

Functions and limitations of farmer cooperatives as innovation intermediaries: Findings from China



Huan Yang^{a,b,*}, Laurens Klerkx^a, Cees Leeuwis^a

^a Knowledge, Technology and Innovation Group, Wageningen University, The Netherlands

^b Center for Chinese Agricultural Policy, Institute for Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, China

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ABSTRACT

This article takes an innovation intermediary perspective to examine farmer cooperative's (FC) roles in facilitating agricultural innovation and its positioning in the agricultural innovation system (AIS). The article draws experiences from the rapidly emerging FC field in China. Three cases are selected to cross check findings from them and innovation journey analysis is used within each case to understand FCs' engagement in innovation processes. The findings show that FCs cover a wide range of knowledge intermediation and innovation intermediation functions identified by the literature. FCs recognize the importance to connect technical, social and economic dimensions of farming practice and provide corresponding services to link farmers to relevant actors, like extension agencies, research institutes and supermarkets. Though they mainly work through bilateral relationships as opposed to acting as a systemic intermediary, they could take the role of coordinator in the service system and bridge the gap between the research and policy system and everyday farming practice, especially in the absence of a systemic coordinator. However, their legitimacy as intermediary might be challenged due to the potential conflicts with governments, market actors or their members, and their local position may provide insufficient clout for developing durable relationships with relevant actors.

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1. Introduction

In recent years, the concept of agricultural innovation system (AIS) has gained currency as way to understand how agricultural innovation takes place, and how innovation can best be supported (see e.g. Hall et al., 2003; Klerkx et al., 2010; Morriss et al., 2006; Spielman et al., 2008). An AIS is defined as a system that consists of a wide range of actors from the public, private and civil sector to bring new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect the way different agents interact, share, access and exchange and use knowledge (World Bank, 2006). Although there is much emphasis on knowledge creation, exchange and use in the above definition of AIS, innovation systems need to fulfil several other functions that are essential for innovation. These functions include fostering entrepreneurial driven activity, vision development, resource mobilization (e.g. capital), market formation, building legitimacy for change, and overcoming resistance to change by means of advocacy and lobbying (Hekkert et al., 2007; Klerkx et al.,

2010). The AIS approach thus recognizes that innovation is a process in which technological developments are combined with new organizational and institutional arrangements, which imply that new forms of coordination within a network of actors is key (Leeuwis and Aarts, 2011; Smits, 2002).

To enhance AIS functioning it is important to stimulate the building of linkages between heterogeneous actors and making their subsequent interactions effective in terms of joint learning, changing practices, and shaping new institutional arrangements (Hounkonnou et al., 2012; van Rijn et al., 2012), and actors who span boundaries between different actor groups and act as systemic 'innovation intermediaries' have been found essential for this (Eastwood et al., 2012; Klerkx et al., 2010; Kristjanson et al., 2009; Morriss et al., 2006). An innovation intermediary has been defined as 'an organization or body that acts as an agent or broker in any aspect of the innovation process between two or more parties. Such intermediary activities include: helping to provide information about potential collaborators; brokering a transaction between two or more parties; acting as a mediator, or go-between, for bodies or organizations that are already collaborating; and helping find advice, funding and support for the innovation outcomes of such collaborations' (Howells, 2006, p. 720). The provision of brokerage and mediation functions may often not be the primary role of an innovation intermediary

* Corresponding author at: Center for Chinese Agricultural Policy, Institute for Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, China. Tel.: +86 13554043716.

E-mail address: yanghuan11180@163.com (H. Yang).

as Howells argues, because these, for example, ‘also cover more traditional contract research and technical services which involve no third-party type collaboration’ (2006, p. 726). Previous research has shown that wide range of actors from public, private and civil sectors can take on such innovation intermediary roles, doing brokering both as a core activity (these specialized organizations have been coined ‘innovation brokers’) and as only one activity within a range of other activities (Kilelu et al., 2011; Klerkx and Leeuwis, 2009a). For example, brokering multilateral linkages in AIS has been coined as a new or additional role for extension services (Christoplos, 2010; Sulaiman and Davis, 2011; World Bank, 2012).

Farmer cooperatives (FC) are a more formalized way of organizing collective action of farmers (Hellin et al., 2009), and exist at village, regional, national and even international level (Bijman and Ton, 2008). They have been found to link different actors and bring synergy to agricultural innovation efforts (Clark, 2002; Gouët and Van Paassen, 2012; Klerkx et al., 2009; Poulton et al., 2010; Wennink and Schrader, 2007; World Bank, 2006), combining innovation intermediation with other kinds of services, like input supply and collective marketing (Carney, 1996; Hussein, 2001; Ito et al., 2012; Wennink and Heemskerk, 2006). Few researches have taken an innovation intermediary perspective to examine FCs’ roles and position in the AIS. To fill this gap in the literature, the goal of the article is to investigate what are the intermediation functions served by FCs and how the different functions influence FCs’ position as intermediary in the innovation system. Besides adding to the body of knowledge on the functions of FCs, it also aims to contribute to the still unanswered question whether innovation intermediation is best fulfilled by a specialized dedicated organization (innovation broker) or whether it can be done as one activity amongst other activities (Klerkx et al., 2009).

