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POLICY SYNTHESIS

FOOD SECURITY RESEARCH PROJECT – ZAMBIA

Ministry of Agriculture and Cooperatives, Agricultural Consultative Forum and Michigan State University, Lusaka, Zambia.

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ACCESS TO LAND AND POVERTY REDUCTION IN RURAL ZAMBIA: CONNECTING THE POLICY ISSUES

By: T. S. Jayne, Ballard Zulu, Gear Kajoba and M. T. Weber

Key Policy Message

- Despite having relatively low population densities, inadequate access to land is one of the major causes of rural poverty in Zambia.
- The apparent paradox of inadequate access to land for many rural households in a country of low population density is partially reconciled when taking into account that economically viable arable land requires at least some degree of access to basic services, water, road infrastructure, and markets. The basic public investments to make settlement economically viable have yet been made in many areas of Zambia.
- Depending of future land allocation policy, access to good quality land with a market potential may become increasingly beyond the reach of many small-scale farm households, making it more difficult to achieve a smallholder-led, pro-poor agricultural development trajectory.

PROBLEM STATEMENT: Research from many developing areas has demonstrated that relatively egalitarian land distribution patterns have tended to generate higher rates of economic growth than highly concentrated ones. The basic reason for this is that broad-based agricultural growth tends to generate second-round expenditures in support of local non-tradable goods and services in rural areas and towns. These multiplier effects tend to be much weaker when the source of agricultural growth is concentrated in relatively few hands. Thus the rate of growth is likely to be affected by the distribution of assets in the agricultural sector, particularly land. Very little is known in Zambia about the relative distribution of land among smallholder farmers of various categories.

OBJECTIVES: The objectives of this paper are fourfold:

- To examine the prevailing farm size distribution within Zambia's smallholder farm sector, and to assess how this farm size structure affects the potential for broad-based agricultural growth and rural poverty in Zambia.
- To explore the apparent paradox of why such a large percentage of rural households have less than one hectare of land and perceive that additional land is not available to them despite the fact that most of the country's land remains uncultivated.
- To examine the factors associated with the large variations in landholding size within Zambia's smallholder farm sector by estimating econometric models of household landholding plus rented land, and of households' perceptions of the availability of additional land in their area.
- To identify concrete proposals for improving access to land, as well as for improving productivity in the use of existing land, among the most land-constrained smallholder households, which, we argue, will expand the number of small farmers in Zambia who could directly benefit from agricultural growth processes.

DATA AND METHODS: The household survey data used in this analysis is drawn from Post Harvest Surveys (PHS), conducted annually by the Central Statistical Office (CSO) working in cooperation with the Ministry of Agriculture and Cooperatives (MACO). The PHS is a comprehensive and statistically valid source of information for the small- and medium-scale farm sector in Zambia. We also draw from the 1999/2000 Supplementary Survey (SS) to the Post Harvest Survey, also conducted by CSO/MACO in cooperation with FSRP. The SS revisited the same rural households that were interviewed in the 1999/00 PHS with a set of "supplementary" questions which are not normally asked in the regular post harvest surveys. These questions pertained to access to land, information on non-farm income and household socio-demographic characteristics.

The first SS was conducted in May 2001. CSO/MACO and FSRP also conducted a second SS in May 2004, covering the period 2002/2003. The report uses the two SS to compare landholding sizes between 2000 and 2003 and finds highly consistent patterns of land variation. The majority of the analysis is based upon the 1999/2000 set of data because it has more extensive information on household access to various types of land and fields.

Methods of analysis include reviews of related studies, and analysis of the SS data, using tabular analysis and various district and community fixed-effect econometric models. These techniques, and the assumption that unobservable factors do not change with time, allows the analysis to hold constant (fix) the average effects across each district/community and eliminates omitted/unobserved variable bias. This approach controls for the obvious variations in landholding sizes due to regional differences in population density and hence allows examination of why landholding sizes vary so greatly within communities.

