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Is sustainable agriculture a viable strategy to improve farm income in Central America? A case study on coffee

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Abstract

In order to alleviate the impacts of the low coffee prices in recent years, sustainable coffee production and certification have been a logical strategy for many producers to: a) differentiate their product in the market place; and, b) shift their production cost structure away from more input intensive techniques. This paper explores the two most widely recognized certification schemes (organic and "fairtrade") to determine whether certification to these systems is actually benefiting producers. It then explores the principal differences in production costs and price premiums for the two systems and their effect on different categories of producers. Finally, it considers the dynamics of the conventional and sustainable coffee markets to assess the likely medium to long-term economic outlook for producers involved in the certification schemes. The research is based on a combination of published sources and detailed primary source data (interviews and surveys) gathered by the CIMS Foundation.

Keywords: Coffee; Sustainable production; Economics; Central America

1. Introduction and problem definition

Many Latin American coffee farmers, and with them their national economies, have suffered greatly from the ongoing coffee crisis. The abandonment of coffee quotas regulated by the International Coffee Agreement in 1989 led to a worldwide fall in producer prices for coffee. In the mid-nineties the price for coffee recovered for some time—due to high yield losses caused by drought and frost in Brazil. However, in the late 1990s coffee prices decreased drastically to their lowest real levels of the century. (see Chart 1). The current ongoing price crisis is not only due to the residual effect of the abandonment of coffee quotas, but also by the entry of new producers in South East Asia, as well as a substantial increase in production in traditional Latin American producing countries like Brazil.

The crisis has affected deeply the Central American countries, due to their higher production costs relative to large-scale producers such as Brazil and Vietnam. Large numbers of Central American farmers have been forced to leave the industry. A significant number of others have sought to overcome the crisis buying their product through certification to sustainability oriented systems.

In general, a conversion from conventional to certified sustainable production is perceived and promoted as a viable opportunity to differentiate products and therefore to achieve substantially higher prices (see also FAO, 2004). Unfortunately, this perception is based on very limited data, primarily of retail prices for sustainable coffee. There is only sporadic information and a limited understanding of prices along the various steps of the trade channels. Farm gate price data is generally anecdotal and difficult to compare.

In addition, the requirements for certification have impacts on the production process, farm management and consequently the structure of production costs. These considerations are rarely taken into account because there is virtually no production cost information on which to base decisions. The lack of reliable price data and market intelligence, and valid ex-ante production cost information mean that producers make conversion decisions based on a virtual information

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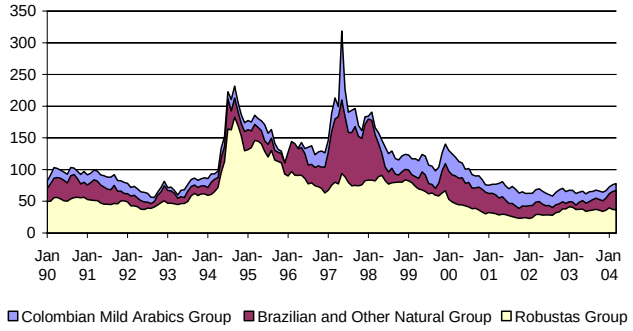

Chart 1. World prices for green coffee. Source: ICO, 2004

void. This paper seeks to make a significant contribution to understanding the current and future economic viability of organic and fairtrade production for coffee producers in Central America.

2. Literature review and objective

Sustainable, in particular organic, farming is promoted by many international organizations, mainly due to evident positive environmental impacts, but also due to positive social and economic impacts. With respect to the economic impacts, frequently mentioned points are that organic farming raises the productivity of low-input agricultural systems and provides new market opportunities (FAO, 2004; GTZ, 2004). This assertion is based on very limited data.

In addition to a limited number of case studies, where positive impacts on farm incomes could be demonstrated (Damiani, 2002) only broad general statements or descriptions have been offered. For example in a joint publication of the World Bank, the International Coffee Organization, International Institution for Sustainable Development and the United Nations Conference on Trade and Development it is stated that "Fair trade, organic and eco-friendly coffees... offer attractive benefits not only for about 3/4 million farm households, but also for the entire industry in terms of increased sales from these coffees and greater profits all along the supply chain" (Giovannucci and Koekoek, 2003, p. 16). However, "basic data needed to make reliable projections about organic markets are lacking, especially in the area of organic prices and production costs" (Rosen and Larson, 2001, p. 202).

In the background of this serious and substantial lack of market and business information, the objective of this contribution, based on research of more than two years, is to offer detailed information on price differentials paid for sustainable coffee in the different Central American coffee producing countries. The price analysis follows a micro-economic analysis, comparing income situation for average conventional and organic farms in these countries and subsequently future market and price development for sustainable coffees is investigated by using a conceptual market model. Finally, the potential contribution of sustainable coffee production to rural development is analyzed.

3. Empirical approach and methodology for economic evaluation

The sustainable products market is characterized by an absence of official trade and market statistics. While there are some estimations available regarding sustainable markets in North America and Europe, data from Latin America is practically non-existent. CIMS began its research by identifying sustainable coffee supplies in all of Latin America; this information is the basis for the detailed supply data presented and analyzed. The supply study conducted by CIMS is based on information collected directly from producers and their associations, marketers, and exporters of sustainable coffee located in Latin America (CIMS, 2003). CIMS estimates that approximately 90% of the organizations working with organic and fairtrade coffee have been identified and their production levels and characteristics quantified.

The price analysis presented in this study is based on an intensive survey carried out at the beginning of 2004, which included all major sustainable coffee producers and exporters in Latin America (CIMS, 2004). CIMS surveyed a total of approximately one hundred companies, representing a majority of total market participants. The final economic assessment on sustainable coffee production in Central America is based on the research activities of CEPAL (2002), CIMS' own research based on two master theses from the University of Costa Rica (Kilian et al., 2004). Information from national coffee associations, in general considered the most reliable source of local production data, was also considered.

4. Sustainable production concepts for coffee

4.1. Organic coffee production

The primary objective of organic agriculture is to perfect the quality of all aspects of agriculture and the environment, respecting the natural capacity of plants, animals, and the landscape. Organic agriculture aims to reduce the application of external materials and the use of synthetic chemical fertilizers, pesticides, pharmaceuticals or other products. Instead, it relies on biodiversity to increase agricultural yields and to resist diseases (IFOAM, 2004).

Organic practices demand that producers consider their property as an active eco-system, where techniques such as composting, terrace building, and biological control are required. Organic coffee is produced in soils where prohibited substances (synthetic fertilizers, herbicides, pesticides, growth regulators, fungicides, etc.) have not been applied for a period of at least three years prior to obtaining certification. In addition, producers agree to refrain from their use. Both producers and processors must keep detailed records of the methods and materials used in producing and processing organic food, as well as plans for the practices employed. Organic coffee may be produced in the shade, but it is not an indispensable condition. In addition, many private