This article draws on experience from the rapidly emerging FCs sector in China (see e.g. Deng et al., 2010; Zhao and Develtere, 2010). Section 2 provides a conceptual framework to analyze functions of innovation intermediaries and delineates issues concerning their positioning in the AIS. Section 3 introduces the research methods. Section 4 presents data on three case FCs which actively engaged in innovation activities and analyzes the findings from the cases. The last section discusses the key points from the research and gives implications for FC policy in China.

2. FCs as innovation intermediaries: functions and positioning in agricultural system

This section will provide a conceptual framework to understand FCs’ functions in innovation intermediation and how positioning influences their functioning.

2.1. The innovation intermediary and its functions

Innovation intermediary is a widely used concept in innovation studies and has also been described in terms like network broker or boundary organization (Howells, 2006). The innovation intermediary role in agricultural innovation has traditionally been attributed to agricultural extension, which originally was seen to act as a bridge between science and farming practice, but now extension is called upon to expand its mandate and act as a systemic intermediary coordinating a pluralistic advisory service system and agricultural innovation systems (Christoplos, 2010, 2012; Rivera and Sulaiman, 2009; Sulaiman and Davis, 2011). Systemic intermediaries do not simply operate in bilateral relations, but broker more complex relationships, like “many-to-one-to-one”, “many-to-one-to-many” or even “many-to-many-to-many” in distributed innovation networks (Howells, 2006). The literature identifies several roles for innovation intermediaries to support innovation processes (see Fig. 1). Knowledge intermediation is an important part of innovation intermediaries’ roles (Kilelu et al., 2011). Knowledge intermediation relates to some functions of classical extension services, but also includes broader functions beyond technology dissemination (Rivera and Sulaiman, 2009), since knowledge is considered to be contextual and co-constructed by stakeholders rather than a fixed ‘product’ transferred from producers to users (World Bank, 2006). Knowledge intermediation is hence about facilitating knowledge co-construction. We identify three functions of intermediaries for effective knowledge production and use (Kilelu et al., 2011; Kristjanson et al., 2009; Schut et al., 2011): (1) Articulating and voicing demand of users: articulating needs and demands in terms of technology and relevant knowledge, and voicing the demands to direct innovation support services from research, advisory, and training organizations (matching demand and supply); (2) supplying information for problem solving and responding to users’ needs; (3) engaging and supporting actors (farmers, researchers) in participatory knowledge generation through facilitating demand led research or articulating experimental/local knowledge.

Given that the innovation systems perspective emphasizes the importance of other resources for innovation besides knowledge (Hekkert and Negro, 2009), innovation intermediaries need to embrace wider functions to bring together all the necessary actors and resources and thus foster conditions for innovation (Howells, 2006; van Lente et al., 2003): (1) building visions on the scope and nature of innovations contemplating new technology, market arrangements, value chain models, etc.: this includes identifying opportunities and constraints, and coupling expectations of different actors; (2) building and managing networks with actors from different domains: facilitating linkages between potential

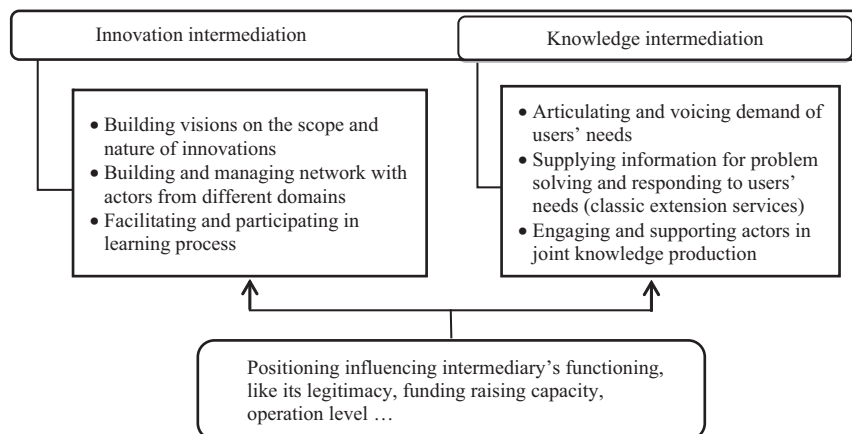


Fig. 1. Possible functions of intermediary and influencing factors. Sources: Based on Schut et al. (2011), complemented with van Lente et al. (2003), Howells (2006), Klerkx and Leeuwis (2008), Kristjanson et al. (2009), Kilelu et al. (2011).

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