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Feed the Future Innovation Lab for Food Security Policy

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Africa's Changing Farm Structure and Employment Challenge

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Key Messages

- The sub-Saharan smallholder farmers' productivity challenge is multi-dimensional in nature; therefore, the solution needs to be multifaceted.
- Medium-scale farms are growing rapidly in much of Africa and currently control more land than large- scale foreign investors in each of the three countries examined (Ghana, Kenya, and Zambia).
- Medium-scale farms control more land than small-scale (0 to 5 hectare) holdings in at least Ghana and Zambia. There is a strong inverse correlation between landholding size and the proportion of land under cultivation.
- The rise of medium-scale farms reflects a rising demand for prime land by upper-class urban and rural people.
- Eighty-percent of Sub-Saharan Africa's arable land reserves are in a handful of countries, many of which are fragile states. By contrast, many small-scale farming areas have become enclaves unable to expand because they are surrounded by lands of a different tenure system.
- Population growth in densely populated smallholder farming areas is contributing to growing land pressures and unsustainable forms of agricultural intensification.
- Land allocation priorities and public expenditure patterns will influence the rate of migration from farming to non-farm and from rural to urban areas, and will determine the extent to which Africa's rural youth seek employment as farmers.
- It is in African leaders' interests to protect the land rights of rural communities. Africa's rural population is expected to rise by 48 percent between 2015 and 2050. Over 330 million young Africans will enter the job market between 2012 and 2025, 200 million of whom will come from rural areas. The non-farm economy will be able to absorb at best only two-thirds of this rapidly growing labor force. Hence, the availability of land for expansion of family farming – combined with the pattern of public investments and enabling policies – will determine whether a high proportion of young Africans are gainfully employed in agriculture or join the ranks of the jobless, constituting political risks for African leaders.

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Introduction

Even under optimistic assumptions about the rate of urbanization and growth of non-farm employment, agriculture will still be the main source of livelihood for the majority of Africans for at least the next several decades (Losch 2012). Non-farm wage jobs in Sub-Saharan Africa will be able to absorb between 40 to 65 percent of the additional 122 million workers estimated to enter the labor force before 2020 (Fine et al. 2012). This means that farming will be called upon to provide gainful employment for at least a third of young Africans entering the labor force till at least 2025. However, for agriculture to provide viable employment, young people will require access to land.

Expansion of area under cultivation has been the major source of growth in agricultural production for many decades. While productivity growth on existing farmland will be the most desirable way of raising food production, it is almost certainly the case that agricultural growth will require bringing new land under cultivation.

The rush for African land by foreign investors in the wake of the 2008 food price spike has drawn considerable attention to the availability of land for African agriculture (e.g., Schoneveld 2014). Yet missing in the discussion on African land is the role of local land investors in what some have called an *African land grab*. This brief summarizes findings from Jayne et al. (2014),[1] which documents the rise of land acquisitions by relatively well-off urban and rural people who make up a significant portion of the rapidly expanding class of *emergent* or medium-scale local farmers. These actors are shown to play a major role in land acquisitions in Zambia, Kenya, and Ghana, and significantly affect the amount of potentially available cropland (PAC) for small-scale farm use and expansion. The possibility that land access conditions could be worsened for indigenous rural communities as a result of this process raises important questions about the agricultural sector's potential to absorb the rural youth into gainful employment that are seldom considered in national development strategies.

[1] Full report with details on data and analysis along with other suggested readings are referenced at the end of this policy synthesis.

Main Findings

1. Large-scale acquisitions account for a significant portion of Africa's remaining arable land: The recent comprehensive study by Schoneveld (2014) estimates that 22.7 million hectares of arable land in Sub-Saharan Africa has been acquired by large- scale entities, with roughly 90% of this involving a foreign primary shareholder. According to our analysis, this is equivalent to roughly 9.7% of total area under cultivation in Sub-Saharan Africa, and 15 to 35 percent of the region's remaining potentially available cropland (PAC) if forestland is excluded, and somewhat less if forestland is included in PAC. However, Africa's PAC is highly concentrated in just a few countries, many of which are fragile states (Chamberlin, Jayne, and Headey 2014). Roughly, a third of the region's surplus land is currently under forest cover; conversion of forests to cropland would entail major environmental costs.

