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**The importance of networking for smallholder swine and chicken producers in Colombia:
A Social Network Analysis**

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Introduction

Social networks are an important strategy in helping people to cope with challenging conditions such as a lack of basic services or inputs. The worse the conditions and the poorer the people, the more they will protect themselves by forming social networks (ZELLER, 2009). In many cases social networks replace formal service and input providers relying on the delivery of informal financial services, extension services and problem solving assistance (WORLD BANK, 2008). Smallholder swine and chicken producers in Colombia are facing difficult conditions, for example, the limited access to credit and extension services or the availability of affordable feeds, thus being major constraints for production increases (FAO/IAEA, 2005).

Methodology

In March and April 2010, a Social Network Analysis (SNA) for smallholder monogastric production (swine and chicken) was conducted using a semi-quantitative survey. The research area was the Popayán Region in Cauca, Colombia. Altogether 84 producers were interviewed – which almost is the census for this region. The main objective was to get an overview on the social network in the swine and chicken production of the region and to analyze how networking affects the access to formal/informal credits and services.

Results

The 84 interviewed smallholder producers are on average 46.8 years old and the gender ratio is 60% male to 40% female. Not all interviewees produce either swine or chicken, some of them produce both. Of the focus group 83% hold swine (32.4 animals on average) and 50% chicken (56.3 animals on average). The gender ratio of the swine producers is 66% male to 34% female and of the chicken producers 53% male to 47% female. On the question if they could produce more 73% of the producers answered yes, 27% no. Their reasons for not producing more are money (54%), space (18%), lack of clients (13%), missing resources (5%), lack of infrastructure (5%) and limited market access (5%).

Concerning the access to formal credit 47% of the producers have or had access (in the moment receiving: 32%; already received in the past: 15%), while 53% never received formal credit. 61% of the producers already applied for credits, 39% never did. Producers named two main reasons for not applying for formal credit: either they are afraid of the constraints/conditions like e.g., fear

of having debts/losing property (53%), or they do not need credit (47%). Of the 61% who applied for a formal credit, 22% were rejected. Reasons for rejection were the lack of necessary documents (56%) and the unavailability of credit in general (no more funds, 11%). 33% do not know the reasons for rejection. Of the producers, 48% already used informal sources for lending money (e.g., family members, neighbors, and friends).

With regard to the training/extension service situation 45% of the interviewed smallholder producers had received formal training (held by a Non-Governmental Organization (NGO), a Governmental Organization (GO), or by a feed supplier), while 55% did not. 58% of the interviewees would like to receive training in the future, 18% do not need training and 24% did not answer. Training is needed on alimentation of the animals (26%), farm management (23%), animal health (14%), animal breeding (13%), animal management/production (11%), new technologies (4%) and the use of animal products as fertilizer (1%).

This basic information shows that the most limiting factors for the smallholder swine and chicken producers are the access to credit and training. Both factors are essential to produce a higher quantity and quality of livestock products to reach more developed markets.

The social network of the focus group shows the connections of the interviewed smallholder producers to the institutions, family members, friends and neighbors they use for obtaining formal/informal credit and extension/training services (figure 1). In general, the network displays 397 nodes and 552 ties. The density is 0.35% which means a low connectivity within the network. The low connectivity results of the fact that the region of Popayán is composed of sub-regions (e.g., Silvia, Piendamó, Timbío). People from one sub-region are not highly connected to people from other sub-regions, but they have contacts to people from their own region or to institutions in Popayán. Another reason is that one actor might ask his contact for different types of information (e.g., credit and animal health). The average out-degree of the interviewed smallholder producers was 6.49, which means that each interviewed producer has on average 6.49 relations to formal/informal contacts. 83.5% of the producers have at least one direct connection to a formal institution (e.g., bank, NGO, GO, feed supplier) and 99% of the producers are indirectly connected (via e.g., veterinarians). All producers have various connections to non-institutional informal contacts (e.g., family members, neighbors, or friends). Though the different sub-regions of the research region are not highly connected amongst each other, all of them besides one (Morales) are connected to Popayán. The connections of the sub-regions to the center Popayán can be explained by the relations people have with formal institutions in Popayán. Informal contacts are mostly within a sub-region and only in few cases with another sub-region (figure 2).

