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New urban-rural interface: Agricultural cooperatives for urban-rural interaction in China

Abstract

This study is concerned with the agricultural cooperatives as a new urban-rural interface for urban-rural linkages in China. Recently, urban-rural linkages have been increasingly gaining momentum in the economic development and poverty alleviation in urban and rural areas. However, flows of people, goods, capital and information between urban and rural areas can be beneficial or detrimental to either part. Thus, it is important to manage these flows. Small and medium-sized towns, peri-urban areas or urban-rural fringe are considered from a geographical perspective, as the urban-rural interface through which modernization and wealth trickle down from cities to villages, especially in the process of decentralization and urbanization. Nevertheless, the paper argues that such interface merely serve as the extension of urban influence on rural areas since rural peasants are disorganized and often passively affected by such influence. The aim of this paper is to explore agricultural cooperatives acting as a new urban-rural interface in China. Through comparison with the urban-rural interface in geography, the paper considers agricultural cooperatives as dynamic, rural-favored and space-beyond interface through which urban-rural linkages are strengthened and rural development is further promoted. The framework of agricultural cooperatives being the new urban-rural interface is depicted. The paper stresses the necessity of developing agricultural cooperatives to intensify the urban-rural interaction in the Chinese context of major rural population.

Key words: urban-rural interface; agricultural cooperative; urban-rural linkages

Introduction

For quite a long time after cities and villages emerged in human history, sharp distinction between these two parts existed assuming that the livelihood of rural areas are agriculture based whereas the urban areas are manufacture and service based (Masum, 2009). Urban and rural areas are thus, treated separately in economic, social and environmental development. Recently, urban-rural linkages are gaining the momentum since people found that these two parts are not isolated but tensely interlinked with each other. Much attention had been paid to the urban-rural interface when people began to concern the impacts of the continuous outward expansion of cities. Many manifestations were generated to define the interface: urban fringe (Louis, 1936); rural-urban fringe (Pryor, 1968); 'desakota' (McGee, 1991) and peri-urban interface (STEPS, 2008), etc. One thing in common is that urban-rural interface is generally regarded as the

transitional zone where rural area is under transition to built-up urban place in land use, social and demographic development.

Urban-rural linkages at the interface are complex since it includes both urban and rural features (Rondinelli, 1985). However, this interaction at the interface presents an urban-oriented tendency. First, much rural land was requisitioned for residential and industrial use. For example, arable land in the urban-rural continuum of Beijing decreased by 13.9% from 2001 to 2004 while construction land in this zone increased by 14.2% during the same period (Lin et al, 2007). Second, farming structure was also induced to change for the urban demand like high-value goods and farming recreation (Price and Harris, 2000). Third, many off-farm employment opportunities are provided by the urban industries attracting peasants off the farms (MUNTON, 1974). Moreover, negative affects like industrial pollution, low land use efficiency and deteriorating crop yields, etc. also exist at the interface (Heimlich and Anderson, 2001). Seemingly, the emergence of urban-rural interface serves as the carrier of urban expansion which through this interface exercises its influence on rural areas. At the meantime, current researches mainly provide insights from a physical and urban-centric perspective on the process of urban occupation and its impacts on the rural part. An impression is that rural areas are passively reacting to this influence.

The agricultural cooperatives which combine peasants together and serve them for crop plant, processing and marketing, act as an interface for urban-rural linkages. The aim of this paper is to analyze agricultural cooperatives as a new urban-rural interface in rural China. It tries to gain a better understanding of the active role of agricultural cooperatives for urban-rural linkages in China. The paper reviews the evolution of urban-rural interface from a physical perspective. It examines the way in which urban and rural areas link at the interface. Then, the paper reveals how agricultural cooperatives act as a new interface for urban-rural interaction in China. It presents a framework of urban-rural linkages at the new interface. The paper emphasizes the necessity of developing agricultural cooperatives to improve peasants' competitiveness and strengthen the urban-rural interaction in China.