2. *The rise of medium-scale farms:* The most revolutionary change in farm structure has been among medium-scale holdings. In spite of the international media's focus on *land grabs* by foreign investors, in all three countries the land controlled by medium- scale farms now exceeds that of foreign and domestic large-scale holdings combined. Moreover, holdings between 5 and 100 hectares now account for more land than small-scale farms (0-5 hectares) in two of the three countries examined (Ghana and Zambia). However, there is a strong inverse correlation between landholding size and the proportion of landholdings under cultivation (e.g., see Table 1 for Zambia). The fact that almost 90 percent of the land owned by Zambian farms in the 20 to 100 hectare landholding category remains uncultivated may explain the appearance of land abundance in a country where most small-scale farmers complain of an inability to acquire more land for themselves (e.g., Young 1999; Jayne et al. 2014).

3. *Who are the medium-scale farmers? Life history* surveys of medium-scale farmers reveal that they are predominantly men; their primary jobs were in the non-farm sector, the majority of these being in government. Many of these farmers live in urban areas. They are relatively well educated. The majority in Zambia acquired their farms after the age of forty. Using their savings from their non-farm jobs, they were able to acquire farms and enter farming during their mid-life stages. This profile fits roughly 60 percent of the sampled medium-

3. scale farmer is relatively privileged rural-born men who were able to acquire large landholdings as they started out their careers. Only in Ghana was it found that a significant proportion of medium-scale farmers started out with less than five hectares of land. The Ghana findings provide at least some room for optimism that small-scale farmers can expand into commercialized medium-scale stature under favorable land access conditions.

4. *The distribution of landholdings is becoming more concentrated over time.* The Gini coefficients of landholdings rose in all three countries substantially, e.g., in Ghana from 0.52 in 1992 to 0.65 in 2005. While landholdings in most of Africa are not as concentrated as in Latin America, where Gini coefficients can be as high as 0.90, the Ginis in our three African case studies are substantially higher than most Asian countries. In highly land-constrained Kenya, rural population growth and land subdivision has led to an alarming rise in the proportion of very small farms. Between 1994 and 2006, the proportion of Kenya's farms smaller than three hectares rose from 83 to 96 percent. However, average farm size among farms over 8 hectares grew by 230 percent over the same period, from 13.2 to 31.1 hectares. While we cannot conclusively identify the reason for this increase, it is consistent with the evidence showing rapid new entries of relatively large landowners, even as the national median farm size declines. Clearly, the idea of a *unimodal* and egalitarian farm structure within Africa's indigenous farming population has become outdated.

5. *Despite the availability of land for acquisition by some groups, population growth in smallholder farming areas is contributing to land pressures and unsustainable forms of intensification.* Rural populations in Sub-Saharan Africa are highly concentrated in fertile areas. Twenty percent of Africa's 10km square gridcells contain 82 percent of its rural people. In a cross-county analysis over a 30-year period, Headey and Jayne (2014) found that rising population density is associated with smaller farms, more continuous use of land, reduced fallows, and only marginal increases in fertilizer use and irrigation. Migration from such areas may be advantageous for those with skills and education, but has major limitations. Urban migration is arguably already occurring at too rapid a pace to prevent rising unemployment and under- employment, as the rise in urban slums and shanty towns attest. Migration to more sparsely populated rural areas does and can continue to play an important role in relieving land pressures in densely populated rural areas – provided that land continues to be accessible in the receiving areas. Transferring large amounts of arable land to holders that employ little labor per unit of land may work at cross-purposes to promoting valuable forms of rural-rural migration.

6. *Land markets are developing rapidly in more densely-populated areas.* The rise of land rental markets may provide some potential for the youth to access land, but because renting land generally involves providing the equivalent of one-third or more of the crop proceeds to the landlord, tenants must be extremely productive to make a reasonable livelihood by renting land.

Table 1. Changes in Farm Structure among Small- and Medium-Scale Farmers in Zambia

Landholding size category	Number of farms			% change (2000 –2012)	% of total farmland		Share of landholding cultivated 2012
	2001*	2009	2012		2009	2012	
0 – 2 ha	638,118	916,787	748,771	17.3%	24.1%	16.2%	91.2%
2 – 5 ha	159,039	366,628	418,544	163.2%	33.8%	31.7%	66.4%
5 – 10 ha	20,832	110,436	165,129	692.6%	20.3%	25.0%	49.5%
10 – 20 ha	2,352	35,898	53,454	2272.7%	12.3%	15.0%	36.7%
20 – 100 ha	--	9,030	13,839	53.3%**	9.5%	12.0%	10.9%
Total	820,341	1,438,779	1,399,737	70.6%	100.0%	100.0%	

Source: Ministry of Agriculture and Livestock and Central Statistical Office Crop Forecast Surveys.

*2001 figures are land under cultivation. **computed from 2009-2012 only.