MAIN RESEARCH FINDINGS: There are five major areas of findings in this study.

1. Within a given district or village, there are very wide intra-village differences in farm size within the small-scale farming sector. Within a given district, the top 25% of households tend to have 8 to 10 times more land than the bottom 25% of households. While mean farm size (defined as use rights over cultivated, fallow and virgin land plus rented land) is 3.27 hectares, about one-forth of all households have access to one hectare or less, and the top one-fourth have over 7 hectares, including virgin land (Table 1). If we only consider cultivated and fallow land, the mean farm size drops to 2.25 hectares, ranging from 0.62 ha for the lowest quartile to 4.98 ha for the top quartile (Table 1).

2. Zambia faces the apparent paradox of having roughly a quarter or more of its rural population facing near-landlessness and perceptions of no additional land available to them despite the existence of substantial underutilization of arable land. And various analyses of respondent perceptions revealed a considerable lack of consensus as to whether there is unallocated land in their areas that would be accessible to them if they wanted it. Analysis of determinants of household perceptions about this issue found some six factors, each of which must be considered but no one of these factors clearly predominates over the others:

Factors **positively correlated** with respondents' perceptions that unallocated land is available and accessible to them are:

- + The amount of land (a small effect) and most other kinds of productive assets;
- + Kinship relations to the local headman;
- + Distance from roads and district towns;

Factors **negatively correlated** with respondents' perception that additional land is accessible to them are:

- - Female-headedness;
- - Proximity to towns and markets; and
- - The duration of settlement in the area.

3. Results in this study show that there is great variation in farm sizes within communities. There is a strong relationship between landholding size and household per

Table 1. Smallholder Landholding Size per Household in Zambia by Province and Alternative Farm Size Definition, 1999/2000

Province and Farm Size Definition	Quartiles of Landholding Size Per Household				
	1st Quartile bottom 25%	2nd Quartile	3rd Quartile	4th Quartile top 25%	Mean
	----------Hectares per household ----------				
Central: cultivated + fallow only (ha)	.67	1.53	2.79	7.97	3.25
- All land including virgin + rented (ha)	***.72***	***1.70***	***2.93***	***8.99***	***3.60***
Copperbelt: cultivated + fallow only (ha)	.54	1.12	1.99	5.33	2.27
- All land including virgin + rented (ha)	***.58***	***1.42***	***2.41***	***8.83***	***3.35***
Eastern: cultivated + fallow only (ha)	.74	1.29	1.97	4.11	2.05
-All land includingvirgin + rented (ha)	***.89***	***1.50***	***2.35***	***4.65***	***2.37***
Luapula: cultivated + fallow only (ha)	.54	1.25	1.98	3.80	1.90
- All land including virgin + rented (ha)	***.92***	***1.84***	***2.90***	***5.48***	***2.80***
Lusaka: cultivated + fallow only (ha)	.43	.94	1.81	5.63	2.20
- All land including virgin + rented (ha)	***.43***	***.94***	***1.84***	***5.76***	***2.25***
Northern: cultivated + fallow only (ha)	.76	1.51	2.45	5.56	2.55
- All land including virgin + rented (ha)	***2.59***	***4.51***	***5.60***	***12.50***	***6.26***
Northwestern: cultivated+fallow only (ha)	.55	1.06	1.59	3.53	1.67
- All land including virgin + rented (ha)	***.67***	***1.21***	***1.79***	***3.89***	***1.88***
Southern: cultivated + fallow only (ha)	.60	1.38	2.43	6.24	2.67
- All land including virgin + rented (ha)	***.65***	***1.43***	***2.43***	***6.96***	***2.88***
Western: cultivated + fallow only (ha)	.37	.85	1.45	3.56	1.56
- All land including virgin + rented (ha)	***.45***	***1.14***	***1.75***	***4.30***	***1.91***
National: cultivated + fallow only (ha)	.62	1.28	2.11	4.98	2.25
- All land including virgin + rented (ha)	***1.06***	***2.03***	***2.95***	***7.01***	***3.27***

