages of development, as it provides a valuable external opinion and recommendations related to their strategies and business development. Finally, the evaluation will benefit other donors supporting the development of the Nicaraguan private sector.

The priority objectives of the ex-post evaluation are listed below. A more comprehensive list of evaluation issues and questions is presented in chapter 4:

- (i) to assess the overall **impacts** of the project at local, regional and national levels in terms of environmental conditions, institutional and social capacity development (private/public), gender and dairy business development. Any possible negative impacts or controversies are also to be addressed.
- (ii) to assess the intensive and independent **project model applied** in the projects and analyze the reasons explaining success and failure (understanding why, when, by whom?), including also political conditions during the different administrations
- (iii) to analyze the proven **sustainability** of achievements locally (farmers and their cooperatives) and regionally/nationally (use of a similar model) and the sustainability of the overall dairy value chain (or extensive cattle grazing) in Nicaragua;
- (iv) to document **generalized lessons learned** and give **recommendations** based on the experiences of PRODEGA for further application in new and similar Finnish development

cooperation projects, as well as to offer inputs for use by the Nicaraguan government in developing its support instruments for private sector development. Special attention should be paid to the following issues; cooperatives as a development or business tool, Prodega as an aid for trade project, promoting gender in a *macho* culture or integration of potential value chains to complement dairy production.

3. Scope of the final/ex-post evaluation

Time span: 1989-2003 (project implementation period) and until today in order to evaluate the development of cooperatives and appropriation by the Government of Nicaragua after the project came to an end.

Stakeholder groups (indicative list; consultants are expected to present their own views);

- Target group / beneficiaries; rural people/farmers
- Their cooperatives (existing and failed) and other beneficiary groups; Masequito, San Francisco and San Felipe including agriculture cooperatives
- Regional/national private sector organizations: AMERISQUE, CONAGAN CONIMYPYME, UNAG, CANISLAC, CENCOPEL,
- Dairy business cooperatives; Eskimo, Centrolac, Parmalat
- Micro-finance institutions; ASOMIF, Fundación José Nieborowski, PRODESA (Santo Tomas)
- Local governments in the municipalities of Boaco and Chontales provinces
- Governmental institutions involved in the management of PP (MAGFOR, IDR) and others (INTA, MIFIC, MINSA.)
- Donor agencies; Embassy of Finland (and MFA) and “potential partners” (EU, Italy, IFAD, JICA, USAID)
- Consulting firms and local consultants

Geographical area:

Prodega’s main target areas:

- Boaco province (all municipalities)
- Chontales province (Santo Tomas, Camoapa, Guapa)

Areas with assumed impacts provoked by Prodega (just examples):

- Matiguás and Río Blanco (supported by FONDEAGRO of Swedish cooperation since 2000)
- Some “virgin” areas without projects (Nueva Guinea)
- Managua (national dairies)

4. Issues to be addressed and evaluation questions

4.1. Cross-cutting objectives and evaluation questions

The PRODEGA project was designed and implemented during a time when cross-cutting issues were not prioritized on the agendas of development cooperation. However,

women's rights were addressed by the project since the first phase, and the environment was an important issue to be maintained and strengthened. Therefore it would be interesting to assess cross-cutting issues using the criteria and standards of today's cooperation.

Particular emphasis in this evaluation should be placed on gender and social equality, human rights, easily marginalized groups and governance issues. Environmental vulnerability/impacts, climate change and disaster risk issues should be taken into account, as Central America is potentially one of the most affected regions world-wide.

The evaluation must analyze issues related to the governance context of the programme, governance at the cooperatives and local society. Governance at all levels of both the public and private sector is considered an important factor in the success of business development.

HIV/AIDS is not a major development challenge in Nicaragua, so it is not necessary to place it at the centre of the evaluation.

Specific evaluation questions on the cross-cutting objectives:

- In many evaluations has been stated that the project never managed to have results in gender. What are the reasons? Inside or outside of the project?
- Similar remarks have been made considering the role of those farmers without cattle. What are the reasons?
- What are the trends / impacts of the project in deforestation or water resources?
- What are the possible trends /impacts of the project on local democracy development?

4.2. Evaluation criteria and evaluation questions

Relevance

Relevance refers to the extent to which the goals and objectives of the project are consistent with beneficiaries' requirements, country needs/policies, global priorities and Finland's and Nicaragua's policies.

