

## 02 Policybrief Improving efficiency of maize seed production in eastern and southern Africa



Various obstacles have hampered seed production in eastern and southern Africa (ESA). A 2007 sub-Saharan African seed sector survey explores these barriers as well as possible strategies to overcome them and increase regional seed company productivity.

There is simply not enough seed in eastern and southern Africa. Despite two decades of seed sector reform including restructuring, an increase in private seed companies, and liberalization—which though successful has not been implemented in all countries—the region is still unable to supply enough seed to meet demand. Mozambique is one example. Seed companies here produce an average of 230 tons a year, which does not come close to covering what is needed. Assuming the seed companies continue to operate at their current productivity levels, Mozambique would need 115 additional companies just to close the gap between supply and demand.

Yet increasing the number of seed companies is not the ideal solution: increasing the productivity of existing companies is. If these ESA companies increased their average annual production by at least 2,000 tons, the number of new seed companies needed would decrease by 70%. In Mozambique, this means that only 14 additional seed companies would be needed. However, increasing the productivity of seed companies in ESA faces three main constraints: a lack of access to suitable germplasm, difficult technical conditions, and a lack of production credit. To achieve an adequate seed supply, these barriers must be overcome.

### Seed production constraints

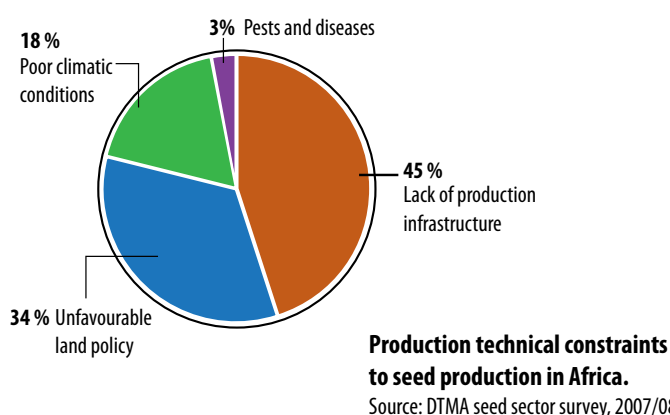
The purpose of a seed company is to produce and market certified seed—seed that meets a country's standards for genetic purity—while earning a profit. And in order to survive in an increasingly competitive seed market, these companies must ensure the germplasm they use to produce the seed complements the agricultural ecology of its target areas. This germplasm typically comes from national agricultural research organizations, yet over 80% of seed companies complain that it is difficult to access these resources. This lack of germplasm hinders the ability of many companies to successfully market seed.

Additionally, there are technical constraints such as poor production infrastructure, unfavorable land policies, poor climatic conditions, and field pests and diseases. During seed multiplication there are specific drought-risk problems for crops in rainfed conditions, while in high-rainfall areas there are problems due to inadequate seed drying facilities. Technical problems are also associated with insufficient isolation distances between plots, which can put genetic purity and seed quality at risk.

Because maintaining breeding lines and financing seed production and processing is very expensive, it typically requires credit lines. However, a number of ESA seed companies lack both funds and sufficient credit because many traditional lending institutions are reluctant to provide credit for agricultural activities, including seed production.

## Solutions to productivity constraints

One of the first steps toward overcoming these problems and increasing seed productivity is for national agricultural research organizations and centers within the Consultative Group on International Agricultural Research (CGIAR) to improve their germplasm distribution policies, both in transparency and promotion. Seed companies should then seek out this available germplasm if they do not already have access to it, and be open to cross-licensing. Governments also play a role by facilitating a faster bidding processes for public germplasm. In areas where foundation seed production is still centralized (such as Angola, Ethiopia, and Tanzania) governments should embrace widely accepted liberalization policies to allow private sector competition.



### Estimated productivity levels of seed companies in 2006/07

Region/country	Maize OPVs sold	Hybrids maize sold	Average Production of all improved seed per company (tons) <sup>1</sup>	Additional number of seed companies needed to meet shortfall <sup>2</sup>
	Quantity (x 1,000 tons)	Quantity (x 1,000 tons)		
<b>Eastern Africa</b>	<b>10.5</b>	<b>41.8</b>	<b>1,412</b>	<b>78</b>
Ethiopia	1.8	6.1	1,131	30
Kenya	1.7	26.3	2,545	4
Tanzania	3.7	7.3	844	63
Uganda	3.2	2.2	898	12
<b>Southern Africa</b>	<b>10.6</b>	<b>38.3</b>	<b>1,357</b>	<b>62</b>
Angola	0.8	0.2	328	56
Malawi	2.4	2.5	1,219	25
Mozambique	3.1	0.2	235	115
Zambia	0.5	9.7	1,699	2
Zimbabwe	2.2	25.9	3,122	2
<b>Total/average</b>	<b>21.0</b>	<b>80.1</b>	<b>1,385</b>	<b>140</b>

Note: <sup>1</sup> Estimates made based on total number of registered seed companies in the country.

<sup>2</sup> Assuming that seed companies operate at current productivity levels.

Sources: DTMA seed sector survey, 2007/08

To avoid risks associated with drought and other adverse climatic conditions, seed companies need to invest in select geographical areas that are suitable for seed production. Governments can assist this process by facilitating access to suitable land. Emphasis also needs to be placed on training and education, since poor seed crop management can lead to huge losses. Building up the number and qualification of a country's contract growers through public and private partnerships and regular in-service training on good seed crop management practices would be beneficial.

And finally, access to affordable inputs needs to be explored, including appropriate funding. As such, registered seed growers should be considered for smart subsidies and production credit. This would enable the production of good quality seed at a low cost that can subsequently be sold to farmers at affordable prices. Non-traditional financiers, such as development partners interested in supporting rural development through soft loans, should be identified. With credit facilities, inputs for seed production and processing could be pre-financed to enhance seed production and distribution. Additionally, appropriate insurance systems can provide protection from drought, fluctuating grain prices, unfavorable government policies, and thus improve seed company productivity.

The seed sector survey can be accessed at <http://www.cimmyt.org/gis/rfseedsafrica/>

## References

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### Drought-Tolerant Maize for Africa (DTMA) Project

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