GDN Working Paper Series

Land Reform and Poverty in Kenya

Joseph Kieyah and Robert K. Nyaga

Working Paper No. 17

September 2009

About GDN

The **Global Development Network (GDN)** is a leading International Organization of developing and transition country researchers and policy and research institutes promoting the generation, sharing, and application to policy of multidisciplinary knowledge for the purpose of development. Founded in 1999, GDN is now headquartered in New Delhi, with offices in Cairo and Washington DC.

This Working Paper has been prepared within the GDN's Global Research Project *Institutional Capacity Strengthening of African Public Policy Institutes to Support Inclusive Growth and the MDGs*. The project has been fully funded by the United Nations Development Programme's (UNDP) Bureau for Development Policy (BDP) and Regional Bureau for Africa (RBA). The views expressed in this publication are those of the author(s) alone.

Land Reform and Poverty in Kenya

Joseph Kieyah and Robert K Nyaga[1]

Abstract

Kenya has 50 year history of ongoing land reform. However, with multiple land tenure systems including customary and statutory systems, even past tenure reforms have not resolved inherent problems of land ownership in Kenya. Land problems such as weak land administration, inaccurate recording of established occupancy rights, landlessness and persistent land disputes, severe disruptions of social relations, disempowerment of women and children through the denial of their land rights, still persist. Various aspects of the land reform have been studied previously, but not in the context of poverty reduction. Poverty levels remain high despite economic progress owing to various factors among them the weak land rights. This study, therefore, studies this possible link between land reform and poverty. Land can be seen as a critical factor of production; hence prevailing land rights affect household production and economic welfare. The key hypothesis is that security of tenure has an impact on a proxy for economic welfare such as household consumption. Using a recent household survey data the link between ownership of titled land and household poverty as represented by consumption expenditure is tested while controlling for other household characteristics. The results show that ownership of titled land is positively related with higher levels of household consumption expenditures. These findings are fairly consistent across the regions in Kenya. A simple simulation indicates that a 10 percent rise in the proportion of titled land available to a household may improve per adult equivalent household consumption expenditures by 0.1 percent. Thus, land reform ought to be part of the policy strategies to address poverty. The process of pro-poor land reform, which though envisaged in the draft of National Land Policy is slow due to lack of consensus among major stakeholder, needs to be hastened. The Government can improve this process through faster title registration, including eliminating or subsidizing title registration costs.

[1] Kenya Institute for Public Policy Research and Analysis (KIPPRA). Joe Kieyah is the Head of Private Sector Development Division and Robert K Nyaga is Assistant Analyst. Emails: Kieyah@kippra.or.ke ; rnyaga@kippra.or.ke

INTRODUCTION

Land policy is not part of the matrix of strategies formulated by Kenya Government to address the millennium development goals of eliminating extreme poverty and hunger. This is problematic because land is the fulcrum of Kenya's development as recognized by two recent highly publicized government documents. The Vision 2030, a blueprint of Kenya's future development acknowledges land reform as critical ingredient to socio-economic transformation that the country envisions by 2030 (Republic of Kenya, 2007). Land links the three pillar of development. Through widely consultative process, the Ministry of Land formulated a draft on National policy to address the land problem. The draft sets out long term goals and principles on land management that enable achievement of a social optimal utilization of land and poverty reduction. While the draft has correctly diagnosed the land problem, it does not offer prescriptive measures on how to resolve these issues, which has made it controversial and difficult to implement.

Agriculture sector contributes to 24% of Kenya's GDP and employs 70% of labor force. However the agricultural productivity has been declining due to several factors including inefficient land use (citation). Land remains under-exploited for agricultural production with only 7.25 million acres under crop production out of total land acreage of 144 million acres (Republic of Kenya, 2007). Furthermore on average smallholders use 40% of their available cropland for nonagricultural activities, which amount to an annual loss of 87 billion Kenya Shillings (Republic of Kenya, 2007). The incidence of absolute poverty is higher in the rural areas at 49.1% compared to 33.7% in the urban areas. Overall regions with high poverty index seem to be those with land tenure associated with weak protection of land rights and land reform is incomplete.

In 2000, 56 percent of the Kenyan population was poor. However, according to recent Kenya Integrated Household Survey poverty has declined to 46 percent (CBS 2007). Poor Kenyans are clustered into social categories including landless without other assets, the handicapped, female headed households, households headed by people without formal education, low productive farmers, pastoralists, unskilled laborers, AID orphans, street children and beggars (Mwabu et al., 2000; Greer and Thorbecke, 1986; Collier and Lal, 1980; Government of Kenya (GOK), 1998, 1999).

Kenya is important case study since it is the only African country with over 50 years history of ongoing land reform. The efficacy of this land reform has been debated through interrogation of varies aspects of the reform but not in the context of poverty reduction. With multiple land tenure systems including customary and statutory systems, even past tenure reforms have not resolved inherent problems of land ownership in Kenya. Subsequent land reforms led to increased bureaucracy in land administration, inaccurate recording of established occupancy rights, landlessness and persistent land disputes, severe disruptions of social relations, disempowerment of women and children through the denial of their land rights (GOK, 1995).

Although the Kenyan economy is on upward trajectory growth, post election violence notwithstanding, poverty levels remain high in the rural areas. In view of this consideration it is unlikely Kenya will meet its goal of reducing poverty and hunger in the year 2015. It is therefore important to study how land tenure reform has impacted on poverty reduction in order to make policy recommendations for enacting and implementing appropriate pro-poor land reforms. While the paper highlights broadly many aspects of land reforms, its analysis narrowly focuses on land title reform due to data limitation. The key finding of this paper based on Kenya Integrated Household Survey (KIHBS) data is that security of land tenure has an impact on poverty status.

The paper is organized as follows. Section II traces the history of land reform and Kenya's effort to deal with poverty in general. Section III provides the methodological approach and Section IV covers data description including a summary of descriptive statistics. Section V presents the regression results and Section VI concludes with policy recommendations.

