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# Fair Trade coffee certification. A tool for rural development and environmental protection in Nicaragua?



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The SARD-Climate project provides report containing an analysis and policy recommendations for a development policy aiming at a Sustainable Development with regard to agriculture and rural areas, food security and climate. The project has been coordinated by Professor John Sumelius at the Department of Economics and Management, Faculty of Agriculture and Forestry, University of Helsinki. Dr Stefan Bäckman has been a project secretary. The project was carried out in cooperation with MTT Agrifood Research Finland Dr, Reimund Rötter and Dr Helena Kahiluoto

The following reports have been issued:

1. General theoretical framework (John Sumelius, Stefan Bäckman, Reimund Rötter, Helena Kahiluoto)
2. Start-up document (John Sumelius, Stefan Bäckman)
3. Investigation of the effects of increases in agricultural productivity with regard to food security, employment and rural development in general (Newton Nyairo, Tuulikki Parviainen, K.M. Zahidul Islam and Stefan Bäckman)
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5. Effects of land tenure and property rights on agricultural productivity in Ethiopia, Namibia and Bangladesh (Shimelles Tenaw, K.M. Zahidul Islam and Tuulikki Parviainen)
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9. Rural financial services and effects of microfinance on agricultural productivity and on poverty (Shimelles Tenaw and K.M. Zahidul Islam)
10. Fair Trade coffee certification. A tool for rural development and environmental protection in Nicaragua? (Joni Valkila)
11. Implications of and possible responses to climate change (Helena Kahiluoto and Reimund Rötter)

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## **SARD-Climate**

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# Fair Trade coffee certification

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A tool for rural development and  
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## **Abstract**

This paper analyzes the possibilities and challenges of Fair Trade certification to improve the well-being of small-scale coffee growers and coffee laborers as well as promote environmental protection in the global South. Seven months of fieldwork was conducted in 2005–2006 and 2008 to study the roles of a wide range of farmers, laborers, cooperative administrators, and export companies in Fair Trade coffee production and trade in Nicaragua. The results indicate that Fair Trade's opportunities to provide a significant price premium for participating farmers largely depend on world coffee prices in mainstream markets. Small-scale, low-intensity farming produces very little coffee in the case of the most marginalized farmers, keeping these farmers in poverty even when price premiums are available from certified markets. While Fair Trade has promoted premiums for social development for participating producers and strengthened the institutional capacities of the cooperatives involved, its ability to enhance significantly the working conditions of hired coffee laborers remains limited. Fair Trade has a potential to promote environmentally benign small-scale shade coffee production providing numerous ecosystem services.

Key words: Fair Trade, Certification, Coffee, Coffee cooperatives, Labor conditions, Organic production, Nicaragua

## **Introduction**

In recent decades, a rapid proliferation of different coffee certification initiatives seeking to advance environmentally friendly and socially responsible systems of coffee production and trade has occurred. At the same time, there has been a downward trend in coffee prices.

Reasons for decreasing prices include the collapse of the International Coffee Agreement (ICA) and its production quotas, increased productivity through high-yield coffee varieties, “technification”(higher intensity farming) and some mechanization of production, as well as improved roasting techniques, which have enabled roasters to use larger shares of cheaper to produce Robusta coffee in their blends (Ponte, 2002; Gilbert, 2006).

Fair Trade originated in response to declining and volatile coffee prices. It has grown into a certification system that aims to support democratically organized cooperatives of small-scale coffee farmers in developing countries through payment of minimum prices, funds for social development, improved labor rights and long-term trading relationships (Muradian and Pelupessy, 2005; Raynolds et al., 2007).<sup>1</sup>

Among the Fair Trade certified products, coffee is the best-established item. Globally, 231 coffee producer groups are certified by Fairtrade Labelling Organizations International (FLO), representing more than 50% of the FLO-certified producer groups (FLO 2007a; FLO-Cert 2007). Coffee is also a commodity with a strong South-North production-trade flow, as almost all of the world’s coffee is produced in the global South, while coffee trade and consumption are largely dominated by the global North (Taylor 2005). About 78% of Fair

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<sup>1</sup> The most important third-party certification schemes in the coffee sector are Fair Trade, Organic, Rainforest Alliance, Utz Certified, and Shade-Grown/Bird-Friendly. For comparisons between different certification schemes, see Muradian and Pelupessy (2005) and Raynolds et al. (2007a).

Trade certified coffee comes from Latin America, with Mexico, Peru, Guatemala, Colombia, and Nicaragua being the largest exporters.<sup>2</sup>

This paper aims to analyze the possibilities and challenges of Fair Trade to act as a tool for rural development and environmental protection in Nicaragua. As part of the commissioned development research on rural development in the context of climate change, this document addresses the following research question: Does Fair Trade promote rural development and build the adaptive capacity of farmers to climate change? The possibilities of Fair Trade to protect the environment in the case of coffee production in Nicaragua are also analyzed.