Research review of urban-rural interface

There is still not yet a widely-accepted concept of what urban-rural interface refers to. However, the term of urban-rural interface has many manifestations in light of its definition, characteristics and delimitation. German geographer H. Louis (1936) for the first time when he was analyzing

urban structure in Berlin, identified “urban fringe belts (*stadtrandzonen*)” which referred to the rural places gradually shifting to built-up urban areas. Later, Wehrwein (1942) coined “urban fringe” as areas of transition between well recognized urban land uses and the area devoted to agriculture. Reinemann (1960) used “suburban fringe zone” and “outlying adjacent zone” when analyzing the manufacturing distribution in Chicago since 1945. Pahl (1966) pointed that there existed a “rural-urban continuum” through which urban areas impact on the countryside and rural ways of life. Pryor (1968) defined “rural-urban fringe” as a complex transition zone on the periphery of growing urban areas in Western countries. Russwurm (1975) considered urban fringe as an advanced stage when the rural land transformed from rural to urban areas. Chicoine (1981) developed urban fringe to areas bordering central cities, surrounding close-in suburbs and noncontiguous nearby towns and extending into the adjacent and open countryside. McGee (1991) labeled the concept of ‘desakota’ in the Asian context. It refers to the symbiosis of the urban and rural areas which resulted from the transformation into a dispersed metropolis. Gering, Chun and Anderson (1998) tried to identify the urban–rural interface and found it a zone where social, economic and political factors interact in complex ways. Browder (2002) considered urban-rural interface as an array of networks connecting urban agents and rural producers. He emphasized the key role of social networks in the decision environment for rural producers who effectuate rural land cover change outcomes. STEPS center (2008) used peri-urban interface to analyze a transition zone where urban and rural activities and institutions co-exist.

Researches on urban-rural interface in China started in 1980s. In the mid-1980s, land planning sphere first coined “rural-urban continuum” to represent the settlement continuum from villages to city. Han and Yin (1987) used “suburbs” to refer to the rural landscape areas that are surrounding cities. Cui and Wu (1990) pointed out the binding section between built-up urban areas and rural hinterland. It is also a transitional zone from urban space environment to rural space environment. Gu et al. (1995) considered urban fringe as a new and independent object between cities and villages. Wang et al. (2002) conceptualized “urban-rural transition zone” which indicates areas where integrating of town and countryside. Actually, these manifestations both in China and abroad although different, all emphasized the transitional and dynamic features of urban-rural interface which serves as a frontier where rural areas are under transition to urban areas. In this sense, there are several mixtures co-existing at the interface: rural farm and urban industries; rural peasants and urban residents; farm-based rural landscape and built-up

urban landscape. Through the mutual linkages at the interface, these mixtures change constantly such as occupied arable land and extended industrial land. At the same time, the emergence of urban-rural interface also challenged the long-time existing urban-rural dichotomy and the way of treating these two parts separately.

Small towns at the peri-urban areas also received much attention as the frontier for critical linkages between progressively interwoven rural and urban regions (Hoang et al. 2005). They are serving as the regional nodes of political, economic and social networks. By virtue of their intermediate position in the cities' system, small towns act as attractive destinations for rural migrants, offer non-farm employment and provide access to education, health and administrative services for rural population (Satterthwaite and Hardoy, 1986; Titus and Hinderink, 1998; Satterthwaite and Tacoli, 2003). Besides, small towns are also places of decision-making, gathering information and channels to show local demands and interests. European Commission (1988) and DETR (2000) all emphasized the role that market towns played as the 'sub-poles' or 'hubs' for surrounding rural hinterland. In China, small towns at the urban suburbs are also highlighted for the role of connecting cities and their rural hinterland (Jiang, 1992). According to Lin (1993), the main economic activities in the small towns are the collection and processing of farm goods and the distribution of manufactured commodities. Small towns are also functioning as the centers of culture, technology, modern values for the countryside. At the same time, cities are pursuing a way of decentralization and polycentric spatial structure. Many city functions are decentralized and allocated outwardly to the outskirts urban zones. Thus, small towns at the peri-urban areas bear this duty of accommodating the dispersed population and industries. Specially, in an era of fast urbanization development, many cities in China are facing severe urban problems like congestion and pollution due to the continuous human influx. The longing for a cozy life of enjoying much green space, low pollution and convenient transportation while maintaining the jobs in downtown pushed many residents moved from the downtown to the suburbs which induced great suburbanization (Zhou and Meng, 1998).