II. BACKGROUND

Colonial Land reform

Kenya inherited colonial land laws that are hybrid of English and African customary law. The colonial government viewed African customary land tenure as impediment to greater agricultural production and proper land use practices. The newcomers therefore proposed replacing the customary system with an English-style system based on individual land rights. Implementation of this remedy became a stated part of the colonial government's land policy in 1933 through the recommendation of the Report of the Kenya Land Commission. The inability of the colonial government to meet domestic food demand after the World War II coupled with Mau Mau revolt of the early 1950s, created an urgent need for land reform (Okoth-Ogendo, 1976). In the wake of the revolt, an appointed Royal Commission published the East Africa Royal Commission Report 1953-1955, which became the blueprint for subsequent land reform policy. At the same time, the Colonial Government published Swynnerton Plan, which called for intensified development of agriculture among African agriculture (Swynnerton, 1954). Both reports recommended the replacement of customary land tenure with private, titled property as means of increasing agricultural productivity and redistributing land to efficient farmers (Kiamba, 1989). Upon the recommendations of the two reports, the colonial government embarked on a major social engineering agenda to facilitate formalization of African land tenure and institute a land title registration framework in the natives 'reserves' (GOK, 1965; Coldham, 1979).

Following the publication of the Swynerton Plan, the colonial government established a commission to consider specific legislation to implement the recommendation of the plan. As result the report of the commission, the Native Land Tenure Rules were enacted in 1956. Three years later, two more comprehensive statutes, the Native Land Registration Ordinance and Land Control Ordinances were passed. These three pieces of legislation established the legal framework of formalizing the African land tenure system.

Post Independence Land reform

To structure the inherited land tenure reform, the newly elected government enacted the Registered Land Act and reclassified land into three categories. In addition to address the competing interests between Kenyan Africans and the European settlers, the Kenya government instituted land redistribution through land settlement schemes. Also the government adopted group ranches approach to cater for the special interest of pastoralist communities like the Maasai.

The areas that were classified as native reservation and non-scheduled were reclassified as Trust land. While small part of the country has undergone the process, most of the Trust land has remained un-adjudicated. The ownership of the Trust land is constitutionally vested on the local government on behalf of residents within its jurisdiction. Likewise after independence former Crown land was renamed government land. Some of original land has been retained as public land while some of it has been reserved for railway and allocated to private owners. Land previously owned by European though grants became private land.

All aspects of land tenure were to be brought under the new Registered Land Act (RLA) to achieve two set of objectives (Kagagi, 1992). First, the Act set to unify the multifarious systems of land registration in Kenya. This process entails voluntarily bringing previous registration laws in compliance with RLA (Jackson, 1988). Specifically, land titles privately held under Government Land Act, Land Title Act (LTA) and Registered Title Act (RTA) were to be converted and transferred to new register in compliance with RLA (Kagagi, 1992; Jackson, 1988).

The second objective was to formalize African land tenure system through; adjudication, consolidation and registration. Under the adjudication, existing land rights and interests under the African customary law in a particular parcel are finally and authoritatively ascertained under the Land Adjudication Act (LAA). Once the ownership is determined, consolidation of the landholdings is allowed whenever appropriate according to the Land Consolidation Act. It entails owners giving up ownership of their adjudicated fragmented plots in exchange of a single plot with same acreage of the fragmented plots (Onalo, 1986). Final step includes recording the interest of the land in the public register and issuance of land title deed.

Settlement Schemes

At independence the Kenyan government adopted market based land distribution strategy to address landlessness and to stimulate agricultural production (Republic of Kenya, 2004). Struggle for independence was waged mainly on widespread discontent among African about the colonial occupation on their land. Thus the new government embarked on settling its citizens who had been displaced from their ancestral land through discriminatory colonial policies of land alienation.

The strategy called for transfer of large scale European farms to Africans through settlement schemes. To start with, the Kenya government financed the settlement through loans and grants from the British government and other international agencies. Upon the acquisition the European farms based on willing seller and buyer principle, the government would then subdivide into economic units and mortgage them to Africans. The Settlement Fund Trustees (SFT) was established to execute the program. The beneficiaries would purchase land on mortgage from SFT by paying periodically until the purchase price has been paid in full.

Group Ranches

Initially for political expedience, the government restricted the formalization of African land tenure to areas next to European settlements. However, formalizing Maasai land tenure system posed several challenges to the new government. First, the area was dry with poor soil and bad landscape. Second, the Maasai land tenure was based on customary law thus it was impractical to formalize it (Coldham, 1979). Third, development partners pressured the government to induce to increase livestock productivity while protecting Maasai communal land rights.

The Kenyan government introduced the concept of the group ranch as compromise between conflicting communal ownership and private ownership interests. The concept is a hybrid of Maasai customary land tenure and private land tenure (Galaty, 1994). It involves setting aside a piece of land, communally owned by a group of people who are recorded and registered as legal owners of that land in a ranch (Rutten, 1992). Although the Maasai had previously preferred to retain their traditional way of life, the concept of group ranches was attractive to educated Maasai in particular. It offered them security of land title and protected them from land loss to other tribes (GOK, 1965)

A group ranch consists of members who hold group land title in common. Elected group representatives coordinate and implement ranch development projects including management of resources and community organization (Galaty 1994).

Other Poverty reduction Initiatives

Since independence, growth strategy had been Kenyan government centerpiece in dealing with poverty. The National Development Plan 1974-78 focused on equity and employment creation. The Sessional paper No. 1 of 1986 called for rapid growth driven by private sector in partnership with efficient public sector to reduce poverty. Subsequent development plans have retained growth strategy with various modifications. For instance the National Development Plan 2002-2008, underscored the effective management for sustainable growth and poverty reduction. The economic recovery strategy for wealth and employment creation emphasizes on high growth rate and creation employment as a means of alleviating poverty. In 2007, the Vision 2030 highlights key initiatives to reduce poverty (GOK, 2007).

