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The role of social networks in the inclusion of small-scale producers in agri-food developing clusters☆

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ABSTRACT

This paper discusses how network theory and social capital can help explain different patterns of inclusion of small and medium sized producers in agri-food clusters. We make the argument that despite the centralized nature of practices, the manner in which inclusion takes place can vary significantly depending on structural features of local networks and governance factors, especially social capital and the role of lead organisations. Social network analysis allows us to investigate how different patterns of bonding, bridging and centrality of key actors in agricultural clusters can influence diffusion of knowledge. We frame this discussion through a typology that allows us to identify diverse scenarios of inclusion of small producers. This is then used to guide an empirical analysis of two agri-food clusters of small producers in Peru (mango) and Colombia (palm oil). Judicious use of mixed methods and the typology can prove useful to explain diverse patterns of inclusion which have important implications for small-scale agricultural producers.

1. Introduction

A significant body of policy thinking views the growth and spread of agribusiness and specifically agri-food activity in economically developing countries as a positive step for small-scale agricultural producers (Kumar et al., 2010; UNDP, 2010; Vorley et al., 2008[1]). The opportunities to open new markets can act as a spur for investment in infrastructure in rural areas and the provision of agricultural extension services can enhance productivity and knowledge transfer capabilities for small-scale farmers. However, other voices raise concerns and associate incorporation of small-scale producers in commodity export activity with over-dependence of vulnerable farmers on unstable markets and over-reliance on large buyer firms (Cáceres, 2015; Markelova et al., 2009[2]). Hence, although growth of agri-food activities is considered an important policy tool to allow hitherto marginalised farming communities to gain a foothold in expanding markets (Gomes, 2007; McCormick, 1999), the dynamics of inclusion may be quite different for small-scale producers. The question that we address in this paper is how different local arrangements around construction of local networks and network governance can lead to diverse forms of inclusion that have contrasting outcomes for small-scale producers in terms of access to knowledge and new practices.

By the term inclusion we refer to the insertion of small-scale producers in local networks of knowledge transfer that exist to supply agribusiness markets. We are therefore particularly interested in the structure and governance of these networks at the cluster level where small-scale producers are agglomerated. Structures of social networks provide insights into the connectedness of actors and their social capital and they can also show the diversity of knowledge available to actors and the resources actors have at their disposal (Cagnin et al., 2012; Carpenter et al., 2012). Governance of networks on the other hand can explain how new technologies and practices are introduced and the agency of specific actors (Mansuri and Rao, 2013). Our approach therefore addresses a concern that existing studies of diffusion of technology in agri-food contexts, that often focus on relationships within chains of production, can often leave out local dynamics.

☆ All surveys and original data are available on mr230@sussex.ac.uk.

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[1] This includes the United Nations Development Programme *"Growing inclusive Markets"*: see http://www.growinginclusivemarkets.org/1.

[2] Although not central to this paper, one of the main criticisms Cáceres (2015) makes regarding the expansion of agribusiness is land grab and displacement of lands held by small producers.

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We frame the analysis within a typology[3] of inclusion that lays out four scenarios in a two-by-two matrix, the axes of which are labelled as network bridging (a proxy for openness of the cluster), network bonding (the degree of internal connectedness of local actors) and a parallel measure of small producer participation (or network governance). The discussion and typology act as a guide to an empirical analysis of two agricultural clusters with contrasting experiences of inclusion. These are a palm oil cluster in the municipality of Puerto Wilches in central - north east Colombia and the mango cluster in the Piura area of northern Peru. These geographical clusters share a number of features including similar number of producers, dominant agri-food export industry and the predominance of small-scale producers. Social network analysis is used initially to identify and compare the structure of networks. Because network structure has little to say about governance and the source of new ideas/programs we subsequently use qualitative material to assess differences in governance. We end with illustrative cases of two possible permutations that indicate how different combinations of network structures combine with network governance to affect the development of inclusive agriculture. These suggest that a highly hierarchical and centralized network cluster will be strongly influenced by actor(s) at the centre of the network, and therefore that inclusion dynamics can vary considerably according to behaviour of these anchor actors. By contrast, greater decentralisation of links and small producer self-organisation is associated to sub-networks that, within the confines of narrow protocols and certifications imposed by buyer chains, are still able to follow different strategies of inclusion for adoption and use of technology.

