

Are pluriactive farmers in China better off? A case study from Shandong province

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Abstract - In China, the development of non-farm sectors is the most dynamic in the rural economy. This paper reports from a survey among 1,342 agricultural households in Shandong province. It focuses on working patterns of all family members, income sources and influencing socio-demographic factors. In average just over half of farm households' income derives from crops; this share, however, varies substantially, e.g. a negative correlation with the level of income has been found while non-farm work, the family head's length of education and age is positively correlated with higher income. The family head's sex and the sector of off-farm work have no significant influence on income levels.

Farmers and their families have always had several occupations and hence sources of income other than farming – they are 'pluriactive'. In addition to own farming, they might work on other agricultural holdings, sell their products directly, or embark on non-farm employment. Motives to combine activities can be to struggle for survival, to augment income or to raise social status. Farmers usually only adopt non-agricultural sources of income when revenue from farming is insufficient but research has shown that pluriactive households are not necessarily better off (Ahituv and Kimhi, 2002; Barrett et al., 2001; Buchenrieder, 2005; De Silva and Kodithuwakku, 2005; Deininger and Olinto, 2001; Ellis, 2000; Evans and Ilbery, 1993; Hagblade et al., 2007).

In the People's Republic of China, the transformation from an agriculture-based to a more diversified rural economy in the past three decades has brought about more pluriactive farmers. In recent years, rural non-farm economy has flourished and diversified. Even though rural incomes have increased, they have fallen behind urban incomes. Farm sizes are too small to generate additional income apart from producing the minimum necessary to feed the family. Land is contracted to Hùkǒu² registered inhabitants and cannot be sold. The rural-urban income gap entails massive internal migration. Remittances from migrant workers guarantee income flows back to the countryside (Démurger et al., 2007; Fan, 2008; FAS, 2009). This paper focuses on economic activities and income diversification of Chinese farm households.

STUDY AREA AND METHODOLOGY

A survey was conducted among 1,342 farmers in Shandong Province.³ Shandong is one of China's most important agricultural areas. Being a leading farming region, Shandong is relatively rich compared with other provinces. Food processing industries are largely based on intensive crop and vegetables growing on small scale farms. Yet, those 37% of people who work in the primary sector generate less than a tenth of the gross regional product (China Statistics Press, 2009; Ju et al., 2006). Statistical data analysis was done with PASW Statistics 18.0.

RESULTS

The polled farm households consist of 3.9 ± 1.4 (standard deviation) persons on average. Average farm size is 0.49 ± 0.39 ha, average plot size 0.33 ± 0.29 ha, average age of the head of household is 50 ± 10.4 years, male family heads have enjoyed 7.8 ± 3.0 years of education (n: 1,149), female 5.0 ± 3.6 years (n: 161).

On average, respondents spend four fifth of their working time on own agricultural activities. Only 6.5% work exclusively in the non-farming sector. There is a significant positive correlation ($P=0.000$, adjusted $R^2=0.039$; n: 1311) between the age of the head of household and the share of working time he or she spends on-farm. The older the family head, the more likely is she or he to be working on-farm, the younger the heads of household, the more they work off-farm: of those 50 years or older (i.e. older than average; n: 720), 81% spend all labour time on-farm. Of those younger than 50 years (n: 592), 55% work full-time on their farms.

Family heads with low levels of education spend more time on-farm. The higher the level of education the more likely they are to work part-time in the non-farming sector. For those 50 years or younger, a significant negative correlation between length of education and time spent on farm is found ($P=0.000$, adjusted $R^2=0.025$), yet for family heads older than 50 years there is no such correlation. No correlation was found between the plot size and the proportion of time spent on-farm.

Of those heads of households not working full-time on their farm (n: 367), more than a third (37%) work in engineering or construction, more

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² Formerly strictly controlled system of residence permits; people who live outside their Hùkǒu registration do not qualify for certain social, educational or health care services of public administration.

³ The study was carried out within the project "Innovative nitrogen technologies to improve agricultural production and environmental protection in intensive agriculture", co-funded by the German Federal Ministry of Education and Research (no. 0330800A-F).

than a fifth (22%) in an enterprise, 10% have a job in wholesale or retail trade, 9% in transportation, 8% as a craftsman, and 5% in a public institution.

On average, household income derives 57% from plant production, 5% from livestock, 32% from off-farm activities and 6% from subsidies and other sources, mainly remittances from family members. Practically all households have agricultural income; its actual share and its composition however vary substantially, e.g. the larger a household's annual income the lower its share deriving from crop and vice versa. Conversely, the proportion of income from livestock increases slightly with rising income (cp. Fig. 1). Especially off-farm work gains in importance with rising income: the higher the percentages from income from off-farm work, the more likely are the polled farmers to have a high income level. Interestingly, the sector of off-farm work does not correlate with income group.

The level of income is positively and highly significantly influenced by the family head's length of education ($p=0.002$, $R^2=0.051$) but negatively by his or her age. The sex of the family head has no significant influence on the level of income. There is even a tendency ($n: 42$) that households managed by a woman are better off.

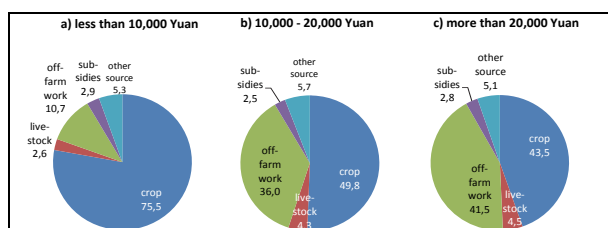


Figure 1. Composition of household income [%] differentiated by income groups (own data and calculations).

DISCUSSION AND CONCLUSIONS

Farm households' incomes mainly derive from agriculture but the typical farm cultivates only 0.5 ha of farmland, so relying only on on-farm income would mean a low standard of living. Hence, remittances from relatives as well as off-farm income are necessary for the farm family's economic security. In our study, we found that pluriactive farmers are better off than full-time farmers, no matter where they work. Either off-farm work produces higher incomes or poorer households have less remunerating job opportunities. Most of the polled farmers are quite well educated by Chinese standard. Still, those with higher levels of education are more likely to work off-farm. Education may qualify an individual for more and better paid jobs in the non-farming sector. Especially the younger generation is committed to seek a job in the secondary and tertiary sectors in order to increase household's income and possibly also to get off the contemptuously rural lifestyle.

The average family size of around four persons and a closer look at the family's age distribution reveals that next to the older generation in many families young children stay with their grandparents on the farm while their parents work in another sector, often in larger towns or cities. The older generation farms the land and takes care of the children. This also reveals how important family ties

and mutual support are in Chinese society. A reason for some family members staying on the farm might be the Hùkǒu system, i.e. missing social security. Referring to this, it can be assumed that adhering to farming is not a free choice but rather driven by politics. Besides, agricultural land serves as a kind of (retirement) security and needs to be cultivated.

The observed patterns are probably only a transitional state. Up to now, regulations inhibited trends such as intensification and specialization. Now, new legislation allows longer leases, also to bigger cooperative farms, and this is likely to change radically existing structures: in the medium term, units will become larger, releasing former farmers to work full-time in the off-farm economy. It remains to be seen what happens if social security systems are introduced in rural areas. We can assume that there are interesting times ahead in Chinese agriculture.

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