Impact of Land Reform

Recent empirical studies concluded that, security of land tenure has no effect on the productivity of the land in Africa. Migot-Adholla et al.,(1991) found no significant relationship between land rights and productivity at farm-level based on cross-sectional data from Kenya, Ghana and Rwanda that was funded by the World Bank. Place et al., (1993) reached similar results based on further examination of the same data set. Pinckney and Kimuyu (1994) compared land use practices in two similar coffee-growing communities, one in Kenya where individual land title has been promoted by government, and one in Tanzania where the state owns all the land. Consistent with the above studies, they found that land title has had little effect on land investment and use of credit markets. Detailed re-examination of the World Bank data set, Migot-Adholla and Place (1998) and Besley (1995) essentially reinforced the above conclusion. Using the conceptual model of Feder (1988), Migot-Adholla and Place tested the effects of land title as a function of exogenous factors on productivity and obtained similar results. However, using district level cross section data set, Miceli, Sirmans and Kieyah (2001) found that demand for land title registration in Kenya is influenced by economic factors implies possible connection between secure property rights and agricultural productivity. In contrast, Alston et al (1996) found that in Brazilian frontier more secure titles enhance property values and promote farm-specific investment, though the title benefits diminish with distance from the market center. As noted in the beginning, with multiple land tenure systems including customary and statutory systems, successive land reform initiatives have yielded increased bureaucracy in land administration, inaccurate recording of established occupancy rights, landlessness and persistent land disputes, severe disruptions of social relations, disempowerment of women and children through the denial of their land rights according to a 1995 Government report (GOK, 1995).

The findings of an appointed commission show that the execution of the settlement schemes had lived up to its objective of settling the poor and landlessness Kenyans (GOK, 2004). The commission found general deviation from the stated objectives of the settlement schemes including allocation to unqualified beneficiaries (GOK, 2004). In some cases, settlement schemes were established by executive branch of government outside the legal framework and with no clear guidelines (GOK, 2004)

The conventional view is that group ranches have failed to meet their intended objectives. Instead, most group ranches near Nairobi have been subjected to ongoing rapid subdivision. The management inefficiency of group representatives, together with government pressure to privatize the ranches, has increased demand for subdivision (Kieyah, 2006). In some cases consent to subdivide was granted notwithstanding lack of consensus among the ranches members (Lenaola, 1996). Rutten found cases where original rejections were later approved with or without amendments having been made. In some instances, the boards demand exorbitant fees in order to meet and resolve a land issues. The inefficiencies of the group management are rooted in the original establishment of the group ranches, which disregarded Maasai customary laws. For instance, the territorial boundaries of these ranches were arbitrarily created and did not correspond with each group's previous

The institutional weakness of land control system has also contributed to the problem of subdivision. Justice M. Ole Keiwua, summed it all "the part played by the Land Control Boards in land losses tops the list. Undeserved transactions are sanctified by means of illegal special board meetings. These are sessions the consciously dutiful Board members are invariably not called to attend" (Keiwua 2000). Simel's (1999) findings based on different group ranches reached to similar conclusion. He further recommend electing the members of boards to make them accountable and independent of the political establishment and the local administration.(Simel 1999). Moreover, local newspaper reported cases where the appointments of the board members are based on political parties' affiliations. A land commission appointed to inquire into the Land Law System in Kenya found land boards corrupt and called for amendment of LCA (GOK, 2002)

III. METHODOLOGICAL APPROACH

The primary use of land in rural districts is for agricultural and livestock production, and some land is also used for industrial production. This study assumes that land is critical as a factor of production both for agricultural purposes and for alternative development such as housing, industrialization, and for social amenities. The key hypothesis is that security of tenure has an impact on a proxy for economic welfare such as poverty incidence. Thus, controlling for individual and household characteristics and a few policy relevant variables such as access to credit, this study assesses the impact of possession of land title deed as proxy of land tenure security on poverty status.

Previous analytical work on determinants of poverty and household welfare can be adapted to assess the impact of status of land tenure on household level poverty. Attempts to find the determinants of poverty use either continuous income or expenditure data or discrete choice models with poverty represented as a binary or ordered variable (Geda et al., 2001). Each of the methods presents some weaknesses. As Geda et al., 2001 note, the assessment of the determinants of poverty using continuous household level expenditure as dependent variable (unlike models based on discrete variables) do not yield probabilities about poverty. Such models also generally assume that a rise in household expenditures improves welfare at all expenditure levels. Alternatively, the use of discrete models, for example with poverty represented by a binary variable, leads to loss of information in categorizing continuous expenditure data into binary variables. For instance, households with high consumption expenditures and those clearly vulnerable, in the margins of the poverty line, are broadly considered as non-poor. Discrete analysis typically begins with identifying the poor and the non poor in a sample and then using discrete choice models such as probit, logit or their ordered variants, to estimate the probability of being poor.

The continuous variable approach usually uses an ordinary least squares regression to estimate the determinants of a measure of household income or consumption expenditures. Owing to the nature of our problem and to avoid loosing information by creating the poverty dummy, we prefer to use the continuous variable approach. Even though discrete analysis of poverty may be useful if the prime concern of public policies is to reduce the proportion of the poor with reference to a predetermined poverty line, poverty is often seen as a relative concept which presents challenges when constructing an agreeable poverty line. The continuous variable approach dispenses with this problem by giving an indication on the direction of impact of various variables (such as increased land tenure rights) on household incomes with an added advantage that the results can also be used to inform policy in successive periods regardless of the level of prevailing poverty lines.

The regression model is presented in equation 1:

$$\ln C_i = a + bTitledland_i + dX_i + m_i; \quad m_i \sim (0, s^2) \quad \ldots\ldots\ldots\ldots\ldots (1)$$

Where $\ln C_i$ is the natural logarithm of the household consumption expenditure in adult equivalent terms in household i, $Titledland_i$ is the proportion of total land size in the household with a title deed, and X_i is a set of other explanatory variables such as household size, employment, education dummies, access to credit, time taken to obtain drinking water, region of residence, and morbidity and marital status dummies. The model is estimated using the OLS method.