This paper is based on the author's on-going PhD research on impacts of Fair Trade and organic coffee certification on cooperatives, farmers and workers in Nicaragua. To collect data for this research, seven months of field work was carried out in 2005–2006 and 2008 to interview a wide range of actors in Fair Trade, organic and conventional coffee production and trade in Nicaragua (Valkila and Nygren, 2009; Valkila, 2009).

The remainder of this document is structured as follows: Section “coffee farmers and cooperatives in Nicaragua” provides background information on small-scale coffee production and coffee cooperatives in Nicaragua; Section “At the core of Fair Trade: The minimum price and Fair Trade social premium” introduces the tools utilized by Fair Trade in its attempt to assist small-scale coffee producers and laborers as well as analyzes the effectiveness of these methods; Section “Low- and high-input coffee production” analyzes different types of coffee production in Nicaragua and elsewhere; Section “Coffee farming, Fair Trade and the environment” discusses some of the environmental issues in coffee production and analyzes the environmental benefits of different types of coffee production

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<sup>2</sup> Information provided by Guillermo Denaux, FLO, through email communication with the author, on September 24, 2007.

assessing the role of Fair Trade in supporting farmers, who use environmentally sustainable methods; Section “Conclusions and recommendations” offers general conclusions on the possibilities and challenges of Fair Trade in assisting small-scale farmers and their organizations in Nicaragua.

### **Coffee farmers and cooperatives in Nicaragua**

The current Nicaraguan economy is characterized by an unequal distribution of resources, with 52.5% of the rural population estimated to live in extreme poverty (CEPAL 2003: 4). Socioeconomically, coffee farmers are a heterogeneous group in Nicaragua. As a general observation, they do not represent the poorest population in Nicaraguan rural areas. However, the most marginalized small-scale coffee farmers are severely affected by lack of resources for farming, basic living expenses and education of their children. There are about 48,000 coffee farmers in Nicaragua, 80% of which are small producers with less than 3.5 ha of coffee in cultivation. Despite the vast number of these micro-producers, farms larger than 3.5 ha produce more than 85% of the Nicaraguan coffee harvest due to higher intensity of management typical to larger farms (Flores et al. 2002: Annex).

Coffee cooperatives have been the focus of Fair Trade since its inception. Fair Trade certifies only cooperatives of small-scale coffee farmers. For other products, such as bananas and tea, large individual plantations are also certified. Currently over 10,000 coffee farmers are members of Fair Trade certified cooperatives in Nicaragua. A substantial number of these farmers are also organically certified. Approximately 38% of the 10.7 million kg of coffee produced by the over 9000 members of the umbrella organization for Nicaraguan coffee cooperatives, Cafenica, was organically certified in 2007 (Cafenica 2007:4) giving a rough indication on the percentage of Fair Trade coffee production that is also organically certified in Nicaragua. Fair Trade certified cooperatives sell their coffee as Fair Trade certified, double certified as Fair Trade organic, organic alone, and conventional coffee. One large union of

cooperatives in Matagalpa, Cecocafen, additionally has Utz certified and C.A.F.E practices (Starbucks company's preferential supplier program) certified members. Although double certification as Fair Trade organic is not very common for coffee sales in Finland, globally there is a significant overlap between the two certifications: approximately 50% of Fair Trade coffee is sold as double certified Fair Trade and organic. In the United States, 68% of all Fair Trade coffee sold during the last 10 years has been also organically certified (TransFair USA, 2009:9).

Nicaraguan coffee cooperatives range in size from small organizations of a few dozen members to unions of cooperatives with more than 2000 members. Some of the cooperatives consist of organically certified farmers only, while in others there are both organically certified farmers and those utilizing conventional methods. Some of the cooperatives deal with multiple agricultural products for example coffee and honey or coffee, cattle and basic crops, although coffee is the major crop for all these cooperatives. The cooperatives are democratic, in the sense that the leaders are elected and their actions must be approved by the membership and meetings are held to take decisions, but in practice the cooperatives are largely run by their professional staff, who are more qualified than the rank-and-file members of the cooperatives to take decisions on business management issues. One result of this division to leadership and rank-and-file members of cooperatives is that the Fair Trade certified rank-and-file members know very little or nothing about Fair Trade. They do not know about the requirements presented by Fair Trade standards for certified farmers and their organizations, nor do they know about the advantages that Fair Trade may provide. This raises doubts about the ability of Fair Trade to significantly empower marginalized small producers and change the way coffee is produced.<sup>3</sup> Few of the farmers identified themselves

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<sup>3</sup> Similar issues of farmers' not fully understanding that they are participating in the Fair Trade movement have been noted by Shreck (2005) in the case of banana producers in the Dominican Republic and by Lyon (2006) in the case of coffee producers in Guatemala.

as part of a global movement aiming to alter the global structures of coffee trade by creating alternative networks between disadvantaged Southern producers and socially conscious Northern consumers (Valkila and Nygren, 2009).

Competition in coffee exporting is free in Nicaragua and numerous export companies exist. Sources of credit for farmers also exist, although in times of extremely low coffee prices, credit has not always been available. Coffee export companies offer credit to coffee farmers at reasonable rates to establish ties with farmers and ensure that farmers sell their coffee through them. The larger export companies offer credit at 10% annual interest, which during recent years has been very close to annual inflation and thus can be considered inexpensive credit.