Source: CSO Supplementary Survey to the Post-Harvest Survey of 1999/2000.
Notes. All numbers are weighted

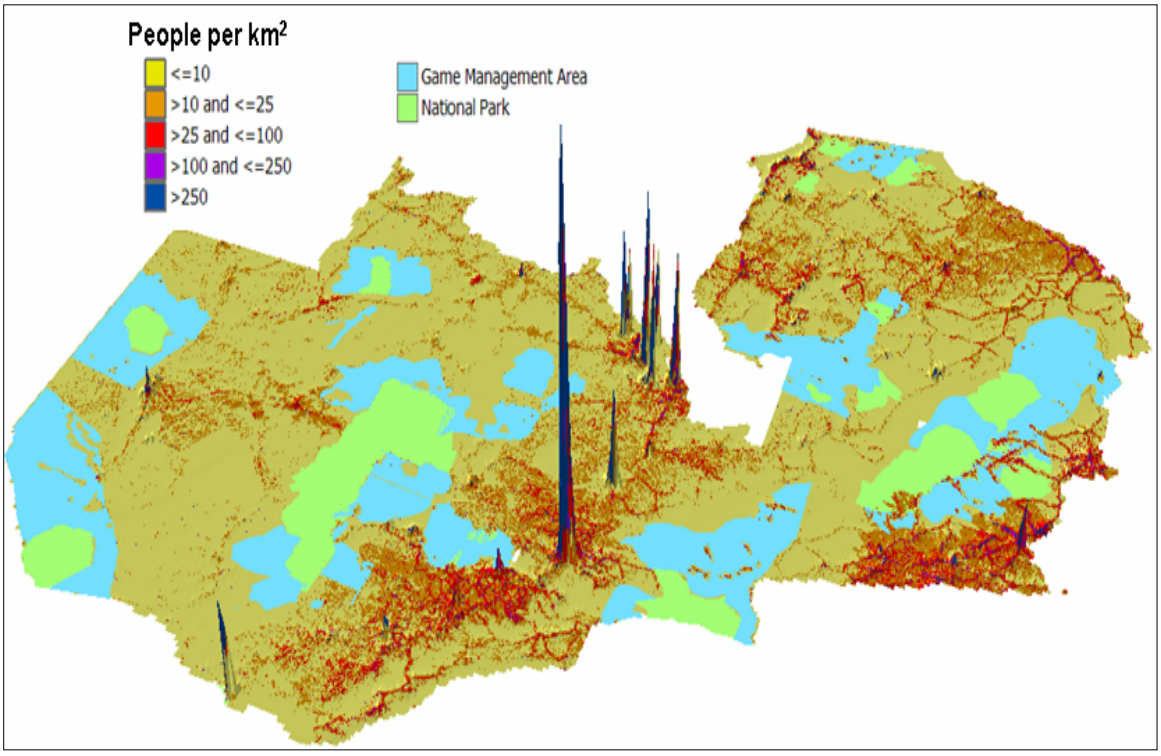

Figure 1. Population Density of Zambia (2007).

capita income, especially for households owning less than 1.25 hectares of land (which applies to roughly 45% of the smallholder population in Zambia).

4. Informed studies and review documents suggest that there are alternative explanations, none mutually exclusive, for the observed variation in farm size. Some of these are related to talent and effort, colonial policies, inevitable differences in the up-take of new technology, social capital and kinship relationships, and time of settlement in the area. All of these factors are tested empirically in this study through econometric models of household farm size. Results indicate that each of these explanations in the literature have some explanatory power and contribute something to the explained variation in landholding size. For example:

- Landholding size is positively related to variables signifying productive farming potential and wealth, which is most likely correlated with initiative and effort;
- Several demographic variables are correlated with landholding size, but not always in the way that conventional wisdom would suggest. For example, the number of adults and children over 12 is negatively related to landholding size.
- Importantly, the blood/kinship relations between the male and female head-of-household's family and the local chief at time of the family's settlement are positively and significantly associated with current landholding size;
- The level of education attained by the most educated household member is positively related to the household landholding size;
- The farm size of female-headed households – both those with a non-resident husband as well as those without a husband – are 0.7 and 0.5 hectares smaller on average than those of male-headed households.
- The number of years settled in a locality is positively and significantly associated with landholding size;
- The results also indicate that differences in agro-ecological potential, and the distance of the household to the nearest tarmac road, district town, and line-of-rail all have strong and highly significant association with household landholding size.

5. In many areas where the majority of the rural population live, unallocated land appears to be unavailable, particularly in areas close to urban areas and district towns, and along major highways. This is evident from Figure 1, which shows that Zambia's rural population is relatively densely clustered in certain areas, such as the Eastern Province plateau around Chipata, the areas of Southern Province along the line of rail and the areas surrounding the main roads in Northern Province. In fact, the main road network in Zambia can be clearly seen by the concentration of rural population in Figure 1.

The results from the econometric analysis reinforce this view that the rural population is heavily clustered in areas where access to markets and services are best, leading to a highly nucleated pattern of settlement. At the same time, there are areas of unsettled land in the more remote parts of the country, but the economic value of this land is limited because of the lack of access to markets and services. As also seen partially in Figure 1, game parks and game management areas in Zambia, not to mention surface area unavailable in lakes, forests, wetlands, and mining concessions limit the practical search for new lands to be developed. It is for this reason that current discussions between GRZ leaders and stakeholders, and potential outcomes for land use and land allocation policy in Zambia are very critical. These are likely to influence future rates of rural poverty and the number of rural Zambians who are able to contribute to the country's agricultural growth.

POLICY IMPLICATIONS: Improving access to land among the most land-constrained smallholder households would be a seemingly effective way to reduce poverty. For small farms, a very small incremental addition to land access is associated with a large relative rise in income. Yet improving land access for smallholders is fraught with difficulties: even in land abundant countries, it is questionable whether much unclaimed land is available in settled areas to distribute, expropriating land reform is politically difficult, expensive, and subject to rent-

seeking. Also market-assisted or community-based approaches have met with very little success to date.

Perceptions of inadequate state land to undertake agricultural development efforts, as reflected in various government documents, highlights two important points for future land policy discussions. First, pressures will mount over the coming years to induce chiefs to release control over part of their land, so that it can be converted into state land which can be allocated to investors to be developed. The pressure seems to be that statutory control of land will progressively replace customary rights, with the state playing an increasingly important role in control of land allocation as compared to the role of chiefs. With urbanization, increasing intra-regional migration, and relocation, and states' desires to control resources for both development and patronage activities, many African states appear to be succeeding in slowly wresting control of resources from traditional authorities (Herbst 2000).

The second point highlighted by recent government land documents is the apparent view that state development can take place only on state-controlled land. The rationale for moving land from customary tenure arrangements to state-allocated and privatize-able land is to facilitate state investment in agricultural development. An important question is whether there has been too little consideration given to the possibility of state investment in strategic public goods and services to raise the economic value of land in the customary tenure areas and promote agricultural investments by smallholder farmers within these areas. Current discussions about focusing agricultural investment and intensification on state land may reflect an underlying assumption that the state is in a better position to allocate land in an equitable, pro-poor, and pro-growth manner than traditional authorities.

However, many stakeholders in Zambia argue that this would be a highly questionable assumption. In the end, the ability to pursue a land policy that allows for equitable and pro-poor agricultural productivity and income growth will require the commitment of both state and traditional leaders to principles of equity and access to land for the millions of smallholder farmers in Zambia.