IV DATA AND SUMMARY STATISTICS

This study uses the comprehensive 2005/06 Kenya Integrated Household Budget Survey (KIHBS) with a total sample of 13,430 households in 1,343 clusters. The survey collected information on: the demographics; education attainment; health and fertility information; employment, labor; water and sanitation information; consumption expenditures; agricultural holdings; access to credit, among other aspects. This study uses part of this information, particularly the information on household economic welfare, demographics, and land holdings, among others for analysis. Information on morbidity, whether an individual held a job, ownership of a parcel of land with a title deed, time taken to obtain water for drinking, morbidity, and demographics such as age, sex, marital status, household size, and province of residence are important variables in the analysis.

Table 1 presents the main sample statistics for various variables used in the regressions. The average absolute poverty rate in adult equivalent terms in Kenya was 46 percent. This means that 46 percent of Kenyan population had levels of consumption expenditure that were insufficient to meet the basic food and nonfood requirements. North Eastern Province has the highest poverty rate at 75 percent with Nairobi and Central provinces with the lowest rates at 23 and 31 percent, respectively (Table 1). About 58 percent of coast dwellers are poor, and 56 percent of residents of Western Province. Eastern, Rift Valley and Nyanza show poverty rates slightly above 45 percent. These results relatively reflect the level of mean consumption expenditures in each province. Apart from Nairobi and Central Province, average consumption expenditures in all other provinces are below the national mean of Ksh. 32,481 in adult equivalent terms.

Table 1 also reports the summary statistics for other variables used in the analysis such as proportion of household land with a title deed, marital status, distance to a source of water, access to credit, whether a person is employed, among others. Provinces such as with low per adult equivalent consumption expenditures (such as North Eastern and Coast) also show low levels of land ownership rights as indicated by the proportion of individuals with a title deed to a parcel of land. Notably, only about 9 percent of household land in North Eastern and 23 percent at the Coast are titled relative to Central provinces 44 percent. Other provinces with weak land ownership rights are the Eastern and Nyanza provinces with 22, and 25 percent of titled land, respectively. The amount of registered land is quite small, hence individual land ownership rights are fairly weak. Nairobi is predominantly urban and records the highest proportion of land with a title deed in Kenya at 61 percent compared with the national of 36 percent. Further, Table 1 shows that about 33 percent of the population accessed a form of credit and 38 percent of the population held a job. However, on average, individuals in the sample spent 15 minutes to obtain water for drinking. Finally, about 71 percent of the population resided in rural areas, while the average household size was about 5.1 individuals.

V. REGRESSION RESULTS

The key finding is that titled land is related to higher household consumption spending which is an important indicator of household welfare and poverty status. This implies that security of tenure allows owners of parcels of land to plan well, and cultivate or use their land for productive purposes more effectively. Ownership of titled land is an important factor that may explain poverty outcomes through improved household incomes and consumption expenditure, but this has received limited attention in empirical literature on household and individual welfare in Kenya.

This analysis also controls for other factors that may affect poverty such as age, dummies for literacy and education attainment, sex of the individual, marital status, household size, morbidity and time taken to obtain drinking water. It can be expected that individuals residing in large households and individuals who had been taken ill are likely to face the lower incomes, lower observed consumption expenditures, and therefore raise the probability of poverty as confirmed by previous studies on this subject. The time taken to obtain water, which is used to identify the estimated models, is a unique variable which could closely predict the household consumption expenditure levels. As noted above, levels of household welfare vary by regions, hence dummies representing the eight Kenyan provinces are used to capture these regional variations. Separate models for each of the region are also estimated.

Table 2 provides overall estimations at national level. The coefficient of determination is 11% which means that 11% of the sample variations of 4117 observations in household expenditures is explained by land tenure and other stated variables. However, low coefficient of determination notwithstanding, there is a statistically significant relationship between household expenditure and the stated set of independent variables based on F test. From the t test, there is sample evidence indicates that there is statistically significant impact of ownership of tilted land on the household consumption expenditure at the 5% level of significance. Since the dependent variable and the variable for ownership of a title deed are in natural logarithm, the coefficient may be interpreted as elasticity. Thus, a 10 percent rise in the proportion of titled land available to a household may improve per adult equivalent household consumption expenditures by 0.1 percent. Using the mean household consumption expenditure in Kenya, this is equivalent to about Ksh. 3,248 rise in household consumption expenditure. In addition, working in a farm, working in a family or own business and residing in Nyanza and Central province residence show a positive and significant impact on household consumption expenditures. In contrast morbidity, time taken to draw drinking water, household size, and rural residence are significantly related to lower household consumption expenditures. These results reflect other welfare studies such as the one by Geda et al., (2001) that uses discrete poverty variable, but can be contrasted since factors such as gender and age show limited impact on household welfare in this model.

Land reforms in Kenya have not been uniform across all the regions, hence it is critical to apply this analysis at the province level which will also benefit from some measure of regional homogeneity. There are notable differences in the percentage of land with title deed across the Kenyan eight provinces. As noted above, Nairobi, Central, and Rift valley have more than 40 percent of household owned parcels of land under a title deed. Coast, North Eastern, Nyanza, and Eastern provinces have the lowest proportions of their populations holding a title deed. The impact of a title deed on welfare may vary according to provinces despite these differences.

Notably, the consumption expenditure models for Central, Eastern and Nyanza provinces indicate an association between improved land tenure and higher levels of consumption expenditure, significant at 5 percent level of significance. Results in Table 3 show that the higher the proportion of land with a title deed the higher is the level of per adult equivalent household consumption expenditure in Central province.

Table 5 presents estimations for Eastern province. With only 25 percent of the province population holding a land title deed, the estimations demonstrate strong effect of ownership of titled land on household economic welfare. Being married, and holding a job is associated with increased consumption expenditures. However, morbidity, time taken to obtain water, household size and residing in the rural areas is negatively affects the level of household consumption expenditure and therefore household economic welfare. Nyanza province is also another notable case where the effect of better land tenure status is positively associated with increased consumption expenditures in a household (see Table 7).