2. Inclusion of small producers in agri-food: a social network approach lens

There exists a dominant view amongst agricultural extension practitioners that small producer inclusion in agri-food markets primarily comes down to diffusion of information of practices. The focus lies on codification of top-down systems of knowledge transfer and the propagation of “packages” of new practices and protocols by agricultural extension services to farmers (Morris, 1991). A significant body of academic literature addressing questions of small-scale producer farming in agribusiness reinforces this view, especially in regard to less developed economies. For example, from the natural resource management perspective it is recognized that state-funded extension services will organise technology transfer in a top-down manner (Darr and Pretzsch, 2008; Lahai et al., 1999). Driving these practices is a set of regulations handed down by large buyer firms or national scientific consortiums designed to meet standards of quality that reflect narrow codified protocols. The global value chain literature similarly focusses on the quality of predominantly top-down diffusion of knowledge. For example Dolan and Humphrey (2000, 2004), whilst recognising the efforts of UK supermarkets to achieve a more hands-on relationship with different actors in value chains, suggest greater use of detailed written protocols and procedures for growing, harvesting, processing and transport. Humphrey (2006) and Jan van Roekel et al. (2002) also argue that the initial simple distinctions between buyer-driven and production-driven agribusiness supply chains described in Dolan and Humphrey (2000) has given way to more nuanced relationships between actors in the chain. Nevertheless, within the above accounts local institutions and small-scale producers appear to be fairly passive observers as new practices are introduced by large buyers further up the value chain or by national scientific consortiums.

There is of course an extensive body of literature which has criticized narrow top-down approaches to diffusion and technical change (Mansuri and Rao, 2013) in agricultural developmental contexts (Clarke and Ramirez, 2014). The critique is that in centralized systems, new practices are introduced and justified on the basis of reductionist discourses of “sound science” (Essex, 2008) that privilege one way linear flows of information from “technical experts” to individual farmers (Rogers, 2010). However, little is said in this account regarding the difficulties of incorporating small-scale producers where the dominant norms for introducing new practices are centralized and top-down.

A difficulty of the debates concerning inclusive approaches in agri-food and agribusiness more generally is that much work is either framed around assumptions that prioritize top-down diffusion of technology that leaves little room for agency of small-scale producers or on micro studies that promote bottom-up participation and democratization processes that can be difficult to achieve in agri-food environments where protocols for production, certifications and food safety standards are inflexible. We are therefore left somewhat unclear about how local contingencies can influence inclusion outcomes.

Yet, some studies show that inclusive paths to incorporation of small-scale producers in Andean agri-business contexts can occur by building local social capital. In particular, detailed case study work by Bebbington (1997) and Bebbington (1998) show how local organisations have, in some circumstances, been able to regenerate rural small farm production by managing, accessing and generating technologies and providing technical assistance to local producers, as well as establishing strong external linkages including negotiating with the state, accessing markets and linking with financial services. These studies are to some extent antecedents to this paper for they set out the importance of social capital and brokers for local development. This paper takes these studies further by developing qualitative and quantitative methodology that allow a more in-depth understanding of the organisational and cluster dynamics. Reflecting on the above critique, we adopt a relational approach that allows us to incorporate both structural and contingent features of local clusters. The basis of our argument is that important inter-cluster differences in inclusion can be analysed from how local patterns of network structure and network governance emerge. Network structure refers to the connections actors establish to receive information and know-how and their position (central, connected or marginal) within this network. The structure of a local buyer-driven agribusiness network is likely to be dominated by large buyers with separate links to suppliers of commodities. Small producers that sell these commodities to local buyers may be scattered or may establish their own social ties and collaborations within a geographical cluster. Therefore we take a broad view of network formation that reminds us that there can be a range of network structures within which patterns of inclusion, social fragmentation and exclusion can exist (Bardhan and Udry, 1999; Bandiera and Rasul, 2006). Network governance on the other hand refers to the nature of the relationships between actors including the degree of participation small producers have in how practices are introduced. Below we lay out the main arguments.

3. Debating network structure: bonding and bridging

Social networks (and its associated theory of social capital) has been a recurrent topic of debate and discussion on collective action and development. It became particularly fashionable after the World Bank adopted social capital as a key policy tool in the 1990s to encourage a social agenda to reduce social exclusion and build community capacity (Bebbington et al., 2008). The fact that the delivery of everyday goods and services by the state is non-existent or highly deficient in less economically developed countries means that network type structures such as community groups often play an essential role in public provision (Fafchamps, 2006) which heightens the importance of connectedness. At the centre of our discussion will be different network structures and the relationships (and potential tensions) between

[3] We specifically refer to a typology rather taxonomy because the objective is to put forward ideal scenarios that help develop new approaches to the study of inclusion in agricultural clusters.