



Contents lists available at ScienceDirect

Ecological Economics

journal homepage: www.elsevier.com/locate/ecolecon

Analysis

Certified Organic Agriculture as an Alternative Livelihood Strategy for Small-scale Farmers in China: A Case Study in Wanzai County, Jiangxi Province

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ARTICLE INFO

Keywords:

Organic agriculture
China
Livelihood
Small-Scale Farmers

ABSTRACT

Organic agriculture can sustain rural development and ease poverty. However, whether it could be a viable pathway to improve the livelihoods of small-scale farmers in the context of urbanisation and demographic change has been less studied. To understand this, household surveys were conducted in 2007 and 2014 in Wanzai, Jiangxi Province China, where organic farming started in 2000. The results show that organic farming did contribute to higher farm incomes for small-scale farmers (< 1 ha land) compared to those practicing conventional agriculture, regardless of whether the profitability is measured on a per land unit or per household basis. The annual farmers household net income increased from 2007 to 2014, however, the farm income of small-scale farmers only makes up a minor part of total household income and its percentage becomes less and less over time. For medium-scale organic farmers (> 1 ha land), the proportion of income from farming was higher (56% in 2007 and 77% in 2014), leading to average farm incomes of USD16,108 in 2014. Among organic farmers, cooperatives members performed better economically than those not in cooperatives. Organic agriculture can ensure stable and sustainable alternative livelihoods, especially in a situation where available land offers opportunities for scaling up.

1. Introduction

Since the early 1980s, China has experienced rapid economic growth and urbanisation, lifting hundreds of millions of people out of poverty. At the same time, environmental degradation has increasingly overshadowed these successes and depressed the quality of life for those small-scale farmers remaining in rural areas as well as the quality of food (Mcbeath and Mcbeath, 2010; Norse and Ju, 2015). Small-scale farmers¹ were described by IFAD (2013; pp. 10) as “marginalized people who have difficulties to access resources, capital, information and technology”. Small-scale farmers in rural areas of developing countries play a crucial role in food security (Altieri, 2009; Tschamtk

et al., 2012; Azadi et al., 2015), while they also make up the majority of people who experience food insecurity (HLPE, 2013) and need to improve their livelihood and degraded environment.

In order to address this issue, many researchers have considered low-external input sustainable agriculture like organic farming as a preferred development approach for the problem of food security (Setboonsang and Markandya, 2015; Reganold and Wachter, 2016; Badgley et al., 2007; Chappell and LaValle, 2011; Azadi et al., 2015; Schoonbeek et al., 2013). Results from various studies have shown a positive effect from organic agriculture on yields and/or total food production and net incomes of small-scale farmers in dry and temperate zones (Seufert et al., 2012; Fließbach et al., 2006; Pimentel et al., 2005;

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¹ Land size is the most common factor to define small-scale farmer. Three groups are categorized and compared in this paper: conventional farmers, small-scale and medium sized organic farmers. Small-scale farmer is defined as which with up to 15 mu (1 ha) of land per household, those households with over 15 mu of land are labeled as ‘medium sized farmers’ for the purposes of this study, even though it doesn't correspond to global standards of farm scale. However, given that the average landholding in Wanzai County is between 3.6 mu and 6.4 mu per household, a household with 15 mu has relatively ample landholdings.

Panneerselvam et al., 2011). However, little data is available on sub-tropical regions (Rahmann, 2011; Rasul and Thapa, 2004), especially in China. At the same time, most of the studies mainly compared farm incomes of different production systems on a per land unit basis (Rasul and Thapa, 2004; Frank et al., 2007; Oelofse et al., 2010). Few studies have analyzed the contribution of organic agriculture to the livelihood of whole households and its sustainability over time, to determine whether organic agriculture is a viable pathway to improve the livelihoods of small-scale farmers in the context of urbanisation and demographic change. Our paper addresses the question: what factors have enabled organic farming to be commercially viable and in some cases even scaled up? The objective of this paper is to fill this gap by investigating the livelihood implications for smallholder farmers who have converted to organic agriculture.

Organic farming has experienced rapid growth on a global scale over the past two decades (Willer and Lernoud, 2016). In 2013, China had 1.287 million ha of organic agricultural land according to Chinese organic standards, which accounts for 0.95% of the country's agricultural area, and 3.5% of the world's organic acreage. When organic certified production began in China in the early 1990s according to EU organic regulation, it focused on the export market as domestic demand was low. After the Chinese organic standard was issued in 2005, the domestic market for organic produce has grown significantly; the domestic sales in 2014 were 3.7 billion euros, the world's fourth biggest market for organic products (Willer and Lernoud, 2016; CNCA, 2015). Due to the commitment of the local government, parts of Wanzai County have become one of the most important organic agricultural zones in China.

