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**Justified hopes or utopian thinking?  
The suitability of coffee certification schemes as a business  
model for small-scale producers**

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**Abstract**

The marketing of coffee through group-based, certified market channels is often promoted by governments and donors as a viable business model for poor small-scale farmers. Organic and fairtrade coffees have become very popular among socially, environmentally and health conscious consumers in recent years. While coffee certification programs have been in place for over fifteen years, there are few studies on the welfare impacts of certification schemes. Therefore, this research seeks to analyse the impacts of certification on poverty alleviation and to identify the critical factors which explain success or failure of certification schemes. We use a combination of qualitative and quantitative research, comparing small-scale coffee producers in northern Nicaragua who are organized in conventional, organic, and organic-fairtrade certified cooperatives.

Our results indicate that certification schemes have a low impact on poverty, including the aspect of food security. Reasons are seen in low yield levels, indebtedness, lack of entrepreneurial skills as well as cooperatives' management capacities. We conclude that unfair trading conditions are not the main cause of poverty among smallholder coffee growers in Nicaragua. Thus, policies and projects need to address entrepreneurial skills of farmers and cooperative managers as well as amplify extension services.

**Keywords: cooperatives, impact, Nicaragua**

## **Justified hopes or utopian thinking? The suitability of coffee certification schemes as a business model for small-scale producers**

### **Introduction**

Coffee is the main income source for 20-25 million families in East African, South Asian and the Latin American hillsides (UNCTAD, 1995), where most coffee is grown on farms smaller than 5 hectares (Fitter and Kaplinsky, 2001). In Nicaragua, the second poorest country in Latin America, coffee contributes 24% to total exports earnings; between 20-40% of the rural labour force is employed in the coffee production (Lewin, et al., 2004, Vakis, et al., 2004).

While coffee is an important income source for developing countries and their small-scale producers, coffee prices are highly volatile and crises are common (Cashin, et al., 2002). The last worldwide coffee crisis from 1998/99-2002/03 affected producers income the most (ICO, 2004) and between 2000 and 2001, prices, adjusted for inflation, dropped to their lowest level in 100 years (Varangis, et al., 2003). In many regions these prices were below the production costs (Fitter and Kaplinsky, 2001, Raynolds, et al., 2004). Coffee farms were neglected or abandoned. As living standards declined, social unrest and insecurity in hillside coffee producing regions grew (ICO, 2004, Varangis, et al., 2003). Smallholders have been among the hardest hit by this price decline. Between 1998 and 2001, poverty rates of Nicaraguan smallholder coffee farmers increased by 2% while the poverty rate among rural households dropped by 6% (Lewin, et al., 2004).

Paradoxically, at the same time the coffee market in importing countries flourished, with the value of the retail market doubling (ICO, 2004). While final product prices continue to increase, producers capture lower income shares for their coffee. The big gains are captured along the coffee value chain, especially at roaster and retail level (Daviron and Ponte, 2005, Fitter and Kaplinsky, 2001).

Differentiated coffees, such as certified or gourmet coffee become an interesting alternative for farmers, as markets tend to offer more stable and even higher prices for these coffees. (Bacon, 2005, Daviron and Ponte, 2005, Lewin, et al., 2004, Wollni and Zeller, 2007). The increasing popularity of organic or fairtrade coffee among roasters and consumers in recent years is driven by quality but also by a social, environmental or health consciousness (Daviron and Ponte, 2005, Rice, 2001). In 2006, the US reported growth rates of 56% for organic coffee imports and 33% for fairtrade coffee (Giovannucci and Villalobos, 2007). Fair trade coffee consumption worldwide is growing annually 20% (FLO, 2007).

Thus, national governments, NGOs and international donors promote the marketing of coffee through group-based, certified market channels as a viable business model for poor small-scale farmers (Linton, 2008, Willer and Yussefi, 2007). However, market shares of certified, sustainable coffees remain below 2% (Daviron and Ponte, 2005, Lewin, et al., 2004). Additionally, organic price premiums have declined over the last 20 years “even as quality has increased, mainly because supply has grown” (Daviron and Ponte, 2005: 173).

