Unlocking pre-basic bean seed supply bottlenecks through mutually beneficial public-private sector partnerships in Malawi and Zimbabwe

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INTRODUCTION

Common bean is a widely cultivated and consumed pulse crop in both Malawi and Zimbabwe. Market opportunities are frustrated lack quality grain despite prolific release of improved varieties. Similar to most other countries, the production of certified seed is liberalized, but early generation seed still remains a preserve of the public sector. However, the public sector is often inadequately resourced to produce sufficient early generation seed (EGS) and this has bottleneck effect on certified seed and grain production. This results in delayed use of newly released varieties and/or shortage of improved bean seed on the market. This paper presents possible solutions to the EGS challenge.

METHODS: MUTUALLY BENEFICIAL EGS PRODUCTION

Since 2013, public research institutions and private seed companies in Malawi and Zimbabwe resolved to jointly produce bean breeders' and pre-basic seed of new bean varieties on cost-sharing scheme. In Malawi, the Department of Agricultural Research Services (DARS) and Exagris Africa Limited each contribute to meeting costs of seed production on well equipped farms owned by the latter. The costs include seed, land preparation, fertilizer and technical support visits as spelt out in a Memorandum of Understanding. After harvesting, partners share seed based on respective contribution to financing expenses. This translates into a sharing ratio of 3:1 between the seed company and the public institution respectively.

In Zimbabwe, parastatals and private seed companies licensed by the Crop Breeding Institute (CBI) to multiply and market bean varieties pay royalties of 2.5% of gross annual seed sales to CBI. Instead of cash, some parastatals pay royalties in agricultural inputs. Recently, then GRM International, which set up Zimbabwe Super Seeds (ZSS) financially supported CBI to produce breeders' seed of specific bean varieties to ensure ZSS would source breeders' seed from CBI

Figure 1: Breeders' seed production field at DR&SS Harare Research Station and Exagris (right)

RESULTS & DISCUSSIONS

In Zimbabwe, the payment of royalties in cash and inputs enabled CBI to produce breeders' seed during the rainy season and off-season under irrigation.

Within one calendar year of the intervention in 2013, pre-basic seed production of new bean varieties increased tremendously in both countries; up to 10-fold at DARS and from 1.3 t to 9.7 t at CBI (Figure 2), a clear indication that EGS production is constrained by limited resources. Due to an outbreak of halo blight in 2014, volume of seed was severely reduced to 5.3 t at CBI. Under the cost sharing schemes, seed companies gained access to the often elusive EGS for stocks for downstream production of certified seed while public institutions meet more demands from the private sector

While these cost-sharing schemes have shown potential for quick turnaround in bulking up EGS, there is need for investing in capacity building for seed companies to handle EGS.

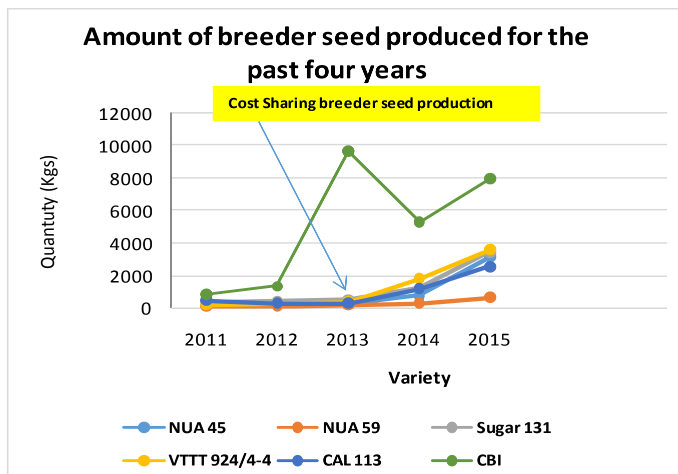

Figure 2: Quantities of breeders' seed produced over the last 5 years

CONCLUSION S AND RECOMMENDATIONS

- Early identification of private sector partners ready for commercialization is critical in availing EGS, but the private sector is now leaning towards exclusive licensing for varieties of choice.
- Cost-sharing on EGS production proved to be a quick fix to a long term problem, and presenting a win-win scenario, it is an in-built incentive for parties involved. However, there is need for further long term studies on sustainability of EGS production by the private sector

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