Assessing the social and economic benefits of organic and fair trade tea production for small-scale farmers in Asia: a comparative case study of China and Sri Lanka

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Abstract

Organic agriculture has the potential to provide improved livelihood opportunities, increased income and social benefits for resource-poor small-scale farmers. It has thus become a popular strategy for economic development and poverty reduction in many areas of the global south. However, there has been limited empirical research regarding the actual benefits of certified organic production, particularly when organic is combined with fair trade certification, and for small-scale farmers who are not engaged in coffee or banana production. Further research is needed to demonstrate experiences of farmers under diverse socioeconomic conditions, organizational contexts and degrees of market access. To address these gaps, two surveys of certified organic and fair trade tea producers in China and Sri Lanka were undertaken to investigate the contributions of organic crops to the household economy. In both cases, organic production required lower investment in terms of external inputs but a higher input of farmers’ labor. The price premium received by farmers for the organic tea compensated for the extra labor input and lower yield, resulting in a net profit. However, given the relatively small plots of tea gardens of each household, organic production could not fully provide for the households’ livelihood. Non-farm income dominated the total income of the households across the study cases, despite the earnings from organic farming. In both sites, market-oriented organic tea projects have created more options for paid work locally, which benefits women of reproductive age. Social benefits of organic farming were also reported. Pursuing fair trade certification on top of organic production facilitated farmer organizing, training and community development. Organic agriculture and fair trade certification offer important prospects to improve the livelihoods of small-scale farmers in other, less favored areas of Asia. These forms of certified production could provide economic and social benefits in instances where farm income is the main source of household income.

Key words: Tea production, organic farming, fair trade, livelihoods, small-scale farmers, Asia

Introduction

Small-scale farmers in developing countries of Asia, Latin America and Africa are responsible for the bulk of production for many agricultural commodities. Some of them depend on agriculture as their main income source, but often face problems of low and declining prices for their products, as well as degradation of agro-ecological conditions. Certification schemes such as organic, Fair trade are often proposed as a means to avoid the traps associated with low and volatile commodity prices, environmentally unsustainable farming practices, and lack of access to high value markets (Halberg et al., 2006b; Blackmore et al., 2012).

Organic agriculture, aiming to sustain the health of soils, ecosystems and people, has been developing very quickly around the world in recent years. According to the latest FiBL-IFOAM survey on certified organic
While in developed countries yield typically decreases after the initial conversion to organic farming, as the soil takes time to regenerate its own fertility, the reality for small-scale farmers in developing countries may be more varied, and there may even be a yield increase when converting low-input, traditional farming systems to organic agriculture (Halberg et al., 2006a; Setboonsarng et al., 2008). This can be linked to access (e.g., through contract farming arrangements) to higher yielding seed varieties, organic fertilizers and technical assistance. Moreover, organic farming has an added benefit that cash costs (payments for inputs using cash) are often low because of the absence of purchased chemical fertilizer and pesticides.

Although labor inputs (for weeding) may increase, farmers often experience a net gain due to the price premium they receive for selling certified organic products (Mendoza, 2004; Bakewell et al., 2008). Costs and benefits of organic production are necessarily context specific. Further research is needed to determine more precisely what potential benefits organic agriculture might offer in practice to small-scale farmers under different socio-economic and agro-ecological conditions (Halberg and Müller, 2012; IFOAM, 2012). This is one gap that our study seeks to fill.

Recently there has been a rise in the pairing of organic with fair trade certification, which helps to broaden market opportunities. In addition to organic certification, multi-certification with Fair trade labeling has become increasingly common in the global south (Raynolds et al., 2007; Blackman and Rivera, 2011). These two types of certification complement each other in terms of their focus and certification criteria. Fair trade is an alternative approach to conventional trade that aims to improve the livelihoods and well-being of small farmers. Farmers converting to organic, where conversion periods can be lengthy, can benefit from adopting fair trade simultaneously, thus gaining some price premium, while working toward meeting organic standards (Eyhorn et al., 2007; Blackmore et al., 2012). Organic and fair trade certifications can also help to improve product quality, and group certification (e.g., through an internal control system (ICS)) can reduce certification costs (Santacoloma, 2007). Thus, there are many potential benefits for resource-poor, small-scale farmers through participation in certified organic production and fair trade schemes, which merit careful evaluation in terms of costs and benefits (Kilcher, 2007).