At the Coast province the effect of holding a title deed is weak but the positive sign is notable (Table 4). Working in own business and working in paid employment tends to be related with higher household consumption expenditures. Education attainment and rural residence are correlated with lower consumption expenditures. Regardless of the weak impact that holding a title deed does at the Coast, the fact that only 23 percent of the land is securely owned by households is important for policy in this province with well known land ownership problems and high prevalence of squatters. Thus, this weak link between household welfare and land tenure provides a hint for greater land reforms which could help reduce poverty in the area. The Coast model largely mirrors the situation in Nyanza, Central, and Eastern.

But, in the arid and semi-arid North Eastern province, household welfare is unaffected by land tenure (Table 6). Similar results are replicated in Rift Valley, Western and Nairobi provinces where the land tenure variable is insignificant. In North Eastern, factors such as education attainment (primary school and secondary school relative to no education) and holding a paying job tend to improve consumption expenditure, while the time taken to obtain water and rural residence are strongly associated with declining household expenditures. Education attainment, access to credit, morbidity, age, marital status, being in paid employment, working on own business are the key factors that explain the levels of household consumption expenditure and potentially influence poverty in Rift Valley, Western, and in Nairobi (Table 8, 9, and 10).

The disaggregated results have provided a close examination of the relative importance of land tenure rights across Kenya's diverse provinces. There are notable differences in the relative impact of land tenure on poverty in Kenya. Part of the effect of land tenure is affected by the specific conditions of each province, which may stem from the nature of household occupations, other household characteristics including entrepreneurship, and productivity of land in the rural regions as opposed to urban regions. Most of the provinces are not homogenous in many. For instance, Rift Valley includes some of the most productive lands in agriculture and also large arid and semi arid parts. Economic activities, household characteristics which are inherently diverse, and existence of conflicts tend to make generalizations of the findings difficult. But, the finding that land tenure variable is significant in many of the samples is worth noting. On average the full sample results and the land tenure estimates for Central, Nyanza, Coast, and Eastern provinces are indicative of its importance at the household level. The results therefore provide strong evidence that the ownership of a titled deed, which captures land tenure rights, may affect household production with significant impact on household welfare and poverty as represented by the level of consumption expenditure.

VI CONCLUSION

Using Kenya Integrated Household Budget Survey, this paper tested one of key hypothesis whether ownership of titled land affects household poverty as represented by consumption expenditure while controlling for other household characteristics. The empirical results at national level provide strong evidence that ownership of titled land is positively related with higher levels of household consumption expenditures. These findings are also fairly consistent in Central, Eastern, Nyanza and Coast provinces, with the exception of Western, Rift Valley, North Eastern and Nairobi provinces. A simple simulation indicates that a 10 percent rise in the proportion of titled land available to a household may improve per adult equivalent household consumption expenditures by 0.1 percent, which using the computed mean household consumption expenditure may translate to Ksh. 3,248 rise in household consumption expenditure.

The policy implication of these findings is that land reform must be part of the matrix of strategies to address poverty. This paper joins the call for the Kenya government to embark on serious pro-poor land reform. While the draft of National Land Policy has some provision to deal with poverty, its adoption has been stalled due to lack of consensus among major stakeholder. In the meantime, the paper recommends the government to hasten the pace of the on-goings process of title registration, which has been intractable and slow. Since mid-1950s when the process began, only central province where title registration has been completed. The slow pace of the reform is attributable to the weakness of institutions responsible for its implementation but more important the process is on voluntary basis. One approach is for government to offer title registration as public good to regions where the process has stalled to remove the element of voluntary, which has been a major impediment. Less drastically, the government may be able to facilitate the process of registration by subsidizing education and otherwise lowering the administrative costs.

REFERENCES

Alston, Lee; Libecap, Gary; Schneider, Robert, 1996), "The Determinants and Impact of Property Rights: Land Titles on the Brazilian Frontier". *Journal of Law and Economics & Organization*, 12, 25-61.

Besley, T. and Robin Burgess (2000), "Land Reform, Poverty Reduction and Growth: Evidence from India" *The Quarterly Journal of Economics* 115(2): 389-430.

Besley, Timothy (1995), Property Rights and Investment Incentives: Theory and Evidence from Ghana." *Journal of Political Economy* 103: 903-937.

CBS (2007), Basic Report of Well-being in Kenya, Nairobi: CBS, Ministry of Planning and National Development.

Coldham Simon (1979), "Land-Tenure Reform in Kenya: the Limits of Law." Journal of Modern African Studies 17: 615-627.

Coldham Simon (1986), "Registration of Group Ranches Among the Maasai", *Journal of Legal Pluralism and Unofficial Law*, 20:1-17

Coldham, Simon (1978), "Land Control in Kenya", *Journal of African Law* 22(1):63-77.

Collier, P and D. Lal (1980), "Poverty and Growth in Kenya", World Bank Staff Working Paper No. 389, Washington DC: World Bank.

Deininger, Klaus; Jin, Songqing; Nagarajan, Hari (2007), "Land Reforms, Poverty Reduction and Economic Growth: Evidence from India". Policy Research Working Paper 4448, World Bank Development Research Group.

Feder, Gershon (1988), *Land Policies and Farm Productivity in Thailand*, Baltmore: John Hopkins University Press.

Galaty, J. (1994), Ha(l)ving Land in Common: The Sub-division of Maasai Group Ranches in Kenya, 34 NOMADIC PEOPLES 110.

Geda A., Jong, N. Mwabu G., Kimenyi M. (2001), *Determinants of Poverty in Kenya: Household-Level Analysis*. KIPPRA Discussion Paper No. 9, Nairobi: Kenya Institute for Public Policy Research and Analysis.

