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Fair Trade and Organic Agriculture in Developing Countries: A Review

PRIYANKA PARVATHI and HERMANN WAIBEL
Leibniz University of Hannover, Hannover, Germany

Fair trade regimes and organic agricultural systems are 2 innovations that increasingly play an important role for agriculture in developing countries. Whereas fair trade regimes have their origin in the developing countries, organic agriculture was started in the rich countries and has only recently become popular in the Third World. Both innovations can be mutually reinforcing as fair trade often combined with organic production standards opens up new market prospects. In this article we explore the opportunities and constraints of marketing organic products from developing countries under fair trade regimes. Based on available literature, we review evidence of the magnitude of organic production and fair trade systems in developing countries. We also propose a framework for studying the impact of fair traded organically produced commodities using the case of black pepper in India. The framework will generate testable hypotheses regarding the 2 innovations.

KEYWORDS  fair trade, organic farming, pepper, India

INTRODUCTION

The fair trade system has been introduced in developing countries with the aim to overcome what is perceived as unfair marketing margins for smallholder farmers and insufficient wages for agricultural laborers. Under fair trade arrangements, a price premium is paid by the consumers of industrialized countries with a guarantee that this would benefit the poor in developing countries. A good example is Starbucks coffee. More recently organic
production has been introduced in developing countries to a large degree, adopting the standards of the International Federation of Organic Agricultural Movements (IFOAM; 2009). Although there are a range of organic production standards, essentially organic farming means nonuse of chemical inputs (Scialabba, 2000).

Whereas organic certification is purely production oriented, fair trade regimes include labor standards and guarantee a minimum price and a pro poor price premium (Raynolds, 2000). In combining the two innovations, developing a pro environment and a pro poor agenda are promoted simultaneously. Also by joining the two innovations two separate niche markets can be scaled up.

Both systems follow separate certification standards. In organic agriculture different organizations are promoting their own standards, but these are applicable to all types of farming system and are scale neutral. However, standards in fair trade certification differentiate between smallholder farmers and large plantations (e.g., tea and coffee) where labor issues are addressed.

The criteria presented in Table 1 provide the basis for exploring complementarity between the two systems. The two systems differ with regard to scope, consumer motivation, certification, microfinance institutions, and price mechanism. However, as can be seen from Table 1, these provide an entry point for exploiting the complementarity between organic agriculture and fair trade. For example, consumer motivation is driven by health and environment as well as by poverty reduction.

Hence, in this article we explore empirically and theoretically how these two are likely to influence the smallholder producers. We also suggest a conceptual framework that can assess the potential impact of fair trade marketed organic produce from a developing country like India.

According to Bacon (2005) in a study from Northern Nicaragua, participation in organic and fair trade networks was able to reduce farmers’ livelihood vulnerability. More specifically, what has been the ground-level impact of both these movements and how these have been perceived by the smallholder farmers has always been a topic of research. Many studies have been conducted to understand the factors that influence a farmer to adopt organic farming (Kallas, Serra, & Gil, 2009; Koesling, Flaten, & Lien,

### TABLE 1 Comparing Organic and Fair Trade Commodities From Developing Countries

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Organic</th>
<th>Fair Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope of standard</td>
<td>Production</td>
<td>Marketing and labor conditions at work</td>
</tr>
<tr>
<td>Consumer motivation</td>
<td>Environment and health</td>
<td>Poverty reduction</td>
</tr>
<tr>
<td>Certification cost</td>
<td>Producer</td>
<td>Buyer</td>
</tr>
<tr>
<td>Microfinance institutions</td>
<td>No specific credit programs</td>
<td>Possibility of advance payments</td>
</tr>
<tr>
<td>Price</td>
<td>Market price</td>
<td>Institutional price</td>
</tr>
</tbody>
</table>

*Source: Own illustration.*
2008; Musshoff & Hirschauer, 2008; Rigby, Young, & Burton, 2001; and many others) and a few studies are available that study poverty alleviation through fair trade participation (Bacon, 2005; Raynolds, 2002; Ronchi, 2002). However, very few studies have been done to understand the aspects that motivate farmers to adopt organic and fair trade standards (Loureiro & Lotade, 2005; Valkila, 2009).