Several case studies and surveys in developing countries of Asia, Latin America and Africa have shown that farms are able to increase their income after the conversion period (Bacon, 2005; Tovar et al., 2005; Bolwig et al., 2009; Valkila, 2009). Eyhorn et al. (2007) compared on-farm impacts of organic cotton production with conventional cotton in India (Eyhorn et al., 2007). Panneerselvam et al. (2011) demonstrated in the cases in India that conversion to organic production improved food security and reduced indebtedness (Panneerselvam et al., 2011).

The findings of other studies, however, have not been so favorable. As Blackman and Rivera (2011) note, studies of producer benefits of sustainability certifications (such as organic and fair trade) have mainly focused on organic coffee or banana production, rather than other products. Their review indicated that in fact ‘the 11 rigorous studies provided very weak evidence for the hypothesis that sustainable certification has positive environmental, social or economic effects at the producer level’ (Blackman and Rivera, 2011). In his study of global private regulation, including organic certification and value-chain restructuring in Indonesian smallholder coffee systems, Neilson (2008) notes that ‘the unintended consequence...
of these changes in the future may be to increase transaction costs along the value chain and to exert an overall downward pressure on farm-gate prices. The study by Méndez et al. (2010) also revealed some negative finding about producers’ livelihoods. These authors reviewed the effects of organic and fair trade certifications for coffee producers in Central America and found that farmers did receive higher prices for their product, but they were not able to sell it all at the premium price, and the volume sold per producer was quite low. They thus concluded that ‘certifications will not single-handedly bring significant poverty alleviation to most coffee-farming families’ (Méndez et al., 2010).

In short, there is still a lack of concrete research comparing the costs and benefits of organic and fair trade certification schemes. Further empirical research is needed regarding the actual benefits for small-scale farmers based on socioeconomic conditions, organizational context and degree of market access. Our study addresses the gap in existing literature by examining the benefits of pairing organic and fair trade production for a different commodity: organic tea.

**Case-study selection and methods**

**Case-study areas**

China has 45% of the world’s total tea-growing land area, with more than 80 million tea farmers across the country (IFAD, 2005). By the end of 2013, there were 53,000 ha of organic tea production, accounting for 2.1% of all tea-planting area in China, yielding 23,000 tons of organic dry tea, accounting for 1.2% of the total tea production (CNCA, 2014). Wuyuan county in the southern province of Jiangxi, which has among the longest experience in certified organic tea production in China (starting in 1996), was selected as the case-study area (Fig. 1). The case-study area is located in the northeastern part of Wuyuan and has a geographical area of 122 km$^2$ with an average altitude of 1000 m. There are eight administrative villages, 53 natural villages and 3400 households. There are 1050 ha of arable land, including 590 ha of paddy field, 440 ha of tea garden and 20 ha of dry land.

The second case-study site is in Sri Lanka, which is one of the oldest tea-producing countries in the world. In most cases, the yield of these tea lands across the country has fallen largely due to poor management in the 1980s. Only a few villagers have maintained their lands with proper fertilizing and pruning of bushes (Rote, 1986). To avoid increasing input costs in conventional tea production, some of these tea lands were converted to organically grown tea in the early 1990s, owing to the influence of the organic movement helped by international NGOs. Kandy area, in Central province, is well known for its agro-forestry-based home gardens, referred to as Kandyan Forest Gardens. These constitute the typical system of agro-forestry in Sri Lanka, which has evolved with time.

![Figure 1. Map of the study case in Wuyuan, Jiangxi province, China. Source: Blackmore et al. 2012:111.](image-url)
to become almost the ideal form of land use, combining agriculture, forestry and even spontaneous livestock rearing (Blackman and Rivera, 2011). The Kandy area was selected for the case study in Sri Lanka (Fig. 2).

The rationale for choosing these two case areas—Wuyuan and Kandy—was based on their locations in the largest organic tea production areas in China and Sri Lanka, in which small-scale tea farming is predominant. This allowed for a random sampling as well as comparison with conventional producers in neighboring villages. Conclusions cannot necessarily be drawn from these case studies, however, for other farming types.