Since it is crucial for producer organizations, national governments and international donor agencies to know the effects of certification schemes, this research seeks to analyse the impacts of certification on poverty alleviation and food security. Further, we identify critical factors which explain the success or failure of coffee certification schemes. We apply a combination of qualitative and quantitative research methods to small-scale producers that are organized in conventional, organic and organic-fairtrade certified cooperatives in northern Nicaragua.

### **Differentiated coffees, certifications and conceptual framework**

Differentiated coffees can be clearly distinguished from mainstream coffees due to distinct origins, defined processes, or exceptional taste. They embrace geographic

indications of origin, gourmet and specialty, organic, fairtrade, eco-friendly or shade grown, private or corporate standards (Lewin, et al., 2004). Cooperatives are the main producers of fairtrade and organic certified coffee (Rice, 2001). The standards for organic coffee depend on the importing country and the certification label since there is no international accepted definition for the term “organic”. Yet, the International Federation of Organic Agriculture Movements (IFOAM) defined several principles on which organic agriculture is based. Organic agriculture should enhance the health of soils, plants, animals and humans, the use of synthetic agro-chemical inputs is not allowed. It is a holistic approach which aims at a sustainable resource use and requires the interaction of humans to be fair at all levels and to all parties (IFOAM, 2006). Since the organic certification is too costly for an individual small-scale producer, farmers form producer groups or join cooperatives to obtain group certification (Rice, 2001). In order to be certified as a group, producers must keep detailed records of their farm management, have a proven internal control system and are inspected annually by a third-party certifier (Daviron and Ponte, 2005).

Fair trade is defined by the International Fair Trade Association (IFAT) as “a trading partnership, based on dialogue, transparency and respect, that seeks greater equity in international trade” (IFAT, 2008). Also fairtrade standards follow several key principles like the creation of opportunities for economically disadvantaged producers; payment of a fair price which for coffee means a guaranteed minimum price and a premium<sup>1</sup>; pre-financing and “ethical” trade relations; transparency and accountability; capacity building; encouragement of better environmental practices and gender equity (IFAT, 2008). Fairtrade standards require that coffee producers are small, family-based growers organised into politically independent democratic associations (FLO, 2008).

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<sup>1</sup> From July 2008 onwards, the fair trade minimum price for washed Arabica conventional coffee is 1.25US\$/lb (FOB), the organic differential is 0.20US\$/lb and the social premium 0.10US\$/lb. In Nicaragua, Arabica coffee is the common coffee variety.

Both fairtrade and organic certification claim to contribute to poverty reduction and food security in developing countries. They boost rural development through enhancing governance, creating employment opportunities, maintaining a healthy environment and enhancing social capital (IFOAM 2006a, IFAT 2006). While there is a growing body of literature regarding the effects of participation in certification schemes, many studies (Bacon, 2005, Murray and Raynolds, 2006, Raynolds, et al., 2004, Wollni and Zeller, 2007) focus on farm-gate price differences but do not consider simultaneously the direct and indirect costs of participation. There are only few studies that consider the socio-economic context of farmers and investigate the poverty alleviation and food security effects of certification schemes (Arnould, et al., 2007, Bacon, et al., 2008). We summarize the findings of these studies next.

Wollni and Zeller (2007) find for Costa Rica that participation in specialty coffee marketing channels as well as in cooperatives leads to higher farm-gate prices compared to conventional channels. During the coffee crisis, fairtrade farmers in Mexico, Guatemala and El Salvador received two to three times higher prices than conventional farmers (Raynolds, et al., 2004). Bray et al. (2002) show for Mexico that higher prices for organic coffee were offsetting higher production costs and farmers benefited from participation. In contrast, Mutersbaugh (2002) demonstrates that organic certification was only successful when farmers had already high yields levels. He further emphasizes the necessity of well-working local governance structures. Rice (2001: 46) adds that “ultimately, the price paid for the organic premium depends to a large degree upon the bargaining power and acumen of the cooperative representatives”. Thus, not all cooperatives are able to sell all coffee through certified market channels (Bacon, 2005, Murray and Raynolds, 2006). Despite participating in differentiated markets farmers report a decline in their quality of life over the last few years (Bacon, 2005). Arnould et al. (2007) find only moderate positive impacts from