There is a perception within government circles that the state is seen as more neutral and a faster delivery channel which can put more land to productive use. However, the transfer of land from the chiefs to the state may also accelerate the allocation of land to large commercial interests, which could leave less land available for allocation to small-scale farm households. While a great deal of land in Zambia remains unutilized, the amount of utilizable land available is much less, after considering the sparse network of infrastructure and other types of service provision in rural areas which determine how much unutilized land is actually utilizable.

This brings to the fore the need to distinguish between the total stock of unutilized land in Zambia and the stock of land that could feasibly and productively be utilized given available settlements, roads, health facilities and markets. In other words, much land in Zambia remains unutilized because it cannot feasibly support commercially-oriented farming systems due to its current remoteness, distance from markets, and lack of basic services to make it hospitable for migration and settlement.

Basic public investments to encourage the productive utilization of currently under-utilized areas with good agro-ecological potential also has a potential in Zambia to redress the current land constraints faced by many of its impoverished and isolated rural smallholder households. These basic investments include feeder roads linked to trunk highways, health care facilities, schools, electrification, and tax incentives for agribusiness investment.

A policy environment conducive to business development can also attract new capital into newly settled areas with good agricultural potential. This public goods approach to poverty alleviation is an option to consider as an alternative or perhaps a complement to the farm block concept, in which land would be allocated in large tracts to commercial business entrepreneurs, but with uncertain

effects on the poverty-related land constraints being faced by 25% or more of Zambia's rural population.

A second and complementary step would involve enlisting the support of paramount and local chiefs to contribute to national poverty reduction goals through the allocation of unutilized land to new small and medium-scale farmers. Incentives could be provided by the state to chiefs to assist in the allocation of unutilized land under their control in 5-10 hectare lots to smallholder households. It is likely that land lots of this size would discourage wealthy individuals and mainly attract poor and currently land-constrained families. However, acquiring land of this size would almost certainly enable currently land constrained households to increase their income from farming, add to agricultural growth, and contribute to national poverty reduction objectives.

Issues for Further Investigation: The findings of this paper draw out several major issues for further investigation.

First, the analysis done in this paper needs to be updated with information from the 3rd round of Supplemental Survey data collected in 2008 (recall to the 2006/2007 agricultural production and marketing season). This will include an opportunity to examine changes in access to access to land and many other socio-economic features over the 1999/2000 to 2006/2007 amongst a random sample panel of smallholders across Zambia.

Second many analysts and stakeholders agree that the Zambian national data base on arable land under cultivation, as well as the amount of land being held under leasehold as well as customary tenure arrangements is seriously out of date. Calls for a national land audit to determine more accurately the amount and status of land potentially available deserve strong support.

Third, much more analysis is needed to examine the costs and benefits of alternative approaches for redressing in the short run the acute land constraints being faced by a significant portion of small-scale farmers?

Some of the issues might include:

- analyzing institutional arrangements for encouraging the development of land markets (for sale in addition to rent/share cropping) and attracting greater long-term land investments;
- assessing the potential for land redistribution between state, large-scale, and small-scale farmland;
- identifying specific educational skills and investments that make for a mobile labor force that facilitates structural transformation; and
- identifying cost-effective public investments to induce migration into relatively sparsely populated areas in a manner that is supportive of rural productivity growth.

Overall, the findings in this study reinforce the idea that where access to land is highly concentrated and where a sizable part of the rural population lack sufficient land to earn a livelihood as in Zambia, then special measures will be necessary to tackle the problem of persistent poverty. This is almost certain to be a long term undertaking, but avoiding the issue will most likely only prolong the poverty problem.

REFERENCES/ACKNOWLEDGMENTS:

For details on references and data listed in this brief, see the full paper. This policy synthesis draws on a study with the same title and authors, downloadable at:
http://www.aec.msu.edu/fs2/zambia/wp_34.pdf

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Please direct all inquiries to the Director, Food Security Research Project, 86 Provident Street, Fairview, Lusaka; tel: 260-211-221021; fax: 260-211-234559; e-mail: KabagheC@msu.edu