**Survey data collection**

Discussions were carried out with local researchers and stakeholders to help select suitable case-study farms, using the following criteria: (1) farms that were organic and fair trade certified by an internationally accredited organization for more than 5 years, (2) small-scale farms (those with a low asset base, operating less than 2 ha of cropland (World Bank, 2003)) and (3) conventional farms that were geographically and economically similar to the selected organic farms, with the farm types and sizes being as similar as possible. Table 1 summarizes the agro-climatic characteristics and production systems of the two case-study sites in China and Sri Lanka.

Each case-study site consisted of matched samples of organic and conventional farms. Approximately 100 households engaged in certified organic tea production were randomly selected at three levels of economic conditions. These organic farmers were engaged in cash-crop production for export. To minimize selection bias and maximize similarities, comparable conventional farms were found in neighboring villages with similar agro-ecological conditions, land use, household structure, infrastructure and distance to markets. Sample sizes and the socioeconomic characteristics of the organic and conventional farms are presented in Table 2.

In 2007, trained local staff interviewed each household’s head and spouse. The questionnaires gathered household and detailed production data as well as qualitative data of farmers’ perceptions following conversion to organic agriculture. Additional qualitative data were collected through focus group discussions during follow-up verification visits. Key stakeholders were interviewed and contextual data were collected from relevant organizations such as cooperatives, certification bodies and organic companies.

**Data analysis**

Preliminary data analyses were presented at stakeholder verification workshops in the case areas to check the researchers’ interpretation of data. Participants in these meetings were organic and conventional farmers from the sampled groups. Care was taken to have significant female representation, extension staff (public and non-government) as well as a few representatives from companies who bought organic products from the farmers. Following reaction from the stakeholders, a number of data and results were double-checked and some households were re-visited to verify certain information.

Quantitative survey data were statistically tested for differences between organic and conventional households using Propensity Score matching methods (Caliendo and Koepeinig, 2005) where comparisons are made by matching households with nearly identical values on a range of characteristics, such as resource endowment and educational level. The income and profit calculations followed standard production economics (Doll and Orazem, 1984). As shown in Tables 3 and 4, total variable cash costs in crop production included all inputs bought with cash such as seeds, propagation material, fertilizer, pesticides and hired labor. Total crop value sold was the value of the sold crop less transport costs. Net cash income was calculated as the difference between the total crop values sold and total variable cash costs.

The crop value, including own food, was estimated from total crop value sold and the proportion of food crops reported not sold within the 1-year period of the interview. A lower opportunity cost (shadow price) of...
70% of the market price was used in a subsequent calculation to reflect storage losses and a lower marginal value of the non-marketed crops. Total variable costs, including own labor, include total variable cash costs and the opportunity cost. The opportunity cost of using the farmer’s own labor was calculated by taking 80% of the average price paid for hired labor in each case study area, to reflect the uncertainty of the farmer earning wages instead of growing his or her own crops. The opportunity cost of manure was assumed to be zero because there was no purchased manure in the two study cases and use of the household’s own manure was not included as a cost for cash crops, although any labor used to handle and distribute the manure was included in cash costs. The cost was assumed to be zero because the conventional farms did not use their own manure to the same extent as organic farms, nor did they sell this resource, which indicates that the monetary value is relatively low. Depreciation of farm equipment and other capital costs were not included in the profit calculations; instead, the capital invested in farm equipment was quantified separately. Finally, profit from crops was calculated as the difference between total crop value, including own food and total variable costs including own labor. Total non-farm income includes wages, remittances and income from products and services not related to agricultural production.

The cost and income/profit variables in Table 3 are scaled per hectare. Variables in Table 4 are scaled per household. Both sets of variables were considered relevant—the former (the area base) to facilitate comparisons across households, villages and farming systems, and the latter (the household level) to give realistic accounts of the significance of profit from organic crops in relation to the total household economy.

