

Role of Regional Networks in Accelerating NARS to Identify Client-Oriented Bean Varieties: The Case of Southern D R Congo

Bean is an important crop in southern D R Congo where it is commonly consumed as a protein supplement in the maize/cassava based diets of many people in the rural as well as urban areas. In addition, as a relatively high value legume crop, it contributes considerably to income earnings at household level as well as among bean traders. The crop is mainly produced by smallholder farmers whose yields are often very low, less than 500 kg ha⁻¹. The poor crop productivity at smallholder farmer level is due to various production constraints, both biotic (diseases (root rots, anthracnose, rust, angular leaf spot (ALS), bean common mosaic virus (BCMV) and common bacterial blight (CBB)) insect pests (bean stem maggot (BSM), ootheca, pod borers, aphids and bruchids) and abiotic stresses (drought, low N, low P and low pH). Research has shown that when improved bean varieties are used, which are resistant to major diseases, pest and important biotic stresses, farmers can realise up to 3 times (1,500 kg ha⁻¹).



Figure 1: A bean crop grown at Kisanga Research Station – near Lubumbashi

History of bean research

The national bean program (NBP) research activities at Institut National pour l'Etude et la Recherche Agronomiques (INERA)-Kipopo in southern Democratic Republic of Congo (D R Congo), started before the civil war, in 1985. The focus was at developing improved bean production technologies, to overcome the major bean production constraints. However, little progress had been made from 1985-95, partly due to the civil strife from 1996-2001, resulting in the destruction of the research facilities including germplasm at INERA-Kipopo.

Demand for bean-based technologies –post war period

As the civil strife eased off (2001) the United Nations (UN) agencies and international non-governmental organizations (NGOs), which were involved in relief supplies to the displaced communities, began to resettle communities and shifted their efforts to development programmes. Agriculture became a primary focus, distributing seeds of important crops to farmers, facilitating them to rebuild their livelihoods. Among the important crops was bean, and the NBP INERA-Kipopo was targeted as a source of improved bean production technologies, including seed of popular bean varieties. However, the institute did not have the capacity and the strategy was to team up with the University of Lubumbashi, Faculty of Crop Sciences, focusing on purification of the existing popular bean varieties like D6 Kenya, released earlier in 1988.

Benefits of linking with regional networks

By 2002, the southern D R Congo (NBP INERA–Kipopo) started to work directly with the Southern Africa Bean Research Network (SABRN), joining 9 other countries within the SADC region. The Research agenda of the NBP INERA–Kipopo became oriented to SABRN frame work. This link has been very beneficial for NBP INERA–Kipopo, as in a period of only 4 years the NBP has had access to a wide range of bean germplasm, over 560 lines, previously developed by the International Centre for Tropical Agriculture (CIAT) and other PABRA member countries for resistance to various production constraints. In addition the NBP also benefited from experiences generated in other countries in the region to accelerate evaluation of bean varieties on-station parallel to participatory variety selection (PVS) with stakeholders (farmers/traders) so as to generate agronomic as well as sociological data required for variety release. Already there are 4 client oriented bean varieties that have been identified for release. This translates into huge savings in terms of costs and time, as it is estimated that it takes approximately 10 years to develop and release an acceptable new bean variety.

Catalyzing impact pathways through partnerships

The network approaches for accelerating wider impact with bean based technologies in Africa encourage NARS to team up with key stakeholders in agriculture, nutrition and health. These are key partners with extensive structures for diffusing varieties and bean management practices to reach poor farmers. Realising the levels of complementarities possible through partnerships, the NBP INERA-Kipopo have strengthened existing relationships with the university and proactively sought 20 additional partnerships that comprise of UN agencies, international/local NGOs, church based organisations, CBOs, farmers' associations, the private sector and government seed and extension services. This team has adopted a mutually developed participatory monitoring & evaluation operation framework, which outlines agreed short, medium and long term goals including mutually agreed performance indicators for verifying realised results. Most of these organisations use their own resources to mobilize farmers, and leverage the limited NBP financial and human resources. These partners were key in mobilizing farmers/traders in the selection of the 4 client-oriented bean varieties (XAN 76 DOR 715, DB 196 and CIM 9314) and 15 others are in pre-release stage. They have also produced 783 kg and 500 kg of foundation seed of the released and pre-released varieties respectively in 2006. In addition 12 metric tones of an old variety (D6 Kenya) were made available to the communities. It is estimated that approximately 3,000 farmers had access to seed of these new and old bean varieties in 2006 alone.



Figure 2: Partners in a participatory planning session

Changes in perceptions

Various partner organisations now look up to the NBP for technical expertise and training in bean seed production, participatory monitoring and evaluation, seed delivery mechanism, bean pest and disease management and other technical assistance on bean production. The NBP approaches of linking with SABRN and proactively seeking complementary alliances with partners are models of successful contributions to enhanced food security and income in Southern D R Congo. As such donors supporting the government, as well as those that support the SABRN, international and local NGOs consider this approach to have generated good experiences which can be shared and recommended to other institutions - “This is a classic example of achieving a lot with very little – *the value of nets that work*”.

Realizing the value of PM&E, some NGOs like BDD have now institutionalized PM&E in their work programmes at national level, while others like WVI have adapted or added a section of participatory approaches to their existing M&E Department.

Farmers’ comments in Lumata

Since we started working in partnership with NBP INERA-Kipopo, we have gained confidence to plan, implement and manage experimentation with bean-based technologies on our own. As such the NGOs could now consider us a real partner - a situation which was not possible before we started working in partnership with NBP INERA-Kipopo.