#### **At the core of Fair Trade: The minimum price and Fair Trade social premium**

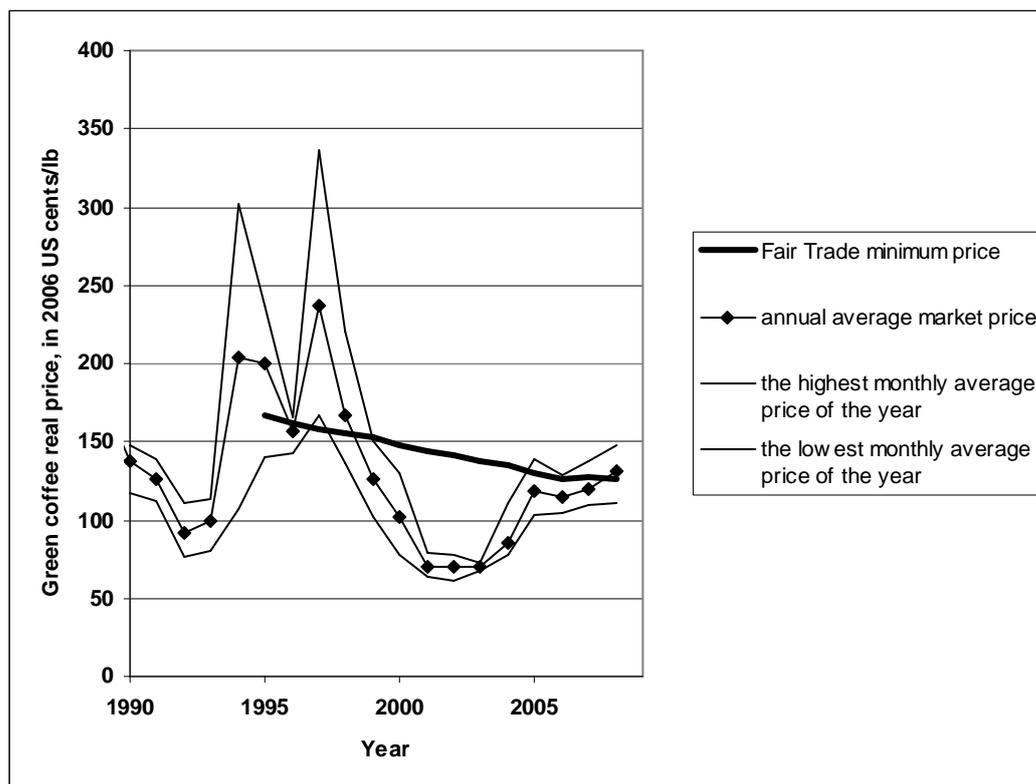
Fair Trade is the only certification system, which defines minimum prices for products. Figure 1 presents the development of the annual average price of coffee in the mainstream markets and the Fair Trade minimum price for Central American *arabica* coffee. The Fair Trade minimum price includes a social premium<sup>4</sup>, which must be used by cooperatives in developing the cooperative or coffee growing communities by projects chosen by the members of the cooperatives. The Fair Trade standards stipulate that when the market price of coffee is higher than the Fair Trade minimum price, the market price plus the Fair Trade social premium applies<sup>5</sup>. At the moment, the Fair Trade minimum price for Central American *arabicas* is 125 US cents per pound, plus 10 US cent social premium and a 20 US cent premium, if the coffee is additionally organically certified (FLO, 2007c). Figure 1 indicates that in 2000–2004 when the international coffee prices were low, the Fair Trade minimum price guaranteed a substantial premium for coffee, improving price stability for those

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<sup>4</sup> Social premium: five US cents per pound until 2007 and 10 US cents per pound since 2008.

<sup>5</sup> The price paid for Fair Trade coffee can be higher than the minimum price. This is determined in negotiations between buyers (typically export companies or roasters) and sellers (cooperatives).

cooperatives that were able to sell to Fair Trade markets, but in 2005–2008 the Fair Trade minimum price has been within the volatility of market prices and has had little significance for producer organizations<sup>6</sup>. The figure also indicates that the modest increases that were made to Fair Trade minimum price in 2007 and 2008 stopped the minimum price from falling, but did not increase the price in real terms.



**Figure 1** Fair Trade minimum price (FOB) for Central American *arabicas* and the average New York market price for other mild *arabicas* in 1990–2008, deflated against the US consumer price index. The prices are in 2006 US cents per pound (0.454 kg). The highest and lowest monthly average prices are shown to indicate price volatility within years (source data: FLO 2007b and 2007c, ICO, 2009).

<sup>6</sup> Fair Trade certification has been used by producer organizations to negotiate premiums for their coffee even though the minimum price has had little significance in times of higher market prices.