Urban-rural linkages at the interface

Traditionally, urban-rural linkages present a "demand-supply" pattern. Just as Hodder (2000) identified, rural areas depend on manufactured goods, urban employment opportunities, urban market and technology while cities rely on rural food and materials. However, the increasing interest in the fringe between city and the countryside indicates there is an overlap which

provides both positive and negative flows to either direction (Briggs and Mwamfupe, 2000). Undoubtedly, cities are the radiation centers exerting their influence through the trickle-down effect on the surrounding hinterlands due to the transport and communication facilities. Harvey (1973) considered the urban influence on rural areas as encapsulation of the countryside into new social and economic circuits that are mainly controlled by towns. Rural development thus, is induced into an urban-oriented pattern. Specially, rural areas at the peri-urban zones are passively influenced by urban activities.

In general, urban-rural linkages at the urban-rural interface mainly display as land use changes, agricultural structure adjustment and off-farm employment. Land use at the urban-rural interface is distinctively intermingled and transitional with an irregular transition from arable to non-arable land (Pryor, 1968). The value of land in the peri-urban areas for non-agricultural use is usually much higher than for agricultural production. Thus, real-estate developers and local municipalities would try to shift the arable land for residential or industrial purposes by way of land requisition at a lower price below the market value (IIED, 2003). For transport concerns, manufacturing or real-estate enterprises usually settled along highways, around railway stations or in other “leap-frog” zones. Those out-migrating urban residents who are particular to the living environment e.g. villa, quiet and clean communities usually sparsely accommodated in the outskirts urban areas. In consequence, the industrial and residential land intermingles with the rural arable land. Much rural land was finally broken up into pieces or completely requisitioned for non-farm use. This is also a universal phenomenon in China. From 1998 to 2005, the constructed area of Chinese cities grew from 214 000 km² to 325 000 km², an astonishing growth of over 50 percent. Beijing, for example, increased its built-up area by 144.1 km² with the annual rate of 6.55 km² from 1979 to 2001 (Lv, 2003). From 2001 to 2004, arable land at the urban-rural continuum of Beijing decreased by 14% whereas the construction land increased by 14% (Lin et al. 2007).

Access to the urban market is important for the peri-urban peasants to increase incomes. The urban demand for higher-value goods and farm-based rural recreation induced the diversified farming in rural areas adjacent to cities (Price and Harris, 2000). This demand preference led to structure changes of farm operation from traditional crops to the special farming production like vegetables, milk and flower. For instance, new forms of agricultural production emerged to supply fresh vegetables for urban residents in the peri-urban areas surrounding Colombo

(Dayaratne and Samarawickrama, 2003). Similar changes also occurred in Hanoi. Peasants in the peri-urban area of Hanoi's outskirts shifted their production to higher-value goods like vegetables, herbs and milk, etc. so as to satisfy the market demand (van den Berg, van Wijk and Hoi, 2003). However, problem is that small-scale and scattered farms due to the land partition by the non-farm land use restricted the potentiality of farm production. Besides, many peasants adopt a self-reliant way in deciding which crops to plant and how to trade (to avoid the exploitation of trade-agent and the access fee to the trading markets in cities, they usually sell the crops in urban streets themselves). Apparently, this way of farm operation increased the risk to price fluctuation and information accessibility for the individual peasants. In China, these peasants are labeled as "tranter" who don't have fixed stall but wander along the urban streets to sell their farm goods.