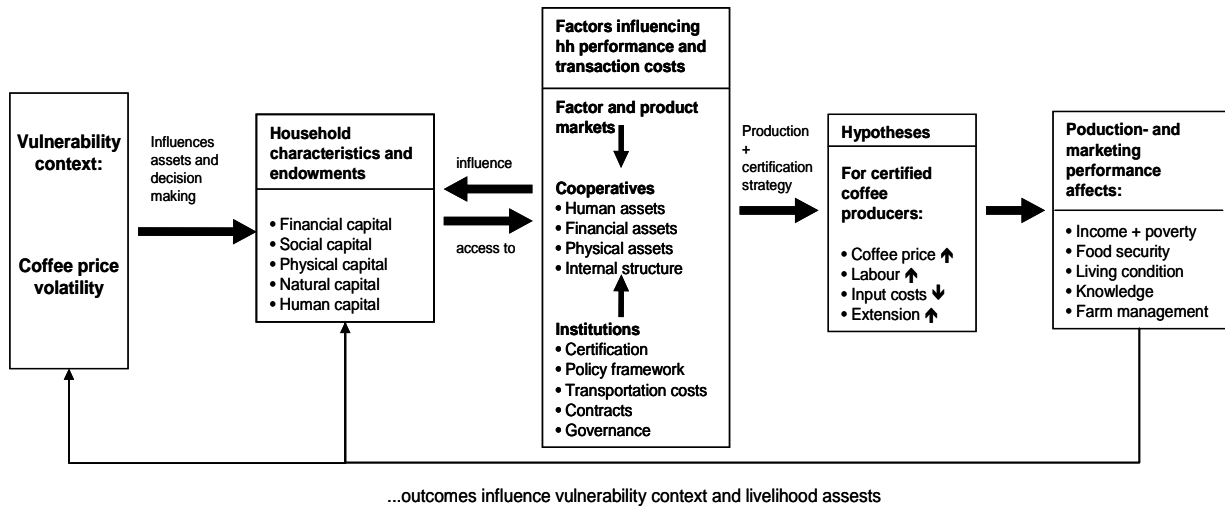
participation in fair trade certification schemes in Nicaragua, Guatemala and Peru. Similar results are obtained by Bacon et al. (2008) who discover positive impacts regarding education and infrastructure investments but continuing low incomes, emigration and food insecurity.

More research about impact of certification schemes is still required and, while higher farm-gate prices of certification schemes are important, the additional costs and difficulties farmers face upon participation need to be considered. This paper contributes to the existing literature through identifying these difficulties, embedding these in the socio-economic context and analysing the factors which contribute to the success or failure of certification schemes.

In order to analyse the factors that determine welfare effects of certified coffee supply chains on small-scale farmers, we have developed our own analytical framework to (Figure 1), being inspired by Scoones' (1998) sustainable livelihoods approach. There are five asset categories or types of capital upon which livelihoods are based: human, natural, financial, social and physical capital. These assets determine the access to cooperatives, to factor and product markets as well as to formal and informal institutions. In return, the markets, institutions and cooperatives influence the livelihood assets of small-scale coffee producers and form the basis of the producer's production and certification strategy. The decision of a farmer to participate in cooperatives and in certification schemes is assumed to depend on the utility a farmer attributes to participation. Where there are substantial benefits to be obtained through collective action, households will get involved (Varughese and Ostrom, 2001).