With Fair Trade coffee, there is a structural mismatch of supply and demand: a large number of certified cooperatives exist, which would like to sell their coffee for premium prices, but the demand, buyers willing to pay more, is limited. As a result Fair Trade certified cooperatives typically sell only a small percentage of their coffee production as Fair Trade certified. In Nicaragua, a typical cooperative sells 30–60% of their production to Fair Trade markets, but also extreme cases exist where a cooperative sells nothing, despite being certified, while another cooperative sells close to 100% of its production to Fair Trade markets. As the Fair Trade system does not allocate sales quotas to certified producer organizations, some cooperatives are favored more than others by the system (Valkila and Nygren, 2009).

Fair Trade has not created standards for coffee quality, but during recent years coffee buyers have demanded high quality from producer organizations in exchange for the premium price paid for Fair Trade coffee. Earlier Fair Trade was criticized for selling expensive, but mediocre coffee. Now both quality requirements and market prices are high, resulting in a situation where coffee prices match or surpass the Fair Trade minimum prices. This has been the case especially since the end of 2004 when higher market prices for coffee have prevailed. In this situation, the “solidarity” expressed by Fair Trade is questionable, although Fair Trade provides some guarantee for future prices.

The prices farmers receive in Fair Trade certified cooperatives depend on the prices their cooperative receives for its coffee sales and the expenses of the cooperative. In some cases the prices received by farmers have been higher than the prices they would have received through other coffee buyers in Nicaragua. This has been the case in cooperatives which sell a large part of their production to Fair Trade markets during times of low market prices in the international markets (e.g. in 2000–2004) when Fair Trade has given a clear advantage over other markets.

Higher coffee prices in the international markets since the end of 2004 have demonstrated that Fair Trade certified cooperatives are not very efficient in their operation: at times coffee export companies have been able to offer higher prices for coffee than the cooperatives. This has resulted in problems in some cooperatives, because their members sell coffee outside the cooperative when prices are attractive elsewhere. Also credit supplied by cooperatives has been more expensive compared to credit offered by export companies (Valkila and Nygren, 2009). One solution to the competition cooperatives face during high market prices would be that cooperatives build their reserves and pay their debts during low market prices when Fair Trade gives them an advantage compared to other actors in coffee trade. However, the future coffee prices are unknown and we do not know whether Fair Trade will again give a similar advantage to Fair Trade producers as it did during the low market prices in 2000–2004.

The situations when Fair Trade has enabled cooperatives to pay higher than market prices to their members raise a question about the fairness of how the advantages of Fair Trade are distributed within a cooperative. Because the price premium is tied to the amount of coffee produced, larger producers within cooperatives, who are typically not the poorest, benefit more from the price premium compared to smaller producers within a cooperative. On the other hand, the Fair Trade social premium benefits all members of the cooperative and to some extent wider coffee growing communities, despite the funds having been raised mostly by the larger producers within the cooperative. In many cooperatives, a large part of the social premium has been used to pay for Fair Trade and organic certifications and to improve infrastructure of cooperatives, raising questions about the ability of Fair Trade to offer significant funding for wider social programs in coffee growing communities (Valkila and Nygren, 2009).

In addition to benefits from Fair Trade, cooperatives and farmers have benefited from various development projects. Coffee cooperatives provide an organizational structure to reach a large number of farmers through projects. There have been a large number of projects in recent

years and there seems to have been little coordination between the projects: similar projects have been implemented by different actors in various cooperatives, for example assisting in improving coffee quality by funding the construction of wet mills and coffee drying facilities on farms. Coffee quality has improved in Fair Trade certified cooperatives. For example, a manager of a cooperative in Boaco reported that the quality of coffee in their cooperative had improved from 65 to 85 points on SCAA (Specialty Coffee Association of America) quality scale during the past few years as a result of development cooperation funding for improved facilities.

It can be concluded that Fair Trade has provided some support to cooperatives, especially in times of low market prices for coffee and through Fair Trade social premium. Although problems remain such as the apparent inefficiency of cooperatives compared to larger operators, it can be argued that Fair Trade promotes the diversity of trade channels, credit providers and sources for technical assistance to farmers. Cooperatives dealing with various products enable their members to diversify their sources of income. In a climate change setting, all the above mentioned diversity builds resilience against abrupt changes.

### **Low- and high-input coffee production**

The most important coffee varieties are Arabica and Robusta. In Nicaragua only Arabica coffee is grown. Nicaraguan coffee is typically *washed Arabica*, coffee cherries are pulped and washed immediately after they are picked. Most Nicaraguan coffee is *strictly high grown*, grown at an altitude above 800 meters, which provides good flavors. In Nicaragua there is a continuum of farms from low input/low yields to high input/high yields. Small-scale farmers in conditions of rural poverty often grow coffee in low-input or no-input systems with low yields. When inputs are extremely low, coffee yields are typically around or less than 300 kg/ha. With high inputs, Arabica coffee yields of 3000–5000 kg/ha are possible (van der Vossen, 2005), but average yields in Nicaragua are approximately 750 kg/ha (Flores et al.,

2002). The best yields achieved by farmers I interviewed were above 2000 kg/ha, averaged over two consecutive years.