Conclusion

Most governments' existing strategies are *officially* oriented to promote agricultural growth and food security for the millions of their rural constituents who are small-scale farmers. However, most of these strategies assume unhindered access to land. In spite of rhetorical support for small-scale farmers, there are increasing concerns that *de facto* agricultural and land policies have encouraged, and are continuing to encourage, the transfer of land to medium- and large-scale interests without due recognition of how this is affecting land access by future generations of indigenous rural communities.

The rush for land among the wealthy occurs in the context of intensifying land constraints in the more densely-populated smallholder areas, which in some cases have become enclaves hemmed in from expansion because adjacent lands have been transferred to medium and large-scale entities or they are under state tenure systems that cannot be allocated by traditional authorities to members of their rural communities. Median farm sizes are quite small and clearly declining in the densely populated areas where most of the rural populations reside, while large tracts of land in nearby areas continue to be allocated by the state to medium- and large-scale holdings.

While interest is increasingly focused on the relative efficiency of small-, medium-, and large-scale agricultural production, we believe that there are two other important criteria to take into account to guide the allocation of Africa's remaining arable land. First, which type of farm structure can provide the most *well above poverty-line* jobs per hectare allocated? Second, which type of farm structure will provide the greatest indirect employment effects through growth multipliers? Labor-intensive family farms capable of generating broadly-based income streams will support the growth of Africa's manufacturing and industrial base much more so than a concentrated farm sector where incomes from surplus production are generated by a small fraction of the rural population. Land available for profitable entry into family farming will also stem the tide of urban migration and hence reduce the number of unemployed job seekers in towns. While small-scale African agriculture has generally not thrived, it is important not to confuse missed opportunities with inherent lack of viability. Asia's *green revolutions* were powered by small -scale farms and provide hope for what Africa might achieve with similarly supportive policies and public expenditures.

The advocacy of a large-scale commercial farm approach seems unable to address how the majority of Africa's rural population could effectively transition into productive non-farm jobs. Most types of large-scale agricultural production are capable of absorbing an exceedingly small fraction of the rural labor force (there are exceptions such as for sugarcane and horticultural crops), and unskilled farm labor in most cases pays very little above poverty-line wages. Moreover, while increasing dynamism in non-farm employment is apparent in parts of Africa, it is estimated that the growth in wage-paying employment will only be able to absorb about two-thirds of the additional people entering the labor force between 2010 and 2020, even under the most favorable scenarios (Fine et al. 2012).

Access to land to enable the expansion of small-scale agriculture – along with policy and public investment choices – will largely determine whether millions of rural Africans will make a decent livelihood and be able to feed themselves. Hence, even as Africa slowly urbanizes, smallholder agriculture will remain fundamental to absorb much of Africa's burgeoning young labor force into gainful employment (Losch 2012). In fact, African leaders may soon perceive that political stability will depend on exploiting the potential for profitable family farming to shrink the numbers of disillusioned and unemployed youth that are already rising in much of the region as the labor force rapidly expands.

References

Chamberlin, Jordan, T. Jayne, and D. Headey. 2014. Scarcity Amid Abundance? Reassessing the Potential for Cropland Expansion in Africa. *Food Policy* 47. in press.

Fine, D., A. van Wamelen, S. Lund, A. Cabral,M. Taoufiki, N. Dörr, A. Leke, C. Roxburgh, J. Schubert, and P. Cook. 2012. *Africa at Work: Job Creation and Inclusive Growth.* A McKinsey Global Institute Report. Boston: McKinsey Global Institute.

Headey, D. and T. Jayne. 2014. Is Africa Different? Adaptations to Land Constraints. *Food Policy* 47, in press.

Jayne, T.S., Antony Chapoto, Nicholas Sitko, Chewe Nkonde, Milu Muyanga, and Jordan Chamberlin. 2014. Is the Scramble for Land in Africa Foreclosing a Smallholder Agricultural Expansion Strategy? *Journal of International Affairs.* Spring Issue, in press.

Losch, B. 2012. *Agriculture: the Key to the Employment Challenge*. CIRAD Perspective Policy Brief No. 19. Montpellier, France: CIRAD.

Ministry of Agriculture and Livestock and Central Statistical Office (MAL/CSO). 2001 to 2012. Crop Forecast Survey Data. Lusaka, Zambia: MAL/CSO.

Schoneveld, George. 2014. The Geographic and Sectoral Patterns of Large-scale Farmland Investments in Sub-Saharan Africa. *Food Policy* 47, in press.

Young, A. 1999. Is there Really Spare Land? A Critique of Estimates of Available Cultivable Land in Developing Countries. *Environment, Development, and Sustainability* 1: 3 –18.

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