To evaluate the influence social networking has on the access to credit and training/extension services, important network measures were tested through correlation with the information interviewees gave on credit and training/extension services. Important network measures are out-degree, in-degree, and betweenness. There were no correlations found for betweenness and in-degree. Out-degree correlates with “formal credit received” (0.01 (2-sided) significant) which means that smallholder producers with a higher network activity are more likely to receive credit by a formal institution (e.g., bank, micro-credit institution) than smallholder producers with a lower network activity. There was also a correlation between out-degree and “applied for formal credit” (0.01 (2-sided) significant) which connotes that smallholder producers with a higher network activity are more likely to apply for credit in a formal institution than smallholder

producers with a lower network activity. Furthermore, out-degree correlates with “informal credit received” (0.05 (2-sided) significant) which implies that smallholder producers with a higher network activity are more likely to receive informal credit (e.g. from family members, neighbors, friends) than smallholder producers with a lower network activity. Concerning training there exists a correlation between out-degree and “training/extension services received” (0.01 (2-sided) significant) which denotes that smallholder producers with a higher network activity are more likely to receive training/extension services held by formal institutions (e.g., NGO, GO, feed supplier) than smallholder producers with a lower network activity.

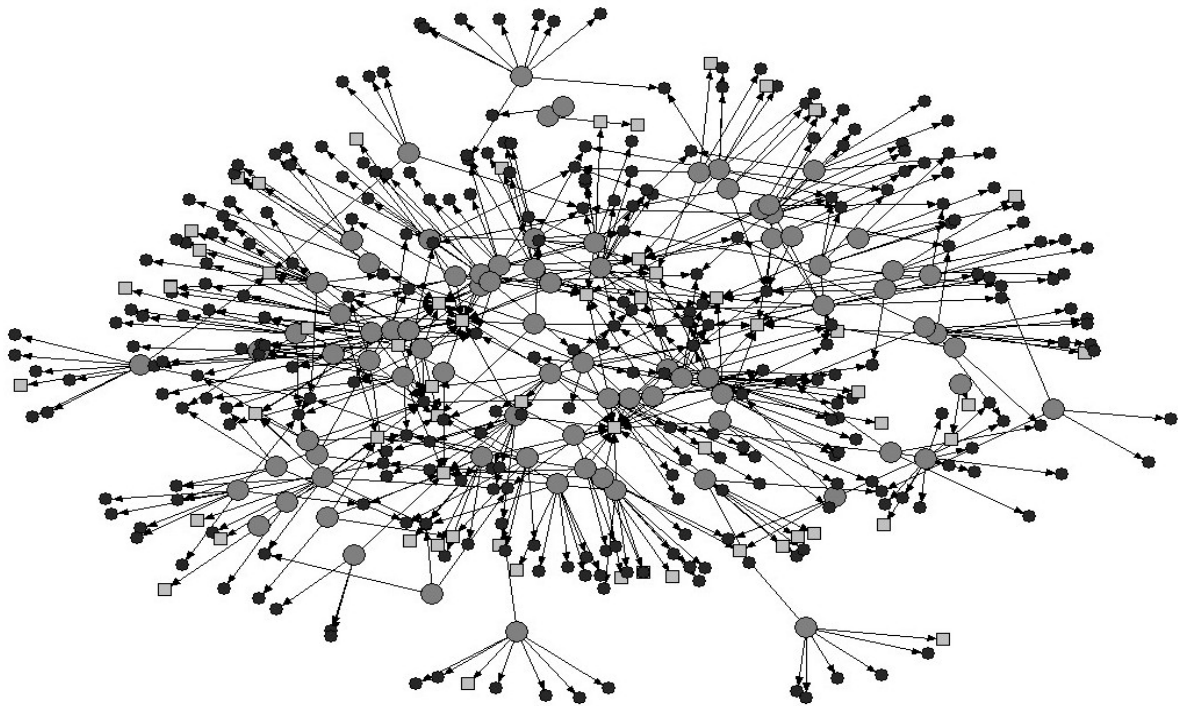


Figure 1: The social network for credit and training/extension services of smallholder swine and chicken producers in the Popayán region, Colombia.