### Results

**Coordination of organic production and trade, farm and household characteristics, and production system**

Socioeconomic characteristics of farms and households in each case-study area are presented in Table 2. Household characteristics such as number of family members were similar in organic and conventional households both in Wuyuan (China) and Kandy (Sri Lanka); however, the age of the household head in ‘organic households’ was 3 years older than the head of ‘conventional households’ in Kandy. In Wuyuan, the average age of the household head was almost the same in organic and conventional households. Two key differences between the organic and conventional producers in this study were that the former were organized into cooperatives or associations, and that their products were sold for export rather than for the domestic markets in each country. These provided important advantages for the producers (Chen and Scott, 2014). Organic and fair trade production has been important for facilitating farmers’ organizing and democratic management of farmers’ cooperatives. This is a key distinction between certified and conventional production that plays a strong role in enhancing community development.
Wuyuan case, China. The coordination of organic production and trade in Wuyuan is managed by a local private company in collaboration with an organic tea farmers association (which operates as a cooperative in China) in the town. The company plays an important role in organic tea production, certification and trade, selecting the tea gardens with good surroundings/buffer zones and then contracts with farmers each year. There is no cost to the farmers to become part of the organic production system, and more than 500 households are involved in organic tea production, equivalent to about 20% of the farming households there. The town and village governments also provide strong support for organic production. The processing factory is owned by the private company, but it has a close relationship with the organic tea farmers association and contracts with farmers, provides them with training, and buys all their organic tea. Currently conventional tea in China cannot fetch a good price and is difficult to sell. On the other hand, organic tea fetches a premium price and organic producers can get consistent purchase orders offering stability and incentives for farmers to start organic production.

In Wuyuan, the farm size within the two farming systems was similar, with an average of 0.5 ha land and an average tea-growing area of about 0.2 ha. The main crops in this area were rice, rapeseed, tea, tea tree oil and bamboo. Tea was produced on hillsides; while rice, rapeseed and vegetables were planted in low or dry land. Livestock ownership was variable in all villages; most farmers had chickens and pigs for personal consumption. Typical organic households in this case had split production systems: tea was produced organically on hillsides for export to the EU and the USA, while rice, rapeseed and vegetables were produced conventionally in the lowlands mainly for the household’s own consumption. Conventional tea from conventional farms was sold domestically.

Kandy case, Sri Lanka. Organic agriculture in the Kandy area was initiated in the 1990s by two different pathways. In 1994, the NGO Gami Seva Sevana (GSS) started credit and savings groups among poor small-scale farmers (which later became a cooperative). The NGO required that new members convert to organic agriculture and diversified their small land holdings to enhance their self-sufficiency. Farmers in this area had neglected tea production because of low prices, but GSS encouraged organic tea cultivation. The GSS kept a holistic household approach and offered a number of training courses and extension services to members. In 1993, another initiative within organic tea production was launched in Kandy as a combination of Small Organic Farmers Association (SOFA) and a processing and

### Table 3. Mean costs and benefits per hectare of tea production in organic and conventional households

<table>
<thead>
<tr>
<th>Costs or income (mean)</th>
<th>Wuyuan, China (US$ ha$^{-1}$)</th>
<th>Kandy, Sri Lanka (US$ ha$^{-1}$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Organic ($n = 87$)</td>
<td>Conventional ($n = 57$)</td>
</tr>
<tr>
<td>Total variable cash costs</td>
<td>0.77</td>
<td>14.49*</td>
</tr>
<tr>
<td>Total variable costs incl. own labor</td>
<td>800.13**</td>
<td>565.26</td>
</tr>
<tr>
<td>Total value tea sold</td>
<td>965.38***</td>
<td>277.56</td>
</tr>
<tr>
<td>Net cash income</td>
<td>964.49***</td>
<td>243.85</td>
</tr>
<tr>
<td>Profit from tea</td>
<td>74.23***</td>
<td>−303.97</td>
</tr>
</tbody>
</table>

*Significant for $P < 0.05$; **Significant for $P < 0.01$; ***Significant for $P < 0.001$.

