




# Land Disputes and the Impact they have on Agricultural Productivity

## An Economic Study from Kenya

### Abstract

This CEEPA study from Kenya shows that land conflicts have a significant impact on the livelihoods of smallhold farmers. Farmers who face such disputes are reluctant to apply long-term land improvement measures and shy away from the use of profitable perennial crops. The study finds that disputes reduce land productivity by about 13%, while concerns about future disputes reduce land productivity by about 9%.

The study is the work of Milu Muyanga and Raphael Gitau from Egerton University in Kenya. They undertook their research because, as in other sub-Saharan African country, land in Kenya is the subject of many small-scale disputes. Given the challenges caused by population growth and high household poverty levels in the country it is vital that land disputes are resolved effectively and efficiently. How adept the government is at resolving land issues, therefore becomes a very important policy issue as far as land fertility conservation, agricultural productivity and poverty reduction objectives are concerned. 



**Farmers benefit from swift land dispute resolutions.**

A summary of CEEPA Discussion Paper No. 8: 'The Effect Of Land Disputes On Investment On Land And Agricultural Productivity In Rural Kenya', by Milu Muyanga and Raphael Gitau, Tegemeo Institute, Egerton University, Kenya

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## Report Summary

Land is a very important factor in agricultural production in Kenya. About 80% of the poor live in rural areas and derive their livelihood from land. However, they are generally concentrated on land where unreliable rainfall, adverse soil conditions and poor fertility limit agricultural productivity. Today, high rural poverty levels, increasing population densities and declining land fertility represent an enormous agricultural and environmental policy challenge in Kenya. It is clear that substantial rural poverty reduction can only be achieved if agricultural productivity is improved and land resources conserved.

One of the major problems facing rural households is conflict over land with relatives or neighbours. As in other sub-Saharan African country, land is considered a very sensitive matter in Kenya. For example, local development commentators associated the post election violence in 2007 with long-standing, unresolved land issues. Some communities took advantage of the prevailing situation to claim back land they alleged rightfully belonged to their 'people'. Land conflicts are handled either through the formal legal or the customary dispute resolution systems. However, due to inefficiencies in these land dispute resolution mechanisms, small-scale land conflicts persist.

## Why land conflicts matter

Evidence is emerging that land conflicts limit the investment that farmers make on their land. This means that land conflicts can keep a piece of land either unused or under used for several years. Such disputes, even if small-scale in nature, can therefore have a considerable impact on agricultural productivity. Despite these concerns little research has been conducted on the link between land disputes and agricultural productivity.

To help policy makers understand this issue better, Milu Muyanga and Raphael Gitau from Egerton University in Kenya, assessed the impact of contested land ownership on agricultural investment and productivity. Data used in their study came from a survey of 899 households and 1,263 farm plots conducted in 2004. The survey was a part of Research on Poverty, Environment and Agricultural Technologies (REPEAT) project. The researchers hypothesised that land disputes would affect agricultural production in a number of ways. Firstly, by affecting decisions about the use of agricultural inputs; and secondly, by affecting crop and crop care choices.

## Assessing agricultural inputs

Two types of agricultural investment were assessed: manure use and fertiliser use. Manure use is considered a long-term investment because nutrients in manure are released in to the soil over a long period of time. Fertilizer use is considered a short-term investment as the nutrients in manufactured chemical fertilizers are directly absorbed by plants. The study looked at whether farmers decided to use both inputs and the amount of inputs they used. It took into account the fact that a significant percentage of the households in Kenya do not use farm inputs for economic or agronomic reasons (i.e. their agricultural investment decisions are not just affected by land ownership disputes). The study looked at the impact of actual disputes. It also assessed the way in which farmers' concerns about future disputes affected the decisions they made and the impact this had on agricultural productivity.

As part of the study information was gathered on farm plot characteristics and quality. This information covered such variables as plot slope and location. This allowed the researchers to address concerns that plot quality and land disputes are linked (i.e. that higher quality land parcels are more likely to attract disputes). Other information used in the study included data on the number of years plots had been owned, the number of trees planted on each plot and plot owners' religious affiliations and ethnicity.

## Plot productivity and dispute types

The average plot size in the study was three acres. Most plots were owned with title deeds (67%). On average, plots were about 8.7 minutes (walking time) away from the homesteads of the farmers who worked them. The average value of fertilizer applied per acre was about KSh286, while the quantity of manure application was about 407kg per acre. Given high fertilizer costs (for example, a 50 kilogram bag of DAP cost about KSh1500), it is not surprising that these agricultural input application rates are extremely low. Land productivity averaged KSh32 thousand per acre per year.