Captions: big circle = interviewed smallholder producer; small circle = non-informal contact (e.g., family member, neighbor, friend); square = formal institution (e.g., bank, NGO, GO, veterinarian, feed supplier)

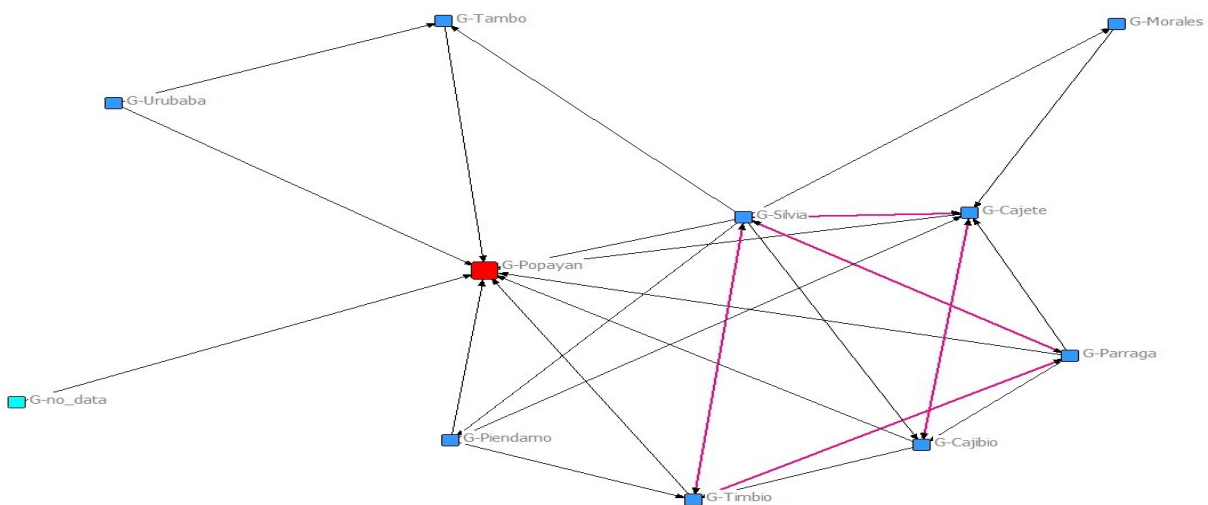


Figure 2: The connection amongst sub-regions and of sub-regions with the network center Popayán.

Conclusions

Credit and extension services are two main constraints for smallholder producers in the research region and for smallholder producers in general. In order to improve livestock production (the quantity as well as the quality) and to reach more developed markets, credit and extension services are necessary inputs for smallholder producers. The results show that the more “social” a smallholder producer acts, the easier it is for him to get in contact with formal institutions. With more formal/informal contacts he receives more information on where to apply for a formal credit or where to get training/extension services and he has more contacts to receive informal credit. Network connectivity also helps smallholders to fulfill the requirements of institutions. As confirmed in the literature, social networks are an important strategy to challenge difficult conditions and serve as providers for informal financial services or problem solving assistance. But social networks not only provide informal services; social networking also simplifies smallholder access to formal credit or extension services – two of the most important inputs for development. Higher network connectivity within the sub-regions, amongst sub-regions and between sub-regions and the center of a network could further facilitate this access and help developing the smallholder agriculture.

Literature

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