### Table 4. Mean crop and household income and profit in the study cases

<table>
<thead>
<tr>
<th>Costs or income (mean)</th>
<th>Wuyuan, China (US$)</th>
<th>Kandy, Sri Lanka (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Organic ($n = 87$)</td>
<td>Conventional ($n = 57$)</td>
</tr>
<tr>
<td>Total variable cash costs</td>
<td>117.05</td>
<td>139.49</td>
</tr>
<tr>
<td>Total crop value sold$^1$</td>
<td>239.74*</td>
<td>152.18</td>
</tr>
<tr>
<td>Net cash income</td>
<td>119.23*</td>
<td>11.79</td>
</tr>
<tr>
<td>Total variable costs incl. own food</td>
<td>525.00</td>
<td>500.77</td>
</tr>
<tr>
<td>Total crop value incl. own food</td>
<td>440.90</td>
<td>372.95</td>
</tr>
<tr>
<td>Profit from crops</td>
<td>−84.10</td>
<td>−127.82</td>
</tr>
<tr>
<td>Total value livestock</td>
<td>93.21</td>
<td>128.59</td>
</tr>
<tr>
<td>Total non-farm income</td>
<td>1142.31</td>
<td>1150.00</td>
</tr>
<tr>
<td>Total household income</td>
<td>1360.00</td>
<td>1296.54</td>
</tr>
</tbody>
</table>

$^1$Includes all the crops planted and traded in the household, including tea and rice in Wuyuan and tea and some spices in Kandy.

*Significant for $P < 0.05$; **Significant for $P < 0.01$; ***Significant for $P < 0.001$. 
trading company Bio Foods, which specializes in exporting teas purchased from small-scale farmers.

The Kandy area is well known for its agro-forestry based home gardens. Normally the farm sizes are small, with an average size of about 0.5 ha. Because the tea and other crops or trees are intercropped in the fields, unlike the organic farms in Wuyuan, organic households in the Kandy case study need to manage all their crops organically to meet the requirement of organic regulations.

### Costs and economic benefits

**Costs and economic benefits of organic tea production at farm level.** The cost and economic benefits of organic tea production are shown in Table 3. In Wuyuan, organic gardens were located on high altitude hillsides in good environments where few pests and diseases occur. Thus, organic farmers did not need to buy biocides to control pests and diseases. The main farming activities were soil fertility maintenance through digging, harvest and weeding. Consequently, although organic tea production needed more labor inputs, the cash costs were very low (0.77 USD ha⁻¹) with most of the labor input provided by their own households. When the variable cost was calculated including farmers’ own labor, it showed that the cost of organic tea production was about 1.5 times higher than the cost of conventional tea production (P < 0.05). The interviews revealed that conventional farmers applied chemicals instead of using labor.

In Wuyuan, while the value of organic tea was significantly (3.5 times) higher (P < 0.001) than conventional tea due to higher price premiums and market demand (especially for export markets), organic tea also had a significantly higher net cash income and profit (P < 0.001). The organic tea farms had some positive profits per hectare, while the profit of conventional tea farms was negative and farmers were not able to pay for their own labor input when farmers’ own labor input were calculated in this study. For the organic households, the small tea plots (0.2 ha) provided an important income over a year that equalled more than 1–2 months of salary (of a household member who worked off the farm). This was mentioned as an advantage by female household members, who preferred to work on their farm rather than temporarily migrating to the city for off-farm income.

In Kandy, compared with their organic counterparts, conventional farmers had higher inputs for tea production, so the cost of inputs was significantly (about four times) higher (P < 0.01). Yields were relatively low in the organic tea gardens. This is why the price premium obtained for the organic tea of almost double the conventional tea price barely compensated for the yield difference. Thus, at the time of the survey the net income and average profit from tea were not significantly different between organic and conventional tea production.

In both case-study areas, certification costs were paid by the company buying the tea, so this is not included in the cost of each household. Moreover, there is no cooperative fee in either case, and for the time cost of documentation, audits, training, most of the work was done by the group leader who was paid by the company.

**Costs and economic benefits of all farm crops at household level.** In Wuyuan, there was no difference in total variable cash costs between organic and conventional tea farmers (Table 3), but the value of crops sold and the net income for farmers was significantly higher with organic tea production (P < 0.05), mainly due to better prices and market access for organic tea. The profit from all crops grown by the organic tea farmers was similar to that of the conventional farmers; there is no significant difference in profit between the two kinds of households. After subtracting the value of the farmers’ own labor, the profit from all crops was negative in both organic and conventional households. This means that neither groups’ income could cover their own household’s labor input, even when the value (or savings) of home-consumed food was included.