The relocation of many industrial firms from inner urban zones to the urban periphery or outside the urban boundaries so as to reduce the cost generates many off-farm employment opportunities for rural peasants. Thus, many peasants would turn to undertake the off-farm work instead of the low-return farm work which caused reduced intensity of agricultural production or substitute capital for laborers (MUNTON, 1974). Meanwhile, rural migrants moving to large urban centers would probably settle in villages and settlements in peri-urban areas which provide job opportunities and low-cost daily life (Tacoli, 2003). However, the impact which is common in developing countries is the informal employment for the peasant workers. Given their education and skills, many peasants usually work in the informal jobs of low salary and intensive workload like baby-sitter, security staff, construction worker, etc. This scale of informal employment in China was estimated to have increased from 23 million in 1990 to 174 million in 2005 (Chen and Hamori, 2009). The problem is that most informal workers are deprived of secure work, benefits, social protection and representation or voice (ILO, 2002).

The above analysis shows a reality that both the positive and negative impacts on rural development due to the urban-rural linkages at the interface present an urban-oriented pattern. It is the urban expansion that brought the influence on rural land use, farming structure and rural livelihood. In this process, rural areas are primarily reacting passively.

Agricultural cooperatives in rural China: An active initiative

Before the modern agricultural cooperatives in China were established after the reform and opening-up in 1978, cooperative agricultural production had experienced mutual-aid team and

elementary cooperatives in the 1950s and people's commune since 1958 (Wang and Xiao, 2006). A transition era from traditional agricultural cooperatives to modern agricultural cooperatives started since the abolishment of people's commune system in 1982. The establishment of modern agricultural cooperatives has three distinct features. First, it combined the household responsibility system¹ with the agricultural cooperative operation which is a commonly used model in the world having the private property right as the premise. Individual peasants are independent operators of their own farm while they cooperate together in an organization which can improve their competitiveness in the market negotiation and lower the trade cost and operating risk (Hou, 2006). Second, unlike the development in the planning economy, modern agricultural cooperatives introduced the market economy in its development. Their function evolved from the mutual aid in farm production at the initial stage to the whole crop production chain from information collection, agricultural inputs supply, agro-product processing, technology service and marketing farm goods. They are also responsible for the farm credit scheme. Third, stock system was also implemented in the modern agricultural cooperatives. This operation made separation between property rights and operation rights. The cooperative is responsible for the collective operation while individual peasants become shareholders with their property e.g. land as their stock shares in the cooperatives. Peasants can choose to either work in the cooperative or do other jobs. However, they would finally get the bonus from the cooperative according to their stock shares (Shentu and Chen, 2007).

By the end of 2009, there were 246.4 thousand registered agricultural cooperatives in China which involved 21 million rural households². The development of agricultural cooperatives since 1980s is actually an active initiative for the rural development in China. First and foremost, the former single family-operating farm is no longer suitable in the market economy. Within the household responsibility system, each family has a plot in the range of only 0.25 to 0.55 hectares which are far too small for competitive commercial agriculture (Lu, 2001). Meanwhile, self-reliant crop production is doomed to be low productivity and high natural and market risk for individual peasants since they themselves are responsible for the whole production process from crop plant to the sale in the end. Agricultural cooperatives can not only enlarge the land use scale

¹ Household responsibility system was a practice in China, first adopted in agriculture in 1981. Peasants are operating their land while holding the responsibility for the profits and losses.

² "Greatly development agricultural cooperatives", Peasants Daily, 10th Feb. 2010, http://www.ccfv.net.cn/jjps/t20100210_1431392.htm

for collective operation according to the market need, but also increase their capacity of bearing risk as well as the organization level in market negotiation (Li and Fu, 2004). This is an effective way of operating farms in rural China, especially at the peri-urban areas where peasants are facing the ever decreasing arable land per household due to the urban expansion.