One of the major cost items in coffee farming in Nicaragua is harvesting, which is done by selective hand-picking on all types of farms. In Brazil, the largest coffee producing country in the world, stripping and machine-harvesting is common, which lowers production costs. In Vietnam, high yielding Robusta coffee is commonly strip harvested, which is also more cost effective compared to selective hand-picking.<sup>7</sup> Nicaraguan hand-picking and processing enables farmers to produce well-selected, high quality coffees, although this is possible also with methods of mechanical harvesting and selection, when these are carefully performed.

From the point of view of rural poverty, low yields are problematic, because even when coffee is Fair Trade certified and sold with premium prices, income from a small coffee farm is small. Valkila and Nygren (2009) report that in harvest season 2005–2006, farm gate prices of coffee in Nicaragua were on average 88 US cents per pound (194 US cent per kg) of green coffee. Prices to farmers through Fair Trade certified cooperatives were roughly equal to prices paid by export companies<sup>8</sup>. A farmer with two ha of coffee and typical low yields (300 kg/ha) produced 600 kg of green coffee. The gross annual income from coffee was 1164 USD (which is estimated to be equal to annual return). To give an idea of what this amount of money buys in Nicaragua, the value of a basket of goods consisting of basic food items for a family of six in a rural area was 876 USD per year in 2006, indicating that low-intensity small-scale coffee production on two ha is barely enough to feed a family (INIDE, 2007: 356). Making precise estimations on the net return is difficult, because the costs depend on whether family labor should be valued to equal the cost of hired labor and the value assigned

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<sup>7</sup> Strip harvesting: rather than picking individual coffee cherries one by one, cherries from entire branches are stripped at once and the cherries fall on sheets of plastic placed under the coffee trees.

<sup>8</sup> When coffee was additionally organically certified, prices paid to farmers were higher. In seven interviewed cooperatives the price was 111.1 US cents per pound in 2005.

to land, which is typically inherited, received in land reformations or purchased years ago with a price that is very small compared to today's prices. The cost of planting a coffee farm is significant, but once the farm has been planted it can produce coffee for decades in a low-intensity system where plant growth (and aging) is slow.

It is noteworthy that harvesting alone required 53 working days in the case of producing 600 kg of green coffee. If this was done by hired labor, the expenses ranged between 211 and 264 USD in 2006<sup>9</sup>, representing approximately 18–23% of the annual gross income from small-scale coffee production. As the majority of members in Fair Trade certified cooperatives grow coffee on only 0.5–3 ha, the above figures indicate that low-intensity small-scale Fair Trade coffee production in Nicaragua typically provides a small income<sup>10</sup>. However, as the farms typically are diverse production systems producing e.g. corn, beans, vegetables, fruit, poultry, eggs, cattle, milk and honey, the farmers do not depend on coffee income alone. The above figures also indicate that the revenue from coffee production barely enables farmers to pay their workers the prevailing wages of 4–5 USD per day. If Fair Trade were to require that higher wages be paid, the premium prices paid to farmers should be significantly higher than they are at present or alternatively coffee production should become significantly more efficient.

### **Coffee farming, Fair Trade and the environment**

The Fair Trade system provides an interesting case to explore: could the system be used to provide payments for environmental services to farmers? To address this question the following issues will be discussed: 1) What environmental issues are relevant from the point

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<sup>9</sup> These calculations are based on wages paid to coffee harvesters as reported by Valkila and Nygren, 2009. Farmers typically provide meals to their workers and the cost of meals has been estimated to be 1 USD per worker per working day.

<sup>10</sup> The income was slightly higher when a farmer additionally had organic certification. Sales of 600 kg of Fair Trade/organic coffee generated 1465 USD. Expenses in low-input organic and non-organic production were roughly equal (Valkila, 2009).

of view of coffee farming? 2) Has Fair Trade until now protected the environment through its coffee certification in Nicaragua? 3) What future possibilities are there for Fair Trade and payments for environmental services?

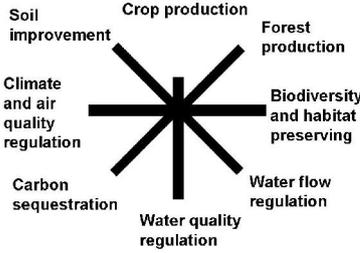
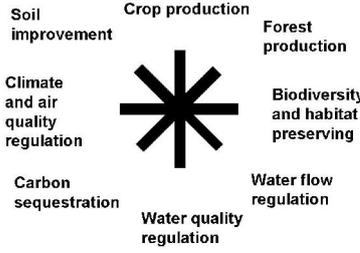
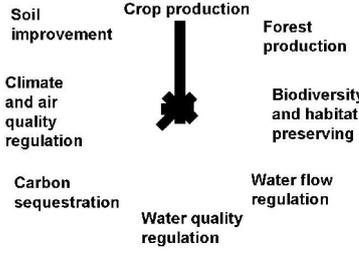
There is a continuum of coffee farms from dense shade tree cover to less shade and no shade (Perfecto et al., 2005). Farms with no shade are rare in Nicaragua, but there are farms with little shade or a “monoculture shade” consisting of one (nitrogen-fixing) tree species. Coffee tolerates a dense tree cover with low-intensity farming, plant growth is slower, yields are lower and nitrogen-fixing shade trees can provide fertilization for coffee (Staver et al., 2001).<sup>11</sup>