In Kandy (Table 4), the average value of all crops sold from the organic farms was a little bit lower than that from the conventional farms (the yield in organic farms is lower, but the price premium is higher than that from conventional farms), but the variable cash cost was significantly lower for the organic farms (P < 0.01) resulting in a comparable level of net income for the two farming systems. Even though the costs of the farmers’ own labor were higher in the organic system, the conventional farms hired more laborers from outside, the total variable costs including own labor were significantly lower in the organic farms as compared with the conventional farms (P < 0.01), so there is no difference in the real profit from non-tea crops. Thus, the organic system, with a lower investment in terms of cash inputs and a higher input of the farmers’ own labor, was more profitable.

Aside from tea and other crop production, in both cases the value of livestock is lower for the organic farmers. The farmers do not intend to raise livestock for sale. Rather, most of the livestock are raised for the households’ own consumption, and if they do not consume all of them, they sell some in the local market. The main reason for the higher value of livestock in conventional farmers is due to the market access, as the organic households in both case areas are located in a more remote area than the conventional ones.

In both cases, given the relatively small plots of land per household for the average tea garden, organic production in itself was not fully supporting an average household of five members at the time of the survey. As shown in Table 4, farm income comprised only a small percentage of total household income in both farming systems: 11–15% in the Wuyuan case and 30–33% in the Kandy case. This indicates the important role of non-farm income (wage labor, remittances, and products and services not related to agricultural production) for the household. There were no differences in total household income
between conventional and organic households because there was a comparable level of profits from crops overall, and also similar levels of non-farm income. Thus, there is a proven economic benefit to organic farming, although in these two case-study areas it accounts for only a fraction of overall household income.

**Social benefits of organic tea production**

**Employment opportunities.** In focus groups in both case-study sites, women noted that increased employment opportunities in local areas owing to the organic cash-crop production was an important benefit. The survey in Wuyuan showed that the total labor input was significantly higher for organic tea production (Fig. 3). Women are the main labor source: in 60% of the households that grew organic tea, women were involved in tea production. The figure was similar for households that grew conventional tea: women were involved in tea production in 58% of these cases. For Wuyuan case, the hired labor only accounted for 6–8% of the total labor used (Fig. 4). There is no difference between organic and conventional production systems. Most of the labor came from their own household. In Kandy, the total labor input is almost the same in organic farms and conventional farms (Fig. 3), but the share of hired labor was approximately 2.5 times higher in the organic versus conventional households (Fig. 4), resulting in a higher average use of total labor for organic farms.

In Kandy, many households involved in organic production benefitted from additional employment opportunities either at a tea factory or in the SOFA organization. The survey respondents appreciated the job opportunities for women near their residential villages that were created by organic tea production. From the focus groups, participants felt that organic farming provided more employment opportunities for young people than conventional farming.

**Community development after adopting organic and fair trade tea production.** Aside from the economic benefits that organic (and fair trade) production can bring about for individual households, we can examine some of the wider social benefits for communities as a whole.

Community development is a process in which community members come together to take collective action and generate solutions to common problems. Community wellbeing (economic, social, environmental and cultural) often evolves from this type of collective action being taken at a grassroots level. After 8 years of organic tea production, in 2002 the Wuyuan case-study organic farms started the fair trade certification, as a requirement of their commercial partners in the EU. As a function of the fair trade scheme, over the 3-year period from 2005 to 2008, the Wuyuan Organic Tea Farmers Association received a total of approximately US$100,000 as social premiums. This amount increased annually (see Table 5). According to the regulations of the fair trade contract, this money could not be paid to the individual farmers. Instead, the Wuyuan Tea Farmers Association used a portion of the funds to improve local infrastructure such as roads, streetlights and cleaning facilities. Another portion of the funds was used to improve primary processing factories in different villages, and in 2006 the association set up an organic agriculture demonstration farm.

The company used part of the funds for developing the organic tea ‘production base’ in the villages, by planting more trees around the perimeter as a buffer zone and prevent soil erosion, among other tasks. Every year, the association supported the training and education of local youths from poor families in primary and middle school. Moreover, the farmers’ association supported the tea farmers’ health care; in 2006 and 2007 the association paid for individual health-care insurance for tea farmers and also contributed to the medical expenses of farmers with severe diseases such as cancer. After the Sichuan Earthquake in 2008, the Wuyuan Tea Farmers Association also donated US$14,706 to the disaster area; this decision was proposed by the director of the Farmers Association and approved by all the members during the meeting of the association.