**Figure 1: Factors determining the welfare effects of certified coffee supply chains on small-scale farmers**



It is hypothesized that participation in certification schemes increases the farm-gate coffee prices and, especially for organic production, decreases inputs costs while increasing the labour burden. The production and marketing performance will affect the income and poverty status, food security levels and knowledge levels. It further influences the livelihood assets and vulnerability of farmers. Coffee price volatility has long been the most predominant threat to small-scale farmers and depends heavily on global coffee production.

The research was conducted in northern Nicaragua in a region with similar agro-ecologic characteristics. The majority of coffee farms were between 900m and 1300m above sea level. We used a combination of qualitative and quantitative research. Cooperatives were selected regarding their certification, differentiating according to conventional, organic or organic-fairtrade certified cooperatives. The conventional cooperatives constituted the control group. We required that cooperatives were certified for a minimum of 5 years. The majority of the cooperatives were organized in a second order cooperative, but some base cooperatives were more independent from the second order cooperative than others.

The quantitative household data was collected in 2007. Depending on the cooperative, either a random sampling or a two-stage cluster sampling was applied. Using a structured questionnaire, 327 households were surveyed with nearly equal shares of conventional, organic and organic-fairtrade producers. Qualitative data was collected in 2007 and 2008. 21 semi-structured key-person interviews were conducted with leaders of third order cooperatives, exporters, roasters, and researchers. A further 27 semi-structured interviews were held with cooperative staff, executive managers and functionaries of the first and second order cooperatives. This was accomplished by 21 semi-structured and unstructured focus group discussions and 33 semi-structured interviews with small-scale coffee producers.

## **Findings**

*“Coffee pays for everything, from the shoes to the top, [it pays] liquor for those who like liquor, women, for those who like women. Everything comes from the same coffee. That is why it never gives us enough to improve our living” (conventional producer, April 2008).<sup>2</sup>*

This citation indicates the role coffee plays in the daily life of small-scale producers. Despite this importance, their conventional and organic-fairtrade certified coffee yields are more than 50% below national average, organic coffee yields 40% lower.<sup>3</sup> Main reasons for the low yields are badly managed plantations and low planting densities. In part, these are still consequences from the last coffee crisis during which producers neglected their farms. Many farmers also judge current conventional and certified coffee prices insufficient for living and farm expenditures. Other farmers

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<sup>2</sup> All citations from producers are translated by the authors.

<sup>3</sup> The average green coffee yield in Nicaragua is 761,45kg/ha (IICA, 2003). However, the organic certified producers had significantly higher yield levels than the conventional or organic-fairtrade certified farmers. Between the latter two no significant difference in yield levels was found.

differentiate more and point out that they received a good price but that their yields were too low to make a living of it.

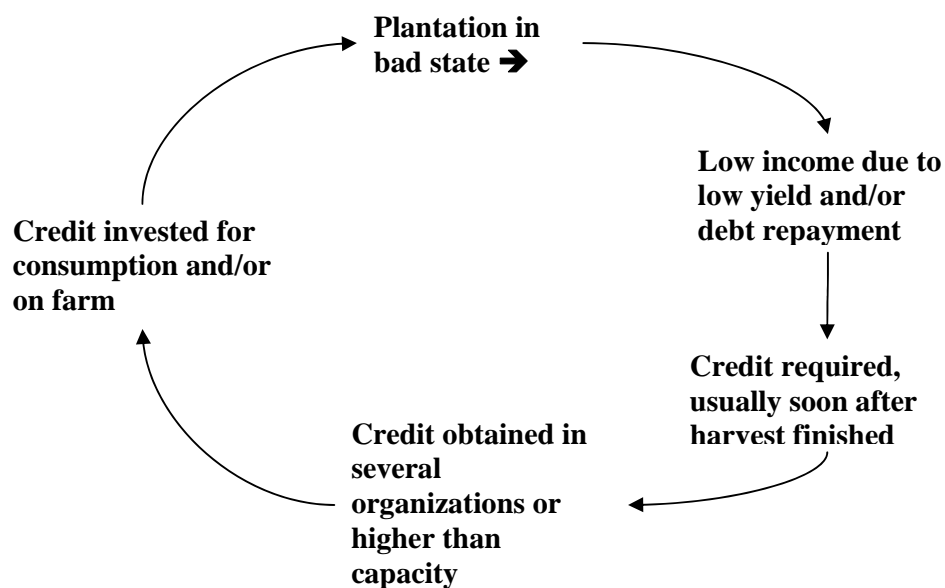
Around three months after the coffee harvest, farmers face the hardest time of the year because by then, the income from coffee sales is spent, personal food stocks are depleted and food prices are high. Certified or not, farmers face two to three months of food shortages. Diets shift from maize and beans to plantain as it is intercropped with coffee. *“We only eat plantain with salt – sometimes for weeks”* (organic producer, July 2007). Farmers who crop maize and beans in addition to coffee are less affected but still reduce food diversity and quantity. The qualitative interviews show that food security is not increasing with certification.