Coffee farms with a structurally and floristically diverse shade cover provide environmental services that resemble those provided by forests (Bacon et al., 2008: 338–339). They store carbon from the atmosphere<sup>12</sup>, create beautiful landscapes and protect watersheds by slowing down run-off. Croplands and pastures occupy today roughly 40% of the land surface and global land cover and is the main modification humanity makes to land cover, and therefore a main driver of ecological change and biodiversity loss at the global scale (Tilman et al., 2002). As coffee farms are located in some of the biologically most diverse and most threatened environments in the world, their role as refuges for wildlife is important (Moguel and Toledo, 1999). Some of the wildlife on coffee farms is important for agriculture and coffee farming itself. For example, shade trees provide nests and food for bees, which improve coffee yields by providing pollination (Ricketts et al., 2004). Figure 2 visualizes the continuum of coffee farms from low- to high-intensity farming and associated shade tree cover and environmental services provided by different farms.

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<sup>11</sup> The amount of shade on coffee farms is also associated with the altitude: on lower altitudes coffee tolerates more shade, which protects coffee from heat.

<sup>12</sup> It has been estimated that in Sumatra, Indonesia, conversion of all sun-coffee to shade coffee systems could increase average landscape level C stocks by 10 tonnes C/ha during a 20-year period, or 0.5 tonnes C/ha/year (van Noordwijk et al., 2002: 288).

<p>A low-intensity coffee farm with a dense shade tree cover in Nicaragua. All work is done with manual labor.</p>	<p>Medium-intensity coffee production with some shade trees in Nicaragua. All work is done manually, except coffee processing (wet milling).</p>	<p>High-intensity coffee production without shade trees in Brazil. Production is almost completely mechanized including harvesting and processing (photo: Fratello Coffee Roasters)</p>
		
		

**Figure 2** A continuum of farms from low- to high-intensity management. As the intensity of farming increases and the amount of shade trees and environmental services provided by the farms decrease (Foley et al., 2005; Moguel and Toledo, 1999).

Low-intensity coffee farming is feasible for small farmers with limited access to capital and credit and this type of farming provides important environmental services, but there are some disadvantages. It is likely that intensification and mechanization of coffee production continue elsewhere, creating pressures for further reductions in coffee prices. The same concerns other products of small-scale farming in Nicaragua. It is questionable whether future consumers would be willing to pay significantly more for coffee, which is produced with manual labor on farms that resemble forests. On a global scale, population and economic growth associated with changing eating habits, limited arable land and biofuel production

create pressures to intensification of agricultural production. A central question for sustainable agriculture is how production can be intensified without causing serious damage to the environment (Tinker, 1997; Vosti and Reardon, 1997; Pretty et al., 2003). Intensified coffee production, which implies less shade trees and less forest-like farms, reduce the need for land areas for coffee production and can prevent the conversion of forests to farms.

Intensive coffee production requires high use of fertilizers, which results in leaching of nutrients to waterways and nitrous oxide (a potent green house gas) emissions to the atmosphere. While careful use of nutrients should be encouraged, it should be noted that the problems created by fertilizer use are much more severe in wealthy countries than they are in poor countries such as Nicaragua, where both fertilizer use and greenhouse gas emissions are small compared to levels in wealthy countries. Intensive coffee production is also associated with the use of pesticides, especially fungicides and herbicides, which cause health problems to workers, who typically use inadequate protective clothing. Various alternatives exist to limit the use of these chemicals, although the alternatives are typically slightly more expensive. For example, manual weeding and cover crops can be used instead of herbicides. Some organic coffee farms in Nicaragua raise sheep, which eat weeds, but not coffee trees, and provide fertilization in the process.

Fair Trade standards include environmental criteria, for example a long list of prohibited pesticides (although pesticides are not completely banned). However Fair Trade certified coffee farmers in Nicaragua are not aware of these standards or other requirements of Fair Trade. Shade coffee production is not a requirement of Fair Trade, but much of the coffee produced by Fair Trade certified farmers in Nicaragua is grown under a diverse shade cover. It can be argued that this type of coffee production is good for the environment, because of the numerous environmental services it provides. This way of coffee production was there in the first place and did not come as a result of Fair Trade. Another example of environmentally sound practices, although not as a result of Fair Trade, is that certified farmers in Nicaragua

have made improvements to wet-milling of coffee, including systems which prevent waste waters from reaching waterways. These improvements have largely been funded by organizations providing development aid. It can be argued that Fair Trade provides some support to coffee cooperatives and thus maintains small-scale, environmentally benign coffee production. On the other hand Fair Trade coffee cooperatives in Nicaragua receive price premiums even outside Fair Trade markets (as relationship coffee, organic, specialty) so it is not clear that Fair Trade would provide remarkable support to farmers compared to other alternatives. For example, Nicaraguan coffee cooperatives sell their organic coffee outside Fair Trade markets with prices that are very similar to Fair Trade organic prices (Valkila, 2009).

