

Implications for conservation agriculture

Strategies for scaling up conservation agriculture need to recognize which local actors are critical to local knowledge development and transfer and target them for special consideration in any communication campaigns. These findings offer a starting point for identifying the individuals who are likely to be key agents in whether or not the promotion of conservation agriculture will be successful.

Overall, agricultural service sector/community agents are agreed that maintaining a permanent crop cover is the thing to do and that tillage causes land degradation. However, there is significant group of them who disagree that tillage causes land degradation. Large farmers in Kitale disagree more frequently and are relatively equally divided on both issues. Knowledge concerning the role of tillage in causing land degradation is contested in all categories of actors in Kitale.

The analysis of relationships presented in the network map confirms this finding. There is considerable difference in beliefs amongst the most central actors in the network. While microfinance and NGO agents agree that tillage causes land degradation, the Stakeholder Forum and the Ministry of Agriculture extension agents are not on board. A number of more peripheral, but important agents such as the village elder and the KARI agent agree. The diversity of local perspectives on this issue means that a strategy to scale up conservation agriculture should be approached carefully, and multiple strategies may need to be used for different agents.

It is important to note that Kitale has strong agreement with the proposition that one should maintain a permanent crop cover. This may be a useful point of entry for a discussion of conservation agricultural practices among many partners.

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Network opportunities for promoting conservation agriculture

Kitale, Kenya



What are the opportunities and constraints in local agricultural production networks to introduce and scale up conservation agriculture? In Kitale, 79 farm households were surveyed about their network contacts and beliefs about agricultural production. Follow-up interviews were conducted with 21 most frequently-reported farmers' agricultural production contacts.

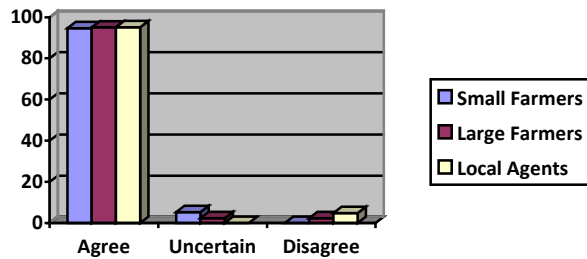
Based on these findings, this brochure:

1. Identifies central actors in the Kitale Agricultural Production Network
2. Describes perspectives on agricultural production and predispositions for conservation agriculture
3. Maps information flows and beliefs about whether tillage causes land degradation

Beliefs about agriculture production

In order to understand the predisposition of farmers and agents toward conservation agricultural production practices, we asked them whether they agreed with three statements concerning the principles of conservation agriculture. Believing that there may be differences in perspective according to farm size and position as various community agents/service sector providers, the following graphs report the percentage of respondents in each

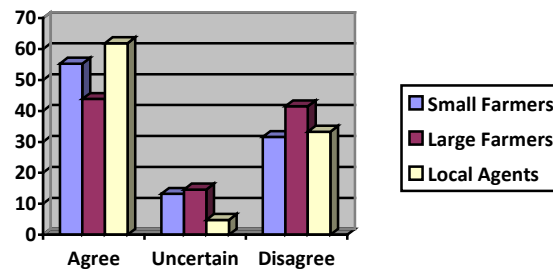
Rotating crops is best practice:



category. Small farmers have five acres or less in cultivation.

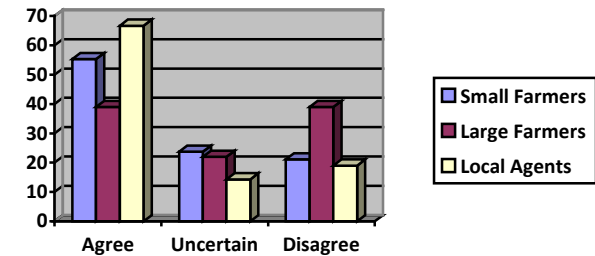
We did not find compelling evidence of interdependence among these beliefs. Farmers and non-farm agents consider them independent concepts, not a set of behaviors associated with a particular style of agricultural production. Nevertheless, there is nearly unanimous support among all farmers and non-farm agents that rotating crops is a best practice.

Tillage causes land degradation:



The majority of non-farm agents agree that tillage causes land degradation and that one should maintain a permanent crop cover. On the other hand, many farmers, particularly the large farmers, are likely to disagree on both issues. There are only a few farmers and non-farm agents who are uncertain whether tillage causes land degradation. Most farmers have definite opinions; consequently, there is some basis for support of conservation agriculture in Kitale.

One should maintain a permanent crop cover:



Analyzing network structure

In analyzing Kitale's agricultural production network, this research was interested in identifying actors who had the highest number of contacts and which actors exercised the most control over the flow of information between actors in the network. In network analysis, these two measures are known as degree and betweenness centrality. The table below presents the top-scoring actors for each type of measure.

The findings demonstrate that in Kitale, extension takes a lead role as a central actor accompanied by the microfinance institutions. Because of the higher potential of the region, it appears that extension agents have a more important role in the network. Overall, however, the agricultural production network of Kitale appears to have a wide range of different agents, but often organized in a variety of organizations.

Four Most Central Actors in Kitale

Rank	Agent	Degree Centrality	Betweenness Centrality
1	Ministry of Agriculture (extension)	20	20.87
2	Microfinance institutions	20	20.05
3	Stakeholder Forum	20	17.29
4	NGO	17	11.23