STATE OF FAIR TRADE AND ORGANIC PRODUCTS IN DEVELOPING COUNTRIES

Adopting fair trade and organic production schemes also causes costs for farmers in developing countries. From an economic point of view these certification schemes will only be accepted if they are beneficial for the producer.

In the following, the development of fair trade and organic production in the Third World countries is explored. The fair trade retail sales in 2010 were US$19.4 million for Asia, US$27.8 million for Africa, and US$4.2 million for Latin America (Boonman, Huisman, Sarrucco-Fedorovtsjev, & Sarrucco, 2011). The fundamental principle of fair trade is to buy products from developing countries, where the terms of trade go beyond the profitable aspects, and to market them in developed countries at a premium (Bird & Hughes, 1997; Pelsmacker, Driesen, & Rayp, 2005). Fair trade has a confined title of a fair price that is to be paid for commodities bought from farmers in developing countries. Only few studies have been carried out that analyze the effectiveness of the fair trade premium for the development of the smallholder farmers. Most studies concentrate on whether producers get higher prices and/or have improved access to credit facilities. However, few studies analyze the impact of fair trade on household expenditure and income (Nelson & Pound, 2009). Although the need to establish a comprehensive database has been pointed out by Moore (2004), in this article a summary of available empirical evidence is provided.

Fair trade establishes a minimum price that has to be given to producers. In this sense it goes against the free market price mechanisms (Hira & Ferrie, 2006; Maseland & De Vaal, 2002). However, this aspect protects farmers by reducing their vulnerability to market shocks. But from the standpoint of smallholder farmers, more significance is attached to establishing long-term relationships, advance payments when required, and the security of a fixed price for their produce (Kocken, 2002).

Access to established fair trade networks is limited. But access to markets is one of the important elements of the fair trade marketing system (Moore, 2004). There is a choice for potential new entrants to form a group with other such producers, set up a cooperative, get certified, and find their own network and markets. However, this involves additional investment of
time, effort, and money and is not an encouraging option from the observation of the farmer.

The percentage of organic area with respect to the total agricultural area is less than 2% in Asia and Africa and less than 7% in Latin America, as seen in Table 2. Some of the core challenges for organic agriculture include food security, increased labor requirements, lack of domestic demand, and high certification costs (Devi, Kumar, & Deboch, 2007; Kassie, Zikhali, Manjur, & Edwards, 2008; Klimov, 2011; Oelofse et al., 2010; Ramesh, Singh, & Rao, 2005; Scoones & Elsaesser, 2008; Walaga, 2005; and many others).

A major challenge is creating domestic organic markets in developing countries. In most of the developing countries, irrespective of their income status, a local organic market is still in its nascent stage. It is difficult to break into markets where product familiarity plays a substantial role in product value expectations and perceptions (Yun & Pysarchik, 2010). But, to assure food security with organic products, local markets need to be developed in the less industrialized world (Willer & Yussefi, 2007).

Organic agriculture is perceived as a farming system that needs additional labor requirements when compared with the conventional systems. These are especially a challenge in regions where there is a labor shortage and is hence expensive. Yet, the demand for labor is evenly distributed over the year in organic than in chemical usage farming systems (Pimental, Hepperly, Hanson, Douds, & Seidel, 2005).

Nevertheless, access to markets, certification, and labeling still confront both organic and fair trade arrangements. It continues to be an issue that needs to be addressed. Recent studies advocate that enterprise participation and production processes of international supply chains are controlled by influential customers (Dolan & Humphrey, 2000; Fold, 2002; Gibbon, 2001a, 2001b; Ponte, 2002; Raynolds, 2004; Talbot, 2002). In spite of the demand for