About 17% of the plots were the subject of actual ownership disputes, while 22% of the plots faced future disputes concerns. The major causes of disputes included boundaries, inheritance and land sales. Other minor causes of disputes included user rights, trespass and illegal settlement. The results indicate that about 22% of ownership disputes involved claims by close neighbours. This goes some way to explain why boundaries were the main cause of land disputes. Households also had land disputes with siblings (21%) and in-laws (19%). This explains why inheritance was a key cause of disputes. The study found that plot boundary disputes were more likely to be resolved than inheritance disputes. It also found that inheritance-related disputes were more likely to cause the dispossession of land compared to boundary- and sales-related disputes.

**“ Actual disputes reduce land productivity by about 13% while concerns about future disputes reduce land productivity by about 9%. ”**

## The impact of disputes on agricultural inputs

The study shows that actual and future dispute concerns do not affect decisions relating to the use of fertilizer and the amount of fertiliser used. However it does find that dispute concerns do affect the amount of manure that farmers choose to put on their land. Land conflicts generally reduce the amount of organic manure applied on farm plots. In particular, actual and future dispute concerns related to inheritance issues significantly reduce the amount of manure applied to farm plots. Even though land conflicts were found to reduce the amount of manure that farmers apply, the intensity of manure applied on plots does not immediately seem to influence agricultural productivity. This finding supports the premise that manure application on farm plots is a long-term investment. It points to the conclusion that, in order to model the effects of reduced manure application on agricultural productivity due to land disputes, a longer research period is needed.

Among the factors that do seem to influence the decision to use fertiliser are plot size, plot slope and the distance a plot lies from its farmer's homestead. Factors that significantly influence the amount of fertiliser that a farmer uses include plot size, household income level and the distance of a plot from its farmer's homestead. Alongside land conflicts, the other factors that significantly influence farmers' decisions to use manure include plot slope, the distance a plot is from its farmer's homestead, the gender of the household head, household income and the number of cows the household owns. The region where a plot is situated also influences the decisions that its farmer makes regarding fertiliser and manure use.

	Actual disputes/dispute concerns	Non -disputed
Owned with title deeds (% in each group)	42	68
Cultivation of annual crops (% in each group)	81	73
Cultivation of perennial crops (% in each group)	7	18
Applied fertilizer (% in each group)	43	44
Applied manure (% in each group)	51	51
Fertilizer application (KSh/acre)	302.28	383.01
Manure application (Kgs/acre)	308.89	520.64
Distance from the plot to household (minutes)	4.99	9.47
Gentle plots (slope) (% in each group)	71	72
Plot size (acres)	3.31	2.97
Productivity (value of output/acre) in KSh '000	32.86	34.47
Number trees (mean)	110.90	116.85
Number of cows (mean)	4.27	5.85

### Characteristics of disputed and non-disputed plots.

## The impact of disputes on crop choices

Land conflicts also affect the type of crops farmers plant. Perennial crops are likely to be planted on plots whose ownership is not contested. Since perennial crops are basically cash and industrial crops, it is clear that land disputes have some significant implications for agricultural productivity and household welfare.

Given that many of the households in the study area have few resources, the fact that smallholders who farm disputed plots decide to plant fewer perennial crops (and to apply smaller amounts of farm inputs) shows that they are averse to risk. Not surprisingly, it also shows that they are unwilling to commit to long-term investments on plots that they may eventually end up losing.

## The impact of disputes on productivity

The study finds that actual land disputes reduce agricultural productivity substantially. Actual disputes reduce land productivity by about 13%, while concerns about future disputes reduce land productivity by about 9%. This drop in productivity can be attributed to the fact that smallholders who farm disputed plots tend to plant fewer crops, reduce the amount of inputs they use and also reduce the amount of crop care they practice. Other factors that influence agricultural productivity include fertilizer use and household income level – both of which are linked to higher productivity. The region where the plot is situated and the distance of a plot from its owner's homestead also affect productivity. Plots that are owned with title deeds are also more likely to be more productive.

Overall, it is clear that land conflicts interfere with smallhold farmers' livelihoods because smallholders cannot farm their plots in an optimal way. Farmers who face such disputes are reluctant to apply long-term land improvement measure and shy away from the use of profitable perennial crops. Given the challenges caused by population growth and high household poverty levels in Kenya, it is vital that land disputes are resolved effectively and efficiently. How adept the government is at resolving land issues, therefore becomes a very important policy issue as far as land fertility conservation, agricultural productivity and poverty reduction objectives are concerned. 🌍

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