Apart from reducing food consumption, farmers apply two other strategies. One strategy is to work as day-labourer, although farmers who have larger coffee areas or plant staple food crops are less likely to work outside their farm. *“Those who work [on other farms] do it out of necessity. When there are obligations, when there are children[ ], when the child does not have milk, has no sugar, has no soap to wash the clothes”* (organic-fair trade producer, April 2008).

The other strategy is to obtain a credit from a cooperative or microfinance institution. Access to bank credits is difficult for small-scale farmers since banks require collateral and most farmers do not have legal land titles or sufficient animal stocks. Most cooperatives offer credits but the issued amounts are often insufficient and usually no long-term credits are available. When credit necessities are higher than what is approved by their cooperative, farmers request credits from other organizations like local microfinance institutions or informal money lenders. The latter offer immediate cash only against a fixed coffee quantity which has to be delivered at harvest time. Farmers use money lenders only in emergency cases because the paid coffee price is only 20-40% of coffee prices at harvest time, thus interest rates are extremely high.

In many cases the credit is used for immediate consumption needs, like food or medicine and only partially invested in the farm. Thus, only some farm maintenance is done, fertilization is insufficient and long-term investments like replanting are very limited. It was often observed that farmers use also part of the credit to employ additional labour while reducing their own working hours. Consequently, harvested yields stay low, leading again to a low income. Especially if debts need to be paid back, little of the yearly income is left for household consumption and farm management. *“Sometimes we borrow a bit more money for the coffee harvest, and thus, sometimes we do not get anything in the final settlement, sometimes we continue to be in debt”* (organic-fairtrade certified producer, April 2008). When, farmers apply again for a new credit soon after harvest they often enter a vicious cycle of indebtedness (Figure 2).

**Figure 2: The vicious credit – yield cycle**



A major contributing factor to the vicious cycle is that most farmers have no overview of their production and living costs or the amount of money needed for debt payment. Although organic certification requires book-keeping this is often not well

done, especially balance sheets are not filled. The unawareness of costs may be explained by farmers' low educational levels. In Nicaragua, around 33% of population over 15 years is unable to read or write (World Bank, 2007). As most small-scale farmers are financial illiterate, they often sign whatever they are told to get the money. Even cooperatives credits have minimum annual nominal interest rates of 18%. Private microfinance institutions in the region have annual nominal interest rates of up to 36%. The effective interest rates are in both cases much higher. Very often farmers are not aware of the effective interest rate because hidden costs like administration costs, obligatory savings, and risks of exchange rate variations are also added, but are not always explicitly listed in the contracts given to farmers. Even given the case this information is provided most farmers would not be able to calculate the effective interest rate they are paying. Like that, farmers are often unaware by the amount of money required to cancel the debt.