In Kandy, the case-study area was also certified for fair trade in 2001 after several years of organic tea production. While the organic price premium was paid directly to the individual farmer, the fair trade premium was channeled
through SOFA. The total budget prepared by SOFA in relation to the fair trade social premium in 2006 was US$50,000, which was shared among 27 village-based SOFA groups. This amounted to approximately $28 per member; however, the money could not be distributed to individual households. Most of the funds were given to community development projects proposed by a village and approved by the General Assembly of the group. Besides infrastructure development within SOFA itself, related to agricultural development, other areas that received support were capacity building for women of member families, and general welfare including scholarships for further education for children or farmers.

Focus group participants in Kandy felt that the effect of SOFA groups in terms of community development and building of social capital and organizational capacity was as important as the amount of funds distributed. A key activity of SOFA has been to support women’s self-employment and there is an increased focus on involving women in training programs. This is linked with the increased possibilities for women to gain an income from rural work either on their own land or as hired labor in organic cash crop production.

Besides the above-mentioned benefits, during the interviews in Wuyuan some tea farmers indicated that if they were not producing tea organically, some of the tea gardens would have been abandoned. With organic tea, farmers can sell their product to contracted companies with a guaranteed market. Farmers in the Kandy area had neglected tea production because of low prices, but GSS encouraged organic tea cultivation and helped to identify buyers.

Discussion

The determinants of organic farm profitability can be linked to the agricultural policy environment, market environment, political environment and farmer management abilities (see FAO study by Nemes, 2009). Another FAO study (Santacoloma, 2007) highlighted the managerial skills and associated costs of organic certification, pointing to bargaining skills and business abilities of farmers to become integrated into the value chain (Santacoloma, 2007). Méndez et al. (2010) underscore that fair trade and organic certifications have provided effective support to establish international networks that leverage funding for small-scale producers (Méndez et al., 2010). Although it was not a focus of our study, these institutional factors were also important to our cases. To complement these kinds of institutional analyses, and in order to give a realistic sense of the concrete benefits of organic production, our study used a case study to assess whether the sale of organic crops could increase farm income, while also considering any extra workload. Our findings showed that if we only consider costs and benefits from tea production, then the organic system had lower costs in terms of cash inputs, as fertilizers and pesticides were not generally used. However, the organic operation had a higher input of households’ own labor in both study cases. Due to the higher price premium and market access, the net income and profit is higher than the conventional system (in Wuyuan) or the same as the conventional system (in Kandy). The price premium of organic tea compensates for the extra labor input and/or lower yield. Elsewhere in Asia, studies of rice in the Philippines (Mendoza, 2004) and Bangladesh (Rasul and Gopal, 2004), tea in China (IFAD, 2005) and cotton (Frank et al., 2007) in India also showed that organic crops could gain higher net revenues.

The extra income from organic products was limited due to the relatively small tea plots (an average of 0.18 ha in the Wuyuan case and 0.46 ha in the Kandy case). Non-farm income was the largest portion of total household income for both organic and conventional households, so the economic gains from organic farming make a limited contribution to overall household income, owing to the higher proportion of non-farm household income, mainly from household members who worked in cities. If farm income were to dominate the total household income, then organic agriculture could improve the livelihood of small-scale farmers more substantially. Together with fair trade schemes, this scenario would be competitive from economic, social and community development perspectives.

Our findings also raise the question of whether farmers in our case-study areas could expand their area of organic farming to reap greater profits from tea production. At least for China, arable land is quite limited. But as more and more young people migrate to cities, some farmland is abandoned. Farmers who were keen to expand could potentially rent these lands to increase their organic production. However, it may be hard for the farmers to

### Table 5. Uses of fair trade funds in Wuyuan, China (US$)

<table>
<thead>
<tr>
<th>Year</th>
<th>Local infrastructure construction</th>
<th>Education donation</th>
<th>Tea processing facility improvement</th>
<th>Health care</th>
<th>Organic base construction</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>2005</td>
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<td>588</td>
<td>2008</td>
<td>0</td>
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<td>6810</td>
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<tr>
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<td>441</td>
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</table>

1 Sichuan earthquake recovery.
boost their standard of living as substantially if they were to depend on agriculture alone (be it organic or conventional). At the time of the study, the income from agriculture accounted for only 20–30% of each household’s income. Thus, organic farming is not so important from a financial perspective for a household earning off farm income. However, the combination of organic and fair trade certification also contributes to community development. The extra benefit of fair trade certification on the community level in Wuyuan and Kandy was considerable.