One feature of Fair Trade environmental criteria is that they discourage intensification of production using inorganic fertilizers, high energy use, genetically modified organisms and wasteful irrigation, encouraging instead agroforestry, organic and on-farm fertilizers (FLO, 2009: 12, 21, 22). Until now these standards have not been strictly enforced, for example Fair Trade certified coffee farmers also include some farmers that use intensive cultivation methods such as fertilization. If the above standards were enforced, they would guarantee that environmental services continue to be provided by the agroforestry systems of Fair Trade certified small coffee farmers. On the other hand, obviously they would limit the options for farmers, including the option of intensive farming.

Organic fertilization and nutrient recycling are option for farmers and can be done with costs that are comparable to inorganic fertilization. However, organic fertilization is not feasible for all farmers, because the required quantities of organic materials (mostly coffee pulp and manure) are not available or their transportation to farms is unfeasible. Also, organic fertilizers are not as effective as inorganic ones due to nutrient losses, which occur when organic fertilizers release their nutrients slowly including at times when they are not absorbed by crops (Valkila, 2009).

At the moment Fair Trade does not include an explicit goal of providing payments for environmental services, but this would be an option for the future. Payments for environmental services can be divided in two groups: 1) paying for existing environmental services, 2) paying for new measures taken, for example to sequester carbon by establishing agroforestry systems on degraded land or adopting measures to incorporate more carbon in soils. If it can be demonstrated that the carbon sequestration is additional to what would occur in the absence of a carbon sequestration project, such carbon sequestration could qualify for carbon trade under the clean development mechanism of the Kyoto protocol (Cacho et al., 2003). Carbon sequestration through agriculture can create win-win-win situations: carbon sequestration can protect climate and lead to recovery of degraded lands, which could improve agricultural productivity.

If Fair Trade were to provide payments for environmental services, it would face at least the following challenges: How to quantify the environmental services provided? How to monitor that additional services have been created or that existing services have been maintained? How to ensure that the extra money consumers pay reach the farmers? The last question is central in all ethical labeling: it would cost consumers only little more to provide a significant additional income to producers in developing countries (for example for environmental services provided), but as consumers are not dealing directly with producers, but typically long chains exist between producers and consumers<sup>13</sup>, it may be that the extra money consumers pay for ethical products is divided between several actors of the chain, benefiting the poorest end of the chain very little (for more information see up-coming commissioned development research report by Haaparanta, Niemi and Valkila).

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<sup>13</sup> For example a typical Fair Trade coffee value chain would be farmer > cooperative > roaster > whole sale > retail > consumer.

Tourism provides a significant source of income for a small number of small-scale coffee farmers. This income can be credited to Fair Trade, organic production and environmentally interesting and scenically beautiful polycultures, because all these aspects are used by coffee cooperatives to market stays on coffee farms. Several farmers interviewed estimated that tourism is a more important source of income to them than coffee production is.

### **Conclusions and recommendations**

According to recent research on Fair Trade, the certification improves the producers' resilience to adverse shocks, reduces livelihood vulnerability, and improves organizational skills of small coffee producers, laborers, and their associations (Bacon 2005; MacDonald 2007; Murray et al. 2006; Raynolds et al. 2004). However, Valkila and Nygren (2009) conclude that Fair Trade has not improved the working conditions of coffee laborers in Nicaragua. The certification schemes, including Fair Trade, have been criticized for increasing Southern producers' dependency on third party-verified certifiers and on socially conscious Northern consumers (Freidberg 2003; Mendoza and Bastiaensen 2003; Mutersbaugh 2005). Concern has also been raised regarding the current mainstreaming of Fair Trade, with increasing amounts of certified coffee being sold in mainstream markets. According to several researchers, this may impair Fair Trade's ability to empower marginalized producers and to transform the power asymmetries prevalent in conventional coffee trade (Daviron and Ponte 2005; Guthman 2007; Renard 2005; Taylor 2005).

In some cases Fair Trade has increased prices received by farmers. This has been the case especially during low markets market prices when Fair Trade minimum price has given a significant advantage compared to conventional markets. On the other hand, especially in the current situation, where market prices for coffee are close to the Fair Trade minimum price, most Fair Trade certified cooperatives are not able to pay their members higher prices compared to other markets available to farmers (Valkila and Nygren, 2009). Cooperatives add

diversity to coffee markets in Nicaragua, provide credit to farmers and enable organic certification for small farmers. Organic certification and market channels for organic coffee would be impossible for a small farmer without cooperative membership. Fair Trade organic production and trade can increase farmer income when low-intensity organic production is compared to low-intensity conventional production. With higher intensities of production, the advantages of Fair Trade organic production are not straightforward, but depend on yields and prices paid on conventional markets (Valkila, 2009).

Polycultures such as agroforestry systems - supported by Fair Trade in the case of coffee production - are less vulnerable to unexpected changes in weather patterns. Shade trees create favorable micro-climates regulating temperature and water flow. Polycultures are also less vulnerable to abrupt changes, because it is likely that some of the cultivated crops and the animals raised can withstand changes or even benefit from them. For example, if coffee production became impossible in Nicaragua due to changes in weather patterns, some other form of current agricultural production could benefit from the changes or tolerate them.