Government of Kenya (GOK) (1965), Report of the Mission on Land Consolidation and Registration in Kenya, Government Printer, Nairobi

Government of Kenya (1995), Land Tenure and Agricultural Development in Kenya, Ministry of Agriculture, Livestock Development and Marketing, May 1995, Nairobi.

Government of Kenya (1998), The First Report on Poverty in Kenya, vol 1, Incidence and Depth, Nairobi: Central Bureau of Statistics, Ministry of Finance and Planning.

Government of Kenya (1999), National Poverty Eradication Programme: 1999-2015

Government of Kenya (2002), Report of the Commission of Inquiry into the Land Law System of Kenya on Principles of a National Land Policy Framework, Constitutional Position of Land, New Institutional Framework for Land Administration, Nairobi: Government Printer.

Government of Kenya (2004), Report of the Commission of Inquiry into Illegal/Irregular Allocation of Public Land.

Government of Kenya (2006), Statistical Abstract 2006, Nairobi: Central Bureau of Statisitics.

Government of Kenya (2007), Kenya Vision 2030, Nairobi: Government Printer.

Greer, J and Thorbecke, E. (1986), "A Methodology for Measuring Food Poverty Applied to Kenya", *Journal of Development Economics*, vol. 24: 59-74.

Jackson, Tudor (1988), The Law of Kenya, Nairobi: Kenya Literature Bureau.

Kagagi, D.N. (1992), The Law and Practice of the Registered Land Act 1963: A Comparative Study, PhD Dissertation, University of Leeds Faculty of Law.

Kiamba, M. (1989), "Introduction and Evolution of Private Landed Property in Kenya", *Development and Change* 20: 121-147.

Kieyah, J. (2006), "Indigenous Peoples' Land Rights in Kenya: A Case of the Maasai and Ogiek People." *Penn State Environmental Law Review* volume 15(3):397-437 Spring 2007.

Lenaola, Isaac, Hadley Jenner & Timothy Wichert (1996), Land Tenure in Pastoral Lands, in: Calestous Juma and J.B. Ojwang (eds), *In Land We Trust: Environment, Private Property and Constitutional Change,* Nairobi: Initiatives Publishers.

Miceli, Sirmans & Kieyah (2001), "The Demand for Land Title Registration: Theory with Evidence from Kenya", *America Law and Economics Review* 3(2): 275-287.

Migot-Adholla, Shem 1993), "Indigenous Land Rights Systems in Sub-Saharan Africa: A Constraint on Productivity?" Oxford University Press, Oxford.

Mwabu, G. et al. (2000), "Poverty in Kenya: Identification Measurement and Profiles" Interim Report, Mimeo, Nairobi.

Okoth-Ogendo, H.W.O. (1976), African Land Tenure Reform in Agricultural Development in Kenya: An Economic Perspective, J. Heyer et al. (eds), Nairobi: Oxford University Press, Nairobi.

Okoth-Ogendo, H.W.O. (1986), The Perils of Land Reform, in: J W Arntzen (ed) *Land Policy and Agriculture in Eastern and South Africa*, Tokyo: United Nations University.

Onalo, P. L. (1986), *Land Law and Conveyancing in Kenya*, Nairobi: Heinemann Kenya.

Pinckney, T. and P. Kimuyu (1994), "Land Tenure Reform in East Africa: Good, Bad or Unimportant?" *Journal of African Economies* 3, 1-28.

Pindyck, R. S. and Rubinfeld, D. L. (1991), *Ecometric Models and Economic Forecasts*, New York: McGraw-Hill.

Place, Frank and Shem Migot-Adholla (1998), "The Economic Effects of Land Registration on Smaller Farms in Kenya: Evidence from Nyeri and Kakamega Districts." *Land Economics* 74(3): 360-73.

Rutten, M.M.E.M. (1992), Selling Wealth to Buy Poverty: The Process of the Individualization of Landownership Among the Maasai Pastoralists of Kajiado District, Kenya, 1890-1990. Verlag Breitenbach Publishers, Fort Lauderdale 1992.

Shipton, Parker (1988), "The Kenyan Land Tenure Reform: Misunderstandings in the Public Creation of Private" in: R. E. Downs and S. P. Reyna (eds) *Land and Society in Contemporary Africa*, Hanover: University Press of New England.

Simel, Ole J. (1999), *Pre-mature Land Subdivision, Encroachment of Right and Manipulation in Maasailand–The Keekonyokie Clan Section, Working Paper No. 8,* Nairobi: ALARM Publication.

Swynnerton, R. J. M. (1954), A Plan to Intensify the Development of African Agriculture in Kenya, Nairobi: Government Printer.

Wilson, Rodney J. A. (1972), "Land Control in Kenya's Smallholder Farming Areas", *East African Journal of Rural Development* 5, pp. 123-141.