<table>
<thead>
<tr>
<th>Continent</th>
<th>Countries</th>
<th>Organic Land Area (in million ha)</th>
<th>% of Organic Area to Total Agricultural Area</th>
<th>Category Based on Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>China</td>
<td>1.9</td>
<td>0.34</td>
<td>Upper middle income</td>
</tr>
<tr>
<td></td>
<td>India</td>
<td>1.2</td>
<td>0.66</td>
<td>Lower middle income</td>
</tr>
<tr>
<td></td>
<td>Kazakhstan</td>
<td>0.13</td>
<td>0.06</td>
<td>Upper middle income</td>
</tr>
<tr>
<td>Africa</td>
<td>Uganda</td>
<td>0.23</td>
<td>1.74</td>
<td>Low income</td>
</tr>
<tr>
<td></td>
<td>Tunisia</td>
<td>0.17</td>
<td>1.69</td>
<td>Upper middle income</td>
</tr>
<tr>
<td></td>
<td>Ethiopia</td>
<td>0.12</td>
<td>0.36</td>
<td>Low income</td>
</tr>
<tr>
<td>Latin America</td>
<td>Argentina</td>
<td>4.4</td>
<td>3.31</td>
<td>Upper middle income</td>
</tr>
<tr>
<td></td>
<td>Brazil</td>
<td>1.77</td>
<td>0.67</td>
<td>Upper middle income</td>
</tr>
<tr>
<td></td>
<td>Uruguay</td>
<td>0.93</td>
<td>6.26</td>
<td>Upper middle income</td>
</tr>
</tbody>
</table>

organic commodities increasing, the producers still face stiff competition to enter these markets. To participate in the global organic food chain, the producers have to be educated about the workings of this system. This information exchange will enable them to exploit it to their advantage.

Although third-party certification systems in agriculture have increased and have brought certification agencies into the picture that organize and collect payments for verifying these production practices (Getz & Shreck, 2006), the certification systems, costs, standards, and bodies that govern organic farming and fair trade are different. Organic agriculture has to be certified in accordance with the standards laid by the International Federation of Organic Agriculture Movements (IFOAM). In contrast, the fair trade standards are overseen by a standard-setting body, Fair trade Labeling Organizations (FLO) International and a certification body FLO-CERT.

THEORETICAL ARGUMENTS

The fair trade importers are concentrated in Europe, North America, Japan, Australia, and New Zealand (Krier, 2008), whereas Asia, Africa, and Latin America are the principal producers of fair trade commodities. Fair trade has a more established market in Europe but the markets in the United States and Canada are steadily growing (Hira & Ferrie, 2006).

Europe and North America are the major consumers of organic food and these two regions comprise 97% of global revenues. Asia, Latin America, and Australia are its major producers and exporters (Willer & Kilcher, 2011).

Table 3 explores the major producers and buyers of organic and fair trade commodities. Research does suggest that there is a noted difference in buyer attitude and behavior toward ethical products (Annunziata, Ianuario, & Pascale, 2011). Based on the interest and awareness of the ethical product buyers in Europe and North America, a theory can be proposed that if a commodity was both organic and fair trade certified, the demand curve for the same would shift to the right. This shift would in turn cause an increase in the producer and consumer surplus, assuming supply remains constant.

But can this concept motivate farmers to adopt both organic and fair trade certifications? Perhaps the extent to which such certification will help

<table>
<thead>
<tr>
<th>Major buyers</th>
<th>Organic</th>
<th>Fair Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major producers</td>
<td>Asia, Australia, and Latin America</td>
<td>Asia, Africa, and Latin America</td>
</tr>
<tr>
<td></td>
<td>Europe and North America</td>
<td>Europe, North America, Australia, and New Zealand</td>
</tr>
</tbody>
</table>

Source: Own illustration.
farmers mitigate the challenges faced in terms of land, labor, and capital inputs along with other social dimensions could be the key to their willingness to adopt. This idea is hypothetically presented in Figure 1, wherein the benefits to the smallholder farmer in terms of welfare are considered.

Waibel and Zilberman (2007) contend that setting certification standards and labeling leads to an increase in adoption of a cleaner technology. We can extend this concept to add the way in which this environmentally sound technology has to be marketed by smallholder farmers to obtain maximum welfare gain. This can be discussed with the model in Figure 1.

