



Researching Soils, Crops and
Water in Zambia

AGRICULTURAL PRODUCTIVITY PROGRAMME FOR SOUTHERN AFRICA (APPSA)

SCALING UP SMALLHOLDER SOYBEAN PRODUCTIVITY IN ZAMBIA

Soybean has the potential to transform rural livelihoods due to several utilization options both at household and community levels. The crop offers a variety of potential benefits to the production systems, diets, and incomes of smallholder producers. Soybean can be grown as a cash crop owing to the growing demand for the crop in the livestock and oil processing industries in the country. At the same time the crop is a cheap source of vegetable protein and oil when processed, households can also process it into feed for their poultry and livestock. Despite these advantages soybean yields among smallholder farmers remain low ($0.5 - 0.9 \text{ T ha}^{-1}$) estimated at about 30% of the potential yield; this is not withstanding the availability of high yielding varieties on the market, improved production technologies, and ready markets for the crop.

Through partnerships with the Department of Agriculture and other players, the World Bank funded Agricultural Productivity Programme for Southern Africa (APPSA) has supported smallholder farmers with necessary information and technologies to transform the way they grow their soybean in order to increase farm yields and income. In collaboration with the Department of Agriculture under Extension Services the project mobilised lead farmers to host demonstration plots showcasing improved soybean production technologies. Thirty two (32) Camp Extension Officers were trained on farmer and site selection, demonstration layout, installation and management at the start of the 2014/15 season. One hundred and ninety two (192) lead farmers were identified to host the demonstrations and to each work with 3 farmer groups with an average membership of 20 farmers per group. Side by side demonstrations showcasing **Lukanga** (an improved soybean variety) and improved management technologies were planted in 32 camps in eight Districts (Chibombo, Chikankata, Chipata, Choma, Kabwe, Katete, Monze, and Mumbwa) across three provinces (Central, Eastern, and Southern). The demonstrations were established to create awareness among smallholders on the available improved production technologies for soybean and thus increase their soybean productivity. The technologies demonstrated included use of improved varieties, use of inoculant, fertilizer application, and crop rotation. The aim was to show that use of improved soybean production technologies increases yields.

Fourteen (14) field days were held across the participating districts where farmers interacted with different stakeholders and shared knowledge and experiences. About 10,800 smallholder farmers were exposed to improved soybean production technologies while 1,100 households were sensitized through field days.

One of the project beneficiaries - Costwell Chisowa a lead farmer in Mwachisompola Camp of Chibombo district had never grown soybean in his life. After participating in the demonstrations and seeing the benefits of using inoculant he indicated that he plans to put a larger area under soybean production in the next cropping season. Damiano Daka a lead farmer in Chisitu Camp of Chipata district has increased his area under soybean to over 2 hectares after seeing the good crop performance. Elizabeth Phiri, a female lead farmer in Kalichero camp of Chipata district hosted a very successful field day where she shared her knowledge and observations on improved soybean production with 193



Lead farmer Mr Costwell Chisowa (in a black waistcoat) hosting a field day

farmers (142 females). She was overjoyed by the opportunity to engage the crowd with her discussion around what she had learnt and observed regarding good soybean production practices. Overall, there is a growing interest and awareness on the importance of using inoculant and improved seed among the smallholder farmers in the project areas, who have taken up the technology. With this change in the way farmers grow their soybean, huge increases in yields and income are expected.

Some of the key lessons learnt were that (a) more work is required to link smallholders to input and output markets through either bulking centres or warehousing schemes and agro-dealer development at community level, (b) smallholder farmers need training in agribusiness principles as well as linkages to financial institutions to access credit, (c) there is need to strengthen partnerships at implementation level with other stakeholders targeting the same farmers to avoid duplication or conflicting messages, (d) timely distribution of inputs and training of lead farmers is essential to successful establishment of demos and (e) regular field visits and engaging with farmers and extension staff is important for driving home the dissemination of information to smallholder farmers.

For more about the success story please contact Ndashe Philemon Kapulu, the Principal Investigator for the project at the Zambia Agriculture Research Institute (Ndashe.Kapulu@agriculture.gov.zm/ndacho81@gmail.com).