Table 1: Summary Statistics by Province

Province		Consumption expenditure	Marital Status	Gender	Proportion of titled land	Age	Time to fetch water	Household size	Access to credit	Employed	Region	Morbidity	Poverty rate
Nairobi	N	672	454	672	258	672	310	672	672	607	650	654	672
	Mean	81517	0.426	0.442	0.608	23.044	8.960	3.866	0.256	0.451	0.000	0.300	0.238
	Std.Dev	112988	0.495	0.497	0.485	19.507	10.412	2.116	0.437	0.498	0.000	0.459	0.426
Central	N	1481	1098	1481	921	1481	928	1481	1481	1313	1478	1439	1481
	Mean	35108	0.429	0.520	0.435	24.701	12.315	4.289	0.437	0.457	0.833	0.305	0.310
	Std.Dev	32467	0.495	0.500	0.478	19.976	17.829	2.257	0.496	0.498	0.373	0.460	0.463
Coast	N	1255	904	1255	422	1255	994	1255	1255	1104	1248	1235	1255
	Mean	29336	0.375	0.516	0.232	24.027	11.292	5.600	0.187	0.307	0.597	0.333	0.588
	Std.Dev	28568	0.484	0.500	0.406	20.592	15.211	3.846	0.390	0.461	0.491	0.472	0.492
Eastern	N	2391	1669	2391	1316	2391	1992	2391	2391	2048	2384	2337	2391
	Mean	25346	0.409	0.482	0.223	23.019	23.984	5.684	0.392	0.487	0.928	0.277	0.502
	Std.Dev	24873	0.492	0.500	0.400	18.748	31.985	2.735	0.488	0.500	0.259	0.447	0.500
NEastern	N	509	367	509	340	509	479	509	509	472	509	504	509
	Mean	17053	0.339	0.509	0.095	23.290	15.156	5.959	0.129	0.318	0.794	0.259	0.759
	Std.Dev	12731	0.474	0.500	0.283	19.650	23.087	2.462	0.336	0.466	0.405	0.439	0.428
Nyanza	N	2111	1473	2111	935	2111	1805	2111	2111	1871	2111	2035	2111
	Mean	27536	0.398	0.484	0.245	22.993	13.674	4.927	0.463	0.393	0.784	0.258	0.463
	Std.Dev	23402	0.490	0.500	0.419	19.192	14.553	2.438	0.499	0.489	0.411	0.438	0.499
Rvalley	N	3285	2237	3285	1650	3285	2515	3285	3285	2974	3275	3212	3285
	Mean	28968	0.365	0.492	0.499	20.977	16.172	5.300	0.287	0.402	0.749	0.225	0.481
	Std.Dev	33354	0.482	0.500	0.484	17.946	27.534	2.838	0.452	0.490	0.434	0.417	0.500
Western	N	1293	929	1293	534	1293	1170	1293	1293	1119	1288	1278	1293
	Mean	22434	0.439	0.497	0.365	24.754	10.516	5.574	0.284	0.126	0.668	0.267	0.561
	Std.Dev	19171	0.497	0.500	0.467	20.201	14.235	2.813	0.451	0.332	0.471	0.443	0.496
Full Sample	N	12997	9131	12997	6376	12997	10193	12997	12997	11508	12943	12694	12997
	Mean	32481	0.398	0.491	0.358	22.987	15.362	5.137	0.331	0.387	0.710	0.270	0.466
	Std.Dev	45382	0.490	0.500	0.465	19.238	23.348	2.809	0.471	0.487	0.454	0.444	0.499

Table 2: Ownership of Land Title Deed and Poverty (Household consumption expenditure as dependent)

	Coefficient	Std. Error	t	P>t
Morbidity	-0.089	0.028	-3.16	0.002
Sex	0.013	0.026	0.52	0.606
Literacy	-0.031	0.029	-1.07	0.284
Proportion of titled land	0.013	0.006	2.14	0.032
Age	-0.062	0.053	-1.17	0.240
Age squared	0.013	0.010	1.26	0.207
Time to fetch water	-0.035	0.011	-3.15	0.002
Household size	-0.088	0.021	-4.26	0.000
Rural or Urban	-0.478	0.030	-15.88	0.000
Credit	0.040	0.028	1.44	0.151
Work in own business	0.093	0.053	1.75	0.080
Agricultural worker	0.094	0.033	2.86	0.004
Paid employee	0.014	0.046	0.31	0.754
Central	0.422	0.067	6.30	0.000
Coast	0.026	0.071	0.36	0.719
Eastern	0.047	0.061	0.76	0.447
Nyanza	0.139	0.064	2.19	0.029
Rift Valley	0.058	0.064	0.90	0.366
Western	0.050	0.071	0.72	0.474
Constant	10.591	0.102	104.16	0.000
N	4117			
F(19, 4097)	28.26			
R-squared	0.1111			

Table 3: Ownership of Land Title Deed and Poverty, Central province (Household consumption expenditure as dependent)

	Coefficient	Std. Error	t	P>t
Marital status	-0.111	0.100	-1.11	0.267
Morbidity	-0.069	0.084	-0.82	0.414
Gender	-0.049	0.081	-0.61	0.544
Literacy	-0.021	0.077	-0.27	0.785
Credit	0.168	0.082	2.05	0.042
Age	-0.525	0.871	-0.60	0.547
Age squared	0.094	0.125	0.75	0.452
Proportion of titled land	0.039	0.018	2.20	0.028
Household size	0.032	0.053	0.59	0.553
Time to fetch water	-0.002	0.031	-0.07	0.945
Rural or Urban	-0.347	0.092	-3.77	0.000
Work in own business	0.089	0.129	0.70	0.487
Agricultural worker	0.104	0.106	0.98	0.327
Paid employee	-0.224	0.096	-2.34	0.020
Constant	11.301	1.480	7.64	0.000
N	324			
F(14, 309)	2.81			
R-squared	0.1234			

Table 4: Ownership of Land Title Deed and Poverty, Coast province (Household consumption expenditure as dependent)

	Coefficient	Std. Error	t	P>t
Marital Status	-0.031	0.165	-0.19	0.852
Sex	-0.130	0.127	-1.02	0.308
Primary education	-0.535	0.237	-2.26	0.025
Secondary education	-0.434	0.261	-1.66	0.098
Age	-0.807	1.020	-0.79	0.430
Age squared	0.123	0.148	0.83	0.408
Time to fetch water	-0.022	0.047	-0.46	0.645
Household size	0.070	0.074	0.94	0.347
Proportion of titled land	0.037	0.031	1.17	0.243
Work in own business	0.590	0.275	2.15	0.033
Agricultural worker	0.023	0.167	0.14	0.888
Paid employee	0.257	0.128	2.01	0.045
Rural or Urban	-0.774	0.151	-5.14	0.000
Constant	11.951	1.755	6.81	0.000
N	205			
F(13, 191)	4.500			
R-squared	0.271			

Table 5: Ownership of Land Title Deed and Poverty, Eastern province (Household consumption expenditure as dependent)