Second, agricultural cooperatives can promote agriculture into enterprise operation. Based on the collective farm operation, several shifts emerged in the agricultural cooperatives: from self-reliant family operation to formal enterprise operation; from small-scale farm production to household independent auditing of large-scale farm operation; from multiform crop production to specialization of single crop production; from primary production supply and self-consumption to crop processing and increasing value-added production; from government-supplied agricultural service to market-dominated service (Yuan, 2003). Basically, enterprise operating of agriculture abandoned the traditional self-reliant farm operation and involved individual peasants as independent auditing units within an enterprise framework. Thus, agricultural cooperatives act as the nexus in promoting the self-reliant agricultural production toward the scale operation, specialization and industrialization which in turn increased agricultural competitiveness and advanced rural industrialization in China (Wang, 2007).

New interface for urban-rural interaction in China

Researches about agricultural cooperatives in China mainly focus on its role for rural development (Wu, 2000; Yuan, 2003; Hou, 2006; Shentu and Chen, 2007). Few have touched upon how agricultural cooperatives function in a larger context beside the rural areas. Actually, agricultural cooperatives act as a new urban-rural interface which is beyond the traditionally-accepted interface like small towns or peri-urban area in geography.

First, compared with the small towns or urban-rural fringe, agricultural cooperatives are more dynamic. They can be the intermediary agent between peasants and suppliers or demanders of cities anywhere. In the rural part, peasants in the agricultural cooperatives don't need to bring their goods to the cities and sell as what they did before since agricultural cooperatives are responsible for marketing their farm goods. Specially, large-scale and specialized agricultural commodities make it possible to be on sale directly in the city markets e.g. supermarket and shopping mall, instead of merely relying on the adjacent peri-urban areas. This is the widely-praised pattern of "supermarket joints peasants" (*nong chao dui jie*) which is popularized in China (MSD, 2008). In this pattern, supermarkets make contract with agricultural cooperatives

which supply their commodities directly and specially to the supermarkets which in turn, guarantee the sale. Besides, urban-rural interface as a geographical element usually connects city with its surrounding rural hinterland. Little connection may spread to distant or remote areas. The pattern of “enterprise + agricultural cooperatives + agricultural production base” (*gong si jia nong hu jia ji di*) however, conquered this obstacle while directly linking remote rural areas with cities (Fan, 2002). Agro-product processing enterprises or agricultural cooperatives for farm-goods logistics make agreements with large agricultural production base which may be located in remote areas or even other provinces. Then, they would distribute the primary or processed goods to anywhere in need. This is also what Douglas (1998) indicated: a particular urban centre may play a crucial economic role for the surrounding rural areas in one respect, while the rural area may completely bypass that same urban centre and link directly to more distant urban centers and cities in other respects. In this sense, agricultural cooperatives are playing this role as a nexus.

Second, the typical feature of agricultural cooperatives as a new urban-rural interface is its role for rural development in a context of tight urban-rural linkages. Unlike the passive response of rural areas toward the urban-induced influence like arable land invasion and urban demand preference, agricultural cooperatives represent the interests of rural stakeholders and involve in promoting rural areas to actively interact with their urban counterpart. The current land system in which peasants can't trade their land since they only have the usage right instead of the ownership which belongs to the rural collectives, restricts land circulation and large-scale operation (Dang, 2003). As Lu (2001) indicated, small household lot limited the competitive commercial agriculture in China. However, large-scale arable land operation through agricultural cooperatives is the efficient and effective measure to achieve competitive agricultural operation and guard against the possible arable land decrease due to the urbanization development. Agriculture industrialization is to deeply process the farm goods on the basis of large-scale agricultural development. It can greatly increase the added value to the farm commodity while involving more peasants to work in the agriculture enterprises (Peng, He and Shao, 2005). Besides, agricultural cooperatives have shifted the previous self-reliant pattern to a collective and cooperative agriculture operation which highly increased peasants' competitiveness and risk resistance capacity (Yuan, 2003).