Access to credit is very important for farmers and is their prime motivation for joining their cooperative. The main reason why producers participate in certification schemes is to achieve higher or more stable coffee prices. In 2007, conventional coffee prices were relatively high. In the research region, farm-gate prices for certified coffee were not always higher than for conventional coffee. In part this is due to the timing farmers chose for the final settlement of the bill. Conventional farmers received between 0,83US\$/lb and 0,99US\$/lb green coffee, the price for organic coffee varied from 0,89US\$/lb to 1,30US\$/lb. Between the organic-fairtrade certified cooperatives, farm-gate prices varied even more. One cooperative only paid 0,94US\$/lb-1,10US\$/lb. Reasons are not exactly clear but may be in part due to debt payment and management irregularities. The other cooperatives paid between 0,99US\$/lb and 1,43US\$/lb, depending on the cooperative and the day farmers decided to liquidate their coffee. Taking the maximal coffee price a cooperative paid its farmers, certified farmers received significantly higher prices than conventional

farmers but no difference existed between the two certification schemes. In most cases farmers could not sell all their harvest at these high prices.

For certified cooperatives high conventional coffee prices are a threat because farmers increase sales to conventional market channels. Certified cooperatives demand a certain coffee quality from their members which requires a higher labour input than conventional coffee. This either decreases leisure time or increases production costs when labour is hired. When conventional prices are low, farmers can clearly see the benefits of investing additional labour due to the higher premiums for certified coffee. With high conventional prices, the price differentials for certified coffees shrink. Farmers start selling their coffee in mainstream markets with lower quality requirements, thus reducing costs or work load. Because cooperatives often make their contracts with importers or roasters before or during harvesting time, the mainstream sales of farmers affect the cooperatives' ability to meet its contracts. Rice (2001) mentions this danger when coffee contracts fixed prices before harvest, but it actually becomes a general problem when conventional coffee prices stay high for several years.

Regarding producers' poverty, a cooperative manager pointed out that even with doubling the fairtrade minimum price, cooperative members would still continue to live in poverty as yields are too low for making a sustainable living. For a good sustainable organic farm management, including some replanting of coffee trees, the cooperative estimates production costs to be around 1,37US\$/lb green coffee at current yield levels of around 390kg/ha.<sup>4</sup> The cooperative's farm-gate prices for organic-fairtrade coffee were highest among all cooperatives. Still, average yield levels need to increase around 50% to reach the break even point, or the farm-gate coffee prices need to increase by further 9% respectively. Although coffee prices of

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<sup>4</sup> Further 0,30US\$/lb for the processing costs and cooperative fee need to be added to the costs. The cooperative reached on average a green coffee price of 1,53US\$/lb (FOT), excluding already the social premium.

that cooperative were well above the fairtrade minimum price, Nicaragua's small-scale coffee producers cannot generate an income for their living expenditures from the organic-fairtrade coffee prices nor are they able to pursue a sustainable organic farm management at these yield levels.

While the fairtrade certification guarantees a minimum price to protect farmers against volatile coffee prices, many members of fairtrade certified cooperatives could not connect anything else to the concept than its name. The consequences are twofold. First, farmers continue to be unwilling to invest on their farm because they fear future price drops. Second, when farmers do not know the price they are supposed to get, they cannot exercise control over the cooperative management on whether the received farm-gate price is justified. This enables easy misuse of funds.

It is not easy to identify the reasons for this lack of understanding of fairtrade. Little education may make it difficult to understand and remember the concept. But cooperatives may also present on purpose information in a way that farmers cannot understand, as this reduces members' control over their activities. In some cooperatives, farmers do not dare to raise questions as they have been treated badly and their questions remained unanswered. Other farmers simply accept whatever the cooperative does. Often this attitude is not based on trust, but on a feeling of being powerless and dependent. However, here are differences between cooperatives and positive examples can also be reported, irrespective of the certification status.

Organic farming requires a complex management and understanding of the ecological system. Just a few group training sessions, as often seen when NGOs finance conversion, are not enough for farmers to learn organic farming methods properly. Since most farmers lack money to purchase sufficient synthetic production inputs entry in organic certification schemes is eased. This enhances the common misconception of organic farming that it is an input-free system, ignoring fertilization completely.