Let us assume that the demand for a product $Z$ is a function of its price where $Z = D(p)$. The per unit cost of harvesting with the most cost-effective conventional technology is assumed to be constant and is denoted by $X_C$. Harvesting results in environmental damage. Also, conventional technology relates only to production costs and does not cover marketing costs. So the per unit cost of environmental and marketing costs is $X_{EMS}$. An environmentally sound technology has per unit cost at $X_O > X_C$. But an environmentally sound technology taking into consideration the marketing aspects has per unit cost of $X_{OFT} > X_O > X_C$ but $X_{OFT} < X_C + X_{EMS}$. At point A, supply is above the socially optimum level as the cost of externalities is not taken into account resulting in a welfare loss of EHA. The socially optimal level of output thus is at point E. The welfare loss at an unregulated output B is EGB. At point D where environmental and marketing costs are reflected is the optimal point of output. It consists of reduction in environmental damage as well as accounting for marketing and social costs of output LHAI minus loss of consumer surplus by moving from A to D (KDAI). Hence the total potential welfare gain from both organic and fair trade production can be LEFGHABDK. Accordingly, we can deduce that unless both these certifications are adopted, a smallholder farmer will face welfare loss in terms of human, natural, financial, and physical capital.

**FIGURE 1** Welfare effects of selling organic products under fair trade regimes. *Source:* Adapted from Waibel and Zilberman (2007).
In order to analyze the combination of fair trade and organic systems, a conceptual framework to be applied to the conditions of a developing country is deemed useful. Using India as a case study is considered appropriate because agricultural production and processing contributed 14.6% of the gross domestic product in 2009–2010 (Government of India Report, 2010) and employs more than 50% of the total labor force. Also, both of these innovations are in their early stages of development in the Indian agricultural sector.

A CASE STUDY OF BLACK PEPPER IN INDIA: CONCEPTUAL FRAMEWORK

Although no reliable statistics are available the fair trade sector in India is still in its infancy. Ecocert, a Swiss organic certification agency that has an office in India, has an option to provide fair trade certification to its organic farmers. According to its target, a minimum percentage of fair trade ingredients to be reached are a minimum of 25% for food, 5% for cosmetics, and 70% for textiles (Ecocert India, n.d.). Cotton has a big opportunity to capture the fair trade market in the textile segment. Fair trade certified coffee, tea, bananas, spices, cocoa, and other cash crops make up the food market.

Organic farming was officially recognized by the Indian government in 2000. The Indian Central Government set up a National Institute of Organic Farming in October 2003 in Ghaziabad, Madhya Pradesh. It is not yet possible to make a confirmed estimate of the extent of organic production in India (Garibay & Jyoti, 2003). In Table 4 some of the major organic products produced in India are shown. The Indian Standards (under the Ministry of Commerce) under the “National Program for Organic Production” prescribe the standards for organic production, which is in line with the IFOAM standards.

Understanding the factors that influence the decision of Indian smallholder farmers to adopt organic and fair trade certification schemes is most effectively done in the context of a particular crop example. The relevant criteria to assess the impact of such institutional innovations on the livelihood of smallholder farmers are household income and the effect on poverty reduction and the reduction of risk as measured by the concept of vulnerability to poverty.

Black pepper has been chosen because of its conventional price volatility. India is well known for the production of spices and was ranked first with around 3.1 million metric tons of spices in 2004 (SADC, 2011). According to the Spices Board of India, India’s share in the world spice market is 48% in quantity and 43% in value (Spices Board of India, 2010). Thus, the spices sector has a significant impact on the Indian economy, which has the potential to grow more than 25 varieties of spices (Hema, Kumar, & Singh, 2007).

In the field of pepper production, India was the leading producer in the world until 1999 with 76,000 metric tons (MT), but the production
declined to 62,000 MT in 2002 (FAO, 2012). The Indian share of pepper production to the world’s total pepper production is about 19%, and 96% of the total pepper grown in the country is from the single state of Kerala (ENVIS-Center, 2012).

The supply of black pepper is highly volatile in the global market and hence has huge price fluctuations. In India the domestic price of black pepper is affected by the fluctuations in the international prices. In 2003–2004, the domestic prices of pepper dived down to Indian rupees 74/kg (US$1.43) from a peak of Indian rupees 215/kg (US$4.15) in 1999–2000. This along with increasing input costs made pepper production less attractive (Hema et al., 2007).

International volatility in pepper prices has driven Indian smallholder domestic pepper farmers into poverty. Organically produced pepper, especially when marketed under fair trade regimes, provides additional export opportunities. Based on this the two lead research questions are formulated as follows:

1. To what extent can conversion and adoption of fair traded organic produce be a viable option for improving the livelihoods of smallholder pepper farmers in India?
2. What is the impact of fair traded organic produce on the income and consumption of the household?

