Innovation in Ethiopia's Poultry Sector:

An Application of Net-Mapping Techniques to Innovation Systems Analysis

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Introduction

Goal: To provide a descriptive analysis of the poultry sector in Ethiopia

Emphasis: The role of innovation in promoting the growth and development of poultry enterprises among small-scale, resource-poor farmers

Concepts and methods

Measuring and analyzing underlying "systems" properties such as the linkages, relationships, influence, and power dynamics among diverse actors

Using "Influence Network Mapping" (Net-Map) to analyze the set of interrelated actors who interact in the generation, exchange and use of ag-related knowledge in processes of social or economic relevance, and the institutional context that conditions their actions and interactions.

Hypothesis

To understand how smallholders innovate, we need to understand not only the characteristics of individual actors, but also
the links and networks between actors and
the position of individual actors within these networks

Examples

> Actors with a lot of links to other actors (high degree centrality)

> Actors with links to other actors with a lot of links (high eigenvector centrality)

Actors who link other actors who are not otherwise linked (high betweenness centrality)

Actors who are able to reach many other actors in a network without going through too many intermediaries (high closeness centrality)

Other Network Properties

The number of actors in the network (network size)

The difference between all potential links and the actual links in the network (network density)

Sub-groups within the network where all actors are linked to everyone else within this sub-group (cliques); or

Weak parts of an otherwise well-linked network (structural holes), where one actor can serve as a broker between two parts of the network. Depending on the activeness of the broker these can be bottlenecks or entry points for new ideas and resources.

Example of Net-Map with actor cards, multiple links and influence towers



The poultry innovation cluster in the Debre Zeit-Mojo corridor



Key finding: DZARC

DZARC has the largest number of direct links to other actors in the innovation cluster

DZARC has the highest access to all actors in the cluster through the shortest walk-

DZARC is the actor through which most other actors must go through to interact with one another

Other findings

Farmer-to-farmer linkages play an important role in the cluster

The woreda office of the BoARD plays a fairly nominal role in this cluster

The private sector actors are viewed as highly influential in the cluster (large node size)

A high level of partnership between private companies and public entities to promote innovation exists in the area

Concerns

The cluster's growth and development depends acutely on DZARC's fundamental role as an innovation platform—a role that could easily be limited by a decline in program funding, project staff, or management support

Replications of this cluster elsewhere would require access to an agricultural research center, large-scale poultry multiplication and distribution services from a commercial poultry farm, or some similar set of actors.

Tentative recommendations

In the long run, better articulation of responsibilities between public research organizations and extension services is needed to reduce potentially overlapping roles

In the long run, greater market responsiveness among all actors in the cluster is needed to cope with the rapid rise in the price of feed and the falling real price of eggs

Thank You