	Coefficient	Std. Error	t	P>t
Marital Status	0.202	0.075	2.68	0.008
Morbidity	-0.158	0.067	-2.34	0.020
Sex	-0.034	0.063	-0.54	0.589
Primary education	-0.026	0.129	-0.20	0.841
Secondary education	-0.045	0.136	-0.33	0.742
Proportion of titled land	0.032	0.016	2.04	0.042
Age	-0.804	0.648	-1.24	0.215
Age squared	0.103	0.095	1.08	0.280
Time to fetch water	-0.068	0.027	-2.58	0.010
Household size	-0.113	0.047	-2.41	0.016
Rural or Urban	-0.717	0.099	-7.21	0.000
Employed	0.179	0.063	2.83	0.005
Constant	12.302	1.093	11.25	0.000
N	471			
F(12, 458)	10.47			
R-squared	0.2271			

Table 6: Ownership of Land Title Deed and Poverty, North Eastern

(Household consumption expenditure as dependent)

	Coefficient	Std. Error	t	P>t
Marital Status	-0.158	0.155	-1.02	0.310
Morbidity	-0.128	0.113	-1.13	0.258
Sex	-0.186	0.128	-1.46	0.147
Primary education	0.750	0.264	2.85	0.005
Secondary education	0.692	0.310	2.23	0.027
Proportion of titled land	-0.086	0.055	-1.58	0.117
Age	-0.836	1.465	-0.57	0.569
Age squared	0.136	0.213	0.64	0.525
Time to fetch water	-0.131	0.050	-2.61	0.010
Household size	-0.116	0.108	-1.07	0.286
Rural or Urban	-0.270	0.162	-1.67	0.096
Credit	-0.040	0.190	-0.21	0.832
Work in own business	-0.007	0.200	-0.03	0.973
Agricultural worker	-0.060	0.156	-0.38	0.703
Paid employee	0.387	0.183	2.12	0.036
Constant	10.920	2.433	4.49	0.000
N	176			
F(15, 160)	3.15			
R-squared	0.1945			

Table 7: Ownership of Land Title Deed and Poverty, Nyanza

(Household consumption expenditure as dependent)

	Coefficient	Std. Error	t	P>t
Morbidity	-0.106	0.077	-1.37	0.171
Sex	0.013	0.070	0.18	0.856
Primary education	0.184	0.210	0.88	0.380
Secondary education	0.200	0.225	0.89	0.374
Proportion of titled land	0.043	0.017	2.53	0.012
Age	0.063	0.122	0.51	0.608
Age squared	-0.008	0.026	-0.29	0.770
Time to fetch water	0.022	0.033	0.67	0.501
Household size	-0.070	0.059	-1.19	0.235
Credit	0.093	0.071	1.31	0.191
Work in own business	-0.254	0.138	-1.84	0.066
Agricultural worker	-0.061	0.083	-0.73	0.464
Paid employee	-0.198	0.119	-1.67	0.095
Constant	9.949	0.272	36.62	0.000
N	436			
F(13, 422)	1.35			
R-squared	0.0411			

Table 8: Ownership of Land Title Deed and Poverty, Rift Valley

(Household consumption expenditure as dependent)

	Coefficient	Std. Error	t	P>t
Marital status	0.118	0.094	1.26	0.209
Sex	-0.089	0.074	-1.20	0.231
Primary education	-0.233	0.110	-2.12	0.034
Secondary education	0.006	0.248	0.02	0.982
Proportion of titled land	-0.020	0.017	-1.24	0.217
Age	-1.767	0.910	-1.94	0.053
Age squared	0.257	0.136	1.89	0.060
Time to fetch water	-0.029	0.037	-0.80	0.421
Household size	-0.003	0.055	-0.06	0.954
Rural or Urban	0.016	0.087	0.18	0.855
Credit	0.137	0.088	1.57	0.117
Work in own business	0.119	0.093	1.28	0.201
Agricultural worker	-0.044	0.136	-0.33	0.745
Paid employee	-0.042	0.109	-0.38	0.701
Constant	12.985	1.464	8.87	0.000
N	540			
F(14, 525)	1.080			
R-squared	0.040			

Table 9: Ownership of Land Title Deed and Poverty, Western Province

(Household consumption expenditure as dependent)

	Coefficient	Std. Error	t	P>t
Marital status	0.521	0.254	2.05	0.043
Morbidity	0.163	0.241	0.68	0.501
Sex	0.178	0.168	1.06	0.293
Credit	0.172	0.170	1.01	0.315
Primary education	0.022	0.318	0.07	0.946
Secondary education	0.111	0.302	0.37	0.713
Age	-2.607	2.017	-1.29	0.200
Age squared	0.332	0.306	1.08	0.282
Household size	0.017	0.169	0.10	0.920
Time to fetch water	-0.087	0.084	-1.04	0.300
Proportion of titled land	-0.022	0.034	-0.64	0.521
Work in own business	0.483	0.392	1.23	0.222
Agricultural worker	0.058	0.168	0.34	0.732
Paid employee	1.142	0.269	4.25	0.000
Rural or Urban	0.156	0.213	0.73	0.466
Constant	14.306	3.305	4.33	0.000
N	97			
F(15, 81)	5.26			
R-squared	0.255			

Table 10: Ownership of Land Title Deed and Poverty, Nairobi province (Household consumption expenditure as dependent)

	Coefficient	Std. Error	t	P>t
Morbidity	-0.765	0.329	-2.33	0.024
Marital Status	-0.607	0.366	-1.66	0.103
Sex	0.099	0.262	0.38	0.707
Proportion of titled land	0.055	0.063	0.87	0.386
Age	8.324	3.655	2.28	0.027
Age squared	-1.212	0.569	-2.13	0.037
Time to fetch water	0.003	0.103	0.03	0.975
Household size	0.005	0.237	0.02	0.982
credit	0.213	0.301	0.71	0.482
Work in own business	0.886	0.440	2.02	0.049
Agricultural worker	-0.220	0.295	-0.75	0.459
Paid employee	0.461	0.429	1.07	0.288
Constant	-2.028	5.968	-0.34	0.735
N	70			
F(12,57)	3.91			
R-squared	0.3177			