### TABLE 4 Major Products Produced in India by Organic Farming in 2002

<table>
<thead>
<tr>
<th>Type</th>
<th>Products</th>
<th>Domestic Organic Sales (in metric tons)</th>
<th>Export Organic Sales (in metric tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity</td>
<td>Tea</td>
<td>100</td>
<td>3,000</td>
</tr>
<tr>
<td></td>
<td>Coffee</td>
<td>50</td>
<td>550</td>
</tr>
<tr>
<td></td>
<td>Rice</td>
<td>250</td>
<td>2,500</td>
</tr>
<tr>
<td></td>
<td>Wheat</td>
<td>200</td>
<td>1,150</td>
</tr>
<tr>
<td>Spices</td>
<td>Cardamom, black pepper, white pepper, ginger, turmeric, vanilla, mustard, tamarind, clove, cinnamon, nutmeg</td>
<td>—</td>
<td>700</td>
</tr>
<tr>
<td>Pulses</td>
<td>Red gram, black gram</td>
<td>50</td>
<td>300</td>
</tr>
<tr>
<td>Fruits and vegetables</td>
<td>Okra, brinjal, garlic, tomato, onion, potato, mango, banana, pineapple, passion fruit, sugarcane, orange</td>
<td>400</td>
<td>1,800</td>
</tr>
<tr>
<td>Fruits</td>
<td>Cashew nut</td>
<td>—</td>
<td>375</td>
</tr>
<tr>
<td></td>
<td>Walnut</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Oil seeds</td>
<td>Sesame, castor, sunflower</td>
<td>—</td>
<td>100</td>
</tr>
<tr>
<td>Others</td>
<td>Cotton</td>
<td>—</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>Herbal extracts</td>
<td>—</td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1,050</td>
<td>11,925</td>
</tr>
</tbody>
</table>

*Source.* Adapted from Garibay and Jyoti (2003).
Data are collected from smallholder pepper farmers in Idukki district, the largest pepper-producing district in Kerala state, India. In terms of management regimes, three groups of farmers are compared, namely,

1. 100 conventional smallholder pepper farmers,
2. 100 organic certified smallholder pepper farmers, and
3. 100 organic and fair trade certified smallholder pepper farmers.

As methodology, in order to answer our two research questions, a two-stage model is deemed fit. The first identifies the variables that facilitate adoption of the two innovations using multinomial and difference of difference models. In the second stage the effect of adoption on agricultural income and vulnerability to poverty is estimated, applying the vulnerability as expected poverty concept. These two are quantitative studies and are done with data collected through questionnaires. As a qualitative study, the performance indicators apart from income and consumption that have an impact on adopting both these systems by smallholder farmers is explored.

Results from this research will allow assessing whether or not organic production under fair trade regimes will discriminate against the smaller and poorer farmers. It will also contribute to design policies that can better adhere to inclusive growth in the agricultural sector in India.

SUMMARY

Both the fair trade and the organic agriculture innovations have their own issues to contend with. To combine the requirements of fair trade with those of organic production provides challenges and opportunities. Although complementarity between the two systems is apparent, exploiting them to the benefit of smallholder farmers remains a challenge.

For farmers who aim to become engaged in both schemes, a number of management questions arise, for example, the technology issues during the conversion period when the yields are low or how cooperatives can be established for reducing information and transaction costs. Factors like education, information access, and government policies will also play a role. The question of labor organization and diversification including on-farm activities, off-farm wage employment, and nonfarm self-employment needs to be addressed in such research.

The dearth of research in studying both of these systems as a combined force has hindered diagnosis of their full potential, chiefly with regard to developing countries. Impact studies, especially in fair trade, are needed to recognize the extent to which these two innovations have contributed and made an economic value addition to the smallholder farmers in developing countries.

Overall the hypothesis (depicted in Figure 1) regarding the potential welfare gain from adopting both the organic and fair trade regime will be
measured in the context of an empirical study. A set of panel data from some 300 smallholder pepper producers including organic, fair trade, and conventional farmers was collected from the state of Kerala, India, during 2011 and 2012. This data set will be used to test the theory presented in this article.

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Contributors

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