By increasing income and improving market access, organic farming can potentially make it more attractive for small-scale farmers to stay in their villages and work on their land (Halberg et al., 2006b; Parrot et al., 2006), especially where entrepreneurial farmers use more land and earn a full-time income. This could be particularly beneficial for women. Organic agriculture is normally more labor intensive and this could improve the local employment of women in the processing and packaging of the tea—activities that may take place near the areas of production. While the (small) benefit of certified organic production was visible in profits for individual households, the combination of organic and fair trade certification together resulted in livelihood improvement visible at the village level.

Overall, there are clear economic benefits for small-scale farmers engaging in organic agriculture. However, the actual benefits will depend on the location and conditions of agriculture before conversion. In areas with typical, low-input agriculture, a conversion to organic practices may benefit the farmers’ livelihood and preserve landscapes with important cultural heritage more than a high-input system would. The study did not quantify the potential benefit for the farmers of reduced cash inputs. In other studies, for example from India, this has proved to be a significant benefit, because smallholder farmers often borrow money for crop inputs (fertilizer, pesticides) at very high interest rates (Panneerselvam et al., 2011). It was not possible to estimate the effects of eliminating pesticide use on farmers’ health or the environment, though it would be valuable to examine this in future studies. Blackman and Rivera (2011) similarly call for more research on environmental impacts of sustainability certifications. They also advocate that third-party evaluation of the economic, social and environmental benefits of certification be built into the design of certification projects (Blackman and Rivera, 2011). In a study of the potential economic impact of large-scale conversion to organic production in two states of India, Panneerselvam et al. (2015) estimated that production may drop 3–5% but the cost of fertilizer was eliminated, and for areas of rainfed agriculture, food production increased. We echo the call of these authors for more research on longer-term impacts of organic conversion on yields, food security and poverty reduction (Panneerselvam et al., 2015).

It is worth noting some limitations of our study. While both fair trade and organic certification have been instrumental in facilitating farmers’ organizing, we were unable to differentiate the confounding benefits of fair trade versus organic certification—e.g., to identify which percentage of the income received by producers was from organic, fair trade, organic/fair trade or conventional sales of their tea. Further research would be valuable to parse out these elements, and to examine the additional compliance requirements associated with fair trade regarding democratic management of the farmers’ cooperative.

**Conclusion**

Our literature review identified that further research was needed to document the actual benefits of organic agriculture for small-scale farmers under diverse socio-economic and agro-ecological conditions, and with varying organizational contexts, and degrees of market access, and in particular the benefits for small-scale farmers of pairing organic and fair trade certification for products other than coffee and bananas. The findings of our study on tea producers in two cases in Asia demonstrate stronger benefits than have been reported in studies of organic and fair trade coffee and bananas.

In our study, we differentiated the characteristics, production system and organization of the case study areas, and analyzed the economic benefit at the farm and household levels. The finding contributes to existing literature at both of these levels. Moreover, we highlight the social benefits, which were seen to be strengthened by fair trade. Our two study cases in China and Sri Lanka demonstrated that organic tea production required lower investments in terms of cash inputs, but higher inputs of farmers’ own labor. The net income and profit was higher than the conventional system (in Wuyuan, China) or the same as the conventional system (in Kandy, Sri Lanka). The price premium of organic tea compensated for the extra labor input and lower yield. Analysis at the household level showed that the costs and net income from all non-tea crops was similar to that of tea production. With the relatively small tea garden plots per household, organic production by itself was not fully supporting households in the study areas. Non-farm income dominated the total income of the households in the study areas, and the economic benefits to the household from organic farming were outstripped by non-farm income. Nonetheless, market-oriented organic agriculture projects created more options for paid work locally, benefiting women. Moreover, fair trade certification played a role in organizing farmers and contributing to community development.

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Benefits of organic and fair trade tea production for small-scale farmers in Asia

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