Based on the above analysis, agricultural cooperatives as a new urban-rural interface can be depicted in a framework (Figure1). The emergence of agricultural cooperatives triggered a transition for urban-rural interaction in which rural areas develop actively and initiatively to the possible urban influence.

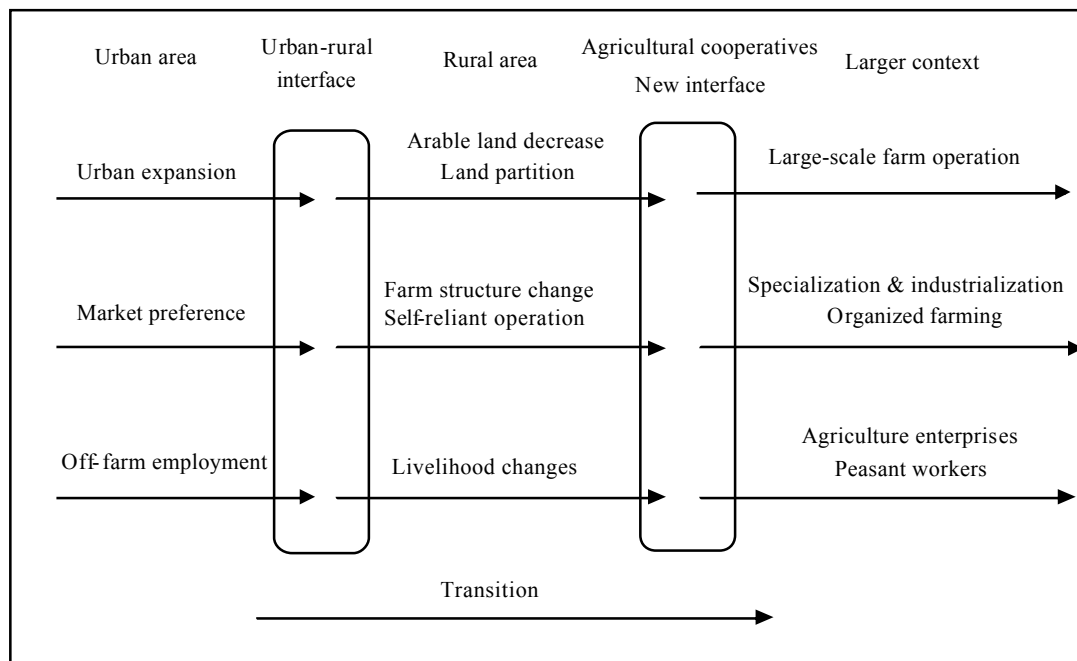


Figure1. Framework of new interface for urban-rural linkages

Concluding remarks

This paper stressed the role of agricultural cooperatives as the nexus between rural areas and the urban market. Through comparison with the urban-rural interface in geography, the paper recognized agricultural cooperatives as a new interface which actively promotes rural areas to link with the urban parts in an even larger context beside the adjacent peri-urban areas. Importantly, unlike the passive response to urban influence, agricultural cooperatives are representing the rural peasants' interests. It shifted the self-reliant household farming to a united and market-oriented land use pattern which not only improved the peasants' marketing competitiveness but also increased their resistant capacity for market and natural risks.

As early as in the 1990s, around 60% of the agricultural production in European market was supplied by the agricultural cooperatives. Specially, dairy product in countries like Denmark, Ireland, Finland and Sweden was monopolized by the agricultural cooperatives (Yuan, 2003). However, the activities of agricultural cooperatives in China mainly limited in a certain area such

as urban surrounding hinterland. Their influence on the urban market is not as strong as agricultural cooperatives in the developed countries. Another reality is that China has the major rural population who would still reside in the countryside in the future although the nation is experiencing fast urbanization growth. This necessitates the maintenance of current household land use pattern in rural China unlike the latifundium system in the developed countries such as the USA. In this sense, the development of agricultural cooperatives will surely become an effective way of increasing peasants' competitiveness and strengthening rural linkages with the urban areas.

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