In general, farmers are more satisfied with the organic production method when they receive constant training and support. It depends on the cooperative to what extent this service is provided. Cooperatives with a poor extensionist-farmer ratio thus face producer drop-out from the certifications. Cooperatives with a better ratio maintain or even increase membership numbers. Extensionists are all paid by national development projects or NGOs since cooperatives have no own funds available. Interestingly, the smaller organic and organic-fairtrade cooperatives had more projects and a very good extensionist-farmer ratio than the other cooperatives.

Maintaining soil fertility is a major problem on organic farms. Soils are already quite exhausted, so yields depend a lot on fertilization. Organic fertilizer is very labour intense to be produced on the farm and raw materials are scarce. Its purchase is also expensive. When the additional premium obtained for organic coffee needs to be invested in employment of day-labourers or in input costs, organic farming becomes less attractive. *“We do not apply all organic practices which they tell us, we do not apply them, because financing is lacking”* (organic-fairtrade producer, April 2008). But not always financing is lacking. A technician complained that despite having all the knowledge and manpower to manage a farm, some producers do nothing until he visits their farm and tells them to work.

Given the low yield and thus low income levels, it is not surprising that, like the conventional farmers, the majority of certified farmers consider themselves to be poor. *“The majority of us do not have money; the majority of us are poor”* (organic-fair trade producer, April 2008). Despite participating in certification schemes, farmers feel trapped in their poverty: *“Because we are all poor, we cannot escape the misery”* (organic-fairtrade producer, April 2008).

Cooperatives are different in their functions, structure, size, and resource endowment. Consequently, they also offer different services such as access to credits or extension. The majority are financially not self-sufficient. The farmer-cooperative



relations and the level of transparency in the cooperative are critical to gain farmer's trust. Farmers are more committed to selling to their cooperative when they obtain additional services cooperative such as credit and extension and when cooperative staff maintained a good relationship with the farmers.

Only one cooperative managed to sell all their coffee with the double certification, the other cooperatives had different but high shares. The smaller double-certified cooperatives were more successful than the bigger ones. Marketing shares did not only depend on the capacity of cooperative management but also on their engagement and motivation to get good deals for their members.

Certifications, especially fairtrade, are often seen in literature as a risk mitigation strategy regarding price fluctuations. There are two problems attached to that. First, certified coffee price premiums decreased and farmers are unaware of the fairtrade minimum price. Second, adverse cooperative behaviour may occur since annual inspections cannot avoid bad management strategies and misuse of funds. Nearly all of the observed cooperatives, certified or not, have or had management problems in the past, often accumulating huge debts which continue to burden their members. This further explains the limited impact of certification schemes found in Nicaragua.

## **Conclusions**

Results show that coffee yields are usually low due to limited maintenance activities and badly managed plantations irrespective of the certification. Certification schemes offer higher farm-gate prices, but differences between cooperatives exist. In general, farmers with organic-fairtrade certification received higher farm-gate prices than farmers with only the organic or without certification. At given yield levels, farm-gate prices are not sufficient to offset production costs for optimal organic farm management. Consequently, producers' income from conventional and certified

coffee is insufficient for living and farm expenditures. Necessary financial needs are covered by credits, which, when combined with financial illiteracy, result in a vicious cycle of indebtedness.

In northern Nicaragua, certification has a low impact on poverty, including the aspect of food security. We conclude that the main causes of continuing poverty among smallholder coffee growers in Nicaragua are not lack of market access or unfair trading conditions. Reasons for poverty and food insecurity are rather low yield levels, low educational levels and farmers' undeveloped entrepreneurial skills. The cooperatives' resource endowments and management capacities further play an important role. Certification schemes do not address or solve these problems and thus cannot be recommended as a viable business model for poor, small-scale farmers in Nicaragua.

Regarding the development target of poverty alleviation and food security, national governments, NGOs and international donors need to focus more on the factors causing poverty and then promote locally adapted policies and projects. In the case of Nicaraguan small-scale coffee farmers, this could be business training for farmers and cooperative managers, followed up by an improvement of agricultural extension services.

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