This paper mainly analyses the impacts of organic farming on the livelihoods of small-scale farmers. Based on the results, possibilities of alternative income strategies are discussed for small-scale farmers to improve their livelihood situation in their hometowns in the context of urbanisation and demographic change. Farmer surveys were conducted in Wanzai County, Jiangxi Province in 2007 and 2014 to provide an analysis and assessment of under what circumstances and to what degree organic agriculture provides household livelihood improvements for small-scale farmers. In distilling the lessons learned from this case, we hope to provide insights for researchers, practitioners, and policy-makers into how organic agriculture can better support small-scale farmers, in China and elsewhere.

2. Context and Methodology

2.1. Description of Case Study Area

Wanzai County is located in the southern Chinese province of Jiangxi, about 300 km west of the provincial capital of Nanchang City. The county consists of nine townships with 181 administrative villages and has a total population of about 531,000 citizens. Its total area amounts to 1718 km², with 32,000 ha of farmland and 65% forest coverage. The climate in Wanzai is sub-tropical with an average temperature of 17.3° C and an annual precipitation of 1600 to 1800 mm. There are approx. 255 days frost-free and 2663.5 h of sunshine on average per year. The local landscape is characterized by mountains up to 600 m in the north, south and west and fertile plains in the east.

Wanzai benefits from a clean and resource-rich natural environment, but being relatively remote it lags behind in economic development. Organic agriculture was introduced around 2000 in Wanzai County and has become the main strategy for income generation, environmental protection and social support for small farmers in the region. By 2015, 5933 ha of organic cultivated farmland had been certified, accounting for > 18% of the total farmland area of Wanzai County. Rice, soybean, ginger, and 38 other certified crops are grown in the area, with rice accounting for 84% of the organic crops (Dai, 2016). Twelve organic food-processing companies have been established in Wanzai. Their industrial output value was more than USD 298 million

and the total export value was USD 70 million in 2014. This development has earned Wanzai the titles of “First County in the South for Organic Agriculture” in 2005 and “National Certification Demonstration County” in 2011 (Jiang and Hang, 2012; CNCA, 2014).

2.2. Data Collection and Analysis

The main data on organic agriculture in Wanzai County was gathered through primary research conducted in 2007 and 2014. Discussions were carried out with local stakeholders to help select suitable case-study farms with the following criterion: farms certified by accredited organic certifiers with EU, US and/or Chinese organic standards for more than five years. In order to minimize selection bias and maximize similarities, comparable conventional farms were found in neighbouring villages with similar agro-ecological conditions, land use, household structure, infrastructure and distance to markets. Before organic farming was introduced to the case study area, the conventional farms were of a comparable size/scale of land mainly for rice production and orientation (subsistence (i.e., growing for their own consumption) or selling small part of their products to peddlers – or a combination of both types) to the organic farms.

In 2007, 211 farmers with 111 organic farmers and 100 conventional farmers were randomly selected and interviewed from six villages (three organic practicing and three conventional). In 2014, 55 organic and 26 conventional farmers were interviewed within the same villages. Due to limited resources on the second visit not as many farmers were visited. We tried to visit the same farmers, however there were a few farmers unavailable during the visit. After organic farming with certification, more small-scale farmers had access to markets, their products became more diverse and more commercialized especially for those medium-size farmers. For conventional farmers, their situation only slightly improved; they still mainly produce rice and few conventional farmers had reached similar levels of commercialization. This was a limitation for our study; that it was hard for us to find comparable medium-sized scale conventional farmers.

The first questionnaire for farmers referred to the eight United Nations Millennium Goals of 2000 (Qiao and Halberg, 2007). The questionnaire of the follow-up study in 2014 focused on the information of the organic and conventional market links, the certification practice and cost, price premiums and organization of organic production gathered from interviews in private and public sectors. As well the farmers reported on their crop production over the previous year. This information and the interpretation of household interviews were double checked at verification workshops with farmers and extension officials in the case areas in the following months.

Indicators closely related to agricultural production of small-scale farmers were selected for the analysis of the paper (Zanoli et al., 2007). As shown in Table 2 regarding rice production, the indicator of total sale of rice was the value of the sold rice less transport costs. Total variable costs except land rent in crop production included all inputs such as seeds, fertilizer, pesticides and hired labour. Profit per land area in Table 2 was calculated as the difference between total sale of rice and total variable costs with land rental costs included. In Table 3 of the household income source, total variable costs also include the cost of rental land and labour costs. Profit from crops in Table 3 comes directly from the questionnaires. Off-farm income is comprised of migrant worker wages as well as other off-farm income sources such as remittances from the interviewees' children.

The cost and income/profit variables of rice in Table 2 are scaled per hectare. Variables in Table 3 are scaled from the perspective of the whole household (normally farmers plant several crops besides rice). Both sets of variables were considered relevant—the former (Table 2, the area base) to facilitate comparisons across different scale farmers and farming systems, and the latter (Table 3, the household level) to give realistic accounts of the significance of profit from organic crops in relation to the total household economy. All data were input into SPSS

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