Nicaraguan small-scale coffee production faces competition by mechanized, irrigated, intensive coffee production in Brazil and elsewhere. Harvesting, pruning, fertilization and other tasks are difficult to mechanize in agroforestry systems, because machines are hard to operate amid trees. This technical difficulty could, obviously, be overcome in the future. The next hurdle is that small farmers often cannot invest in machinery and the investments may be too expensive per unit of coffee produced on a small farm.

Irrigation is an option for Nicaraguan small-scale coffee farmers to increase yields and tolerance to unusual weather patterns. Irrigation of course depends on current weather patterns, which may change in the long run as a result of climate change. In many coffee producing areas, development projects have created water storage and distribution systems. At the moment, mountainous coffee producing areas have large reserves of water. Even

during the dry season water is available, but it is not widely used in irrigating coffee, although drip irrigation systems are being tested in coffee production.

Coffee farms act as carbon sinks. Especially restoration of underutilized or degraded lands and rangelands and carbon sequestration to soils are possible mitigation options in agroforestry coffee production. Possibilities also exist for combining cattle and coffee production in Nicaragua. Cattle production typically concentrates nutrients by importing them from feed producing areas and from pastures to sheds. Many small-scale coffee farmers already use cattle manure as a fertilizer, but there is potential to significantly increase this practice.

Small-scale coffee production in Nicaragua is relatively sustainable environmentally, but income of hired labor and the most marginalized farmers remains low, even when coffee is Fair Trade certified. Pressures exist to improve labor conditions and efficiency of coffee production in the future, whether coffee is certified or not. Significant increases in Fair Trade prices seem an unlikely option and would create problems in distribution of benefits from Fair Trade. Significant increases in salaries or other employment benefits to hired laborers would require significant advances in efficiency of production/operation of cooperatives and/or higher prices paid to farmers for coffee. Fair Trade has limited itself to organizations of small-scale farmers and low-input technologies. The future of this type of coffee production is uncertain, which raises questions about the ability of Fair Trade to reach its goals of empowering small farmers and improving working conditions.

Nicaraguan coffee cooperatives can produce high quality coffees, which they can market to environmentally and socially conscious consumers as coffee produced by small-scale farmers producing coffee in a relatively sustainable manner. This marketing can be done with or without Fair Trade certification, but certifications such as Fair Trade and organic add weight to their claims. Finally, possibilities exist to farmers outside coffee farming. Emerging trends

include producing counter seasonal produce to the U.S. market and ethnic foods to Latino populations in the U.S. The sustainability of producing food to far away locations is questionable itself, but nevertheless an increasing reality in Nicaragua as a result of the recently signed free trade agreement between Central American states and the United States and the climatic advantages Nicaragua possesses in farming.

Development agencies may consider it important to continue to support small-scale coffee farmers and their cooperatives, because they creates diversity to sources of income, credit and technical assistance to farmers in rural areas and because this type of coffee production is good environmentally. The agencies providing assistance could increase coordination of their efforts, as currently many organizations are working on similar tasks in various cooperatives. For example, a Finnish NGO, Solidarity (funded by the Ministry for Foreign Affairs of Finland), is implementing similar tasks with a coffee cooperative in Boaco, Nicaragua, as a project funded by the government of Spain is implementing with cooperatives in Jinotega, Nicaragua. Increasing efficiency of coffee production worldwide, but especially in Brazil, is creating pressures to further decreases in coffee prices. Small-scale coffee production in Nicaragua is likely to be profitable only if significant price premiums are available through Fair Trade, organic or other certified markets; significant price premiums are attained through exceptional quality; or production is intensified, or a combination of these options.

**Five key messages of this paper:**

- 1) Fair Trade system of minimum prices guarantees a higher price for producer organizations in times of extremely low market prices. This was the case with coffee in years 2000–2004. Fair Trade can be argued to support/favor cooperatives of small-scale coffee farmers.
- 2) For a number of reasons discussed in this paper, when Fair Trade certified producer organizations pay their members for coffee, the price is not always higher than other markets in Nicaragua would offer.

3) Hired workers on Fair Trade certified coffee farms and cooperative owned coffee processing facilities do not enjoy better working conditions compared with working conditions in rural Nicaragua in general. Poor working conditions in coffee production in general needs to be addressed. As a major coffee consumer, Finland has a responsibility in this.

4) Practically all the coffee produced by small-scale farmers is shade-grown in Nicaragua. The yields are typically low, but the farms produce not only coffee, but many other agricultural products and they provide a number of environmental services. This type of diverse agricultural production can be resilient to changes such as those caused by climate change.

5) Fair Trade and organic certifications can add income to low-intensity small-scale farmers slightly, but the price premiums do not enable farmers to earn as much as they would earn using more intensive methods of coffee production. Further compensations for the environmental services provided would be needed.

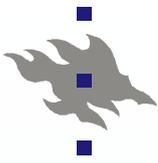
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