Problems, needs

- Were the objectives and achievements of the project consistent with the needs and priorities of the stakeholders, including the final beneficiaries?
- Who defined the objectives and strategies of the different stakeholders involved? Whose interests and governance are they promoting?
- Did the project concentrate from the outset on milk and beef production without analyzing other alternative value chains? Was that a correct decision? Does it address the needs of the entire target group?
- Did the project contribute to political stability and democracy?

Policy priorities

- Were the project objectives and achievements consistent with the policies of the partner country? What was the degree of complementarity between the national development plans and political agenda and the needs of the private sector/target groups?

- Were the project objectives consistent with Finland's contemporary development policy?

Efficiency

The efficiency of a project is defined by how well the various activities transformed the available resources into the intended results in terms of quantity, quality and timeliness. Comparison should be made against what was planned.

Value for money

- How well did the activities transform the available resources into the intended outputs/results, in terms of quantity, quality and time?
- Can the costs of the project be justified by the results?
- Were there differences between the three phases and the respective Governments?

Development effectiveness

Effectiveness describes if the results have furthered the achievement of project objectives. The evaluation is made against the related indicators.

Achievement of immediate benefits

- To what extent did the project achieve its purpose/immediate objective? Was progress made towards achieving the development objective(s) and goal(s) (poverty reduction, peace building)? Were there impacts outside the project area, as foreseen in the project document?
- What was the quality of capacity building?

Development impact

Impact describes how the project has succeeded in the attainment of its development objective, i.e. targeted impact for its beneficiaries. The evaluation is made against the related indicators.

Achievement of wider benefits

- What is the overall impact of the project on the dairy value chain or MSME development, (intended / unintended, long-term / short-term, positive / negative)?
- Has the project made a contribution towards improved conditions and services to private sector or entire rural society?
- Are there evidences of some impacts on the national economy or policies?
- Do the indicators for the overall objective show that intended changes have begun to take place?
- Did PRODEGA contribute to accountability relationships and collaboration between state, municipalities and non-state actors (private sector, NGOs, mayor's offices)? Existence of alliances within the private sector and between the private sector and public institutions?

Sustainability

Sustainability can be described as the degree to which the benefits produced by the project continue after the external support has come to an end.

Continuation of the achieved benefits

- What are the possible factors that enhance or inhibit sustainability, including ownership/commitment, economic/financial, institutional, technical, socio-cultural and environmental sustainability aspects?
- Does the dairy value chain have a future in the current market situation? Is there a need to develop alternative / complementary businesses?
- What is the role of public policies in strengthening the sustainability of the agro-industries?

Programme management and administrative arrangements

Sound management

- What are the benefits of traditional project support compared to the institutional support modality? Has this kind of traditional intensive field-oriented aid resulted in more effectiveness or a greater impact? Have the beneficiary groups and organizations been strengthened due to direct support?
- Alongside the organizations, the roles of the Government of Finland and the Embassy of Finland in Managua as donor and partner will be analyzed.

Aid effectiveness

- Was there adequate cooperation or coordination with other development projects of Finnish or other projects in Boaco and Chontales?

Finnish value added

- What was the added value contributed by Finnish support?
- What are the distinctive features of Finland's support?

5. Methodology and reporting

The consultant is expected to combine different methodologies to gather representative, correct and justified information and well-grounded recommendations. The methodology shall be presented in the proposal.

Kick-off meeting: The assignment will begin with a kick-off meeting at the Ministry for Foreign Affairs (MFA) in Helsinki, and the Embassy of Finland in Managua (or jointly via videoconference).

Desk review: The consultant is expected to carry out a desk review based on the documentation provided by the MFA and the Embassy of Finland in Managua.

Inception report: Before field work and on the basis of the desk review, the consultant shall present a detailed and updated work plan, a list of major meetings and interviews planned for the field visits as well as detailed evaluation questions linked to the evaluation criteria.

Interviews and fieldwork: The meeting arrangements and logistics shall be done in close cooperation between the team and the Embassy.

Debriefing: At the end of the mission, the team shall prepare and organize a meeting to present the key findings and recommendations to the Embassy and other stakeholders

in Managua or jointly with the MFA via videoconference. A follow-up debriefing shall be organized at the MFA in Helsinki.

Draft report: The draft report in Spanish shall be submitted to the MFA one week after the follow-up debriefing.

Final report: The final report shall be submitted to the MFA two weeks after receiving the comments on the draft report. The final report should be both in English and Spanish.

6. Mandate

The evaluation team is entitled and expected to discuss matters relevant to this evaluation with pertinent persons and organizations. However, it is not authorized to make any commitments on the behalf of the Government of Finland.