

Disseminating Improved Bean Production Management Practices and Technologies and Strengthening Marketing Capabilities



Mazur R¹, Ugen M², Bwambale N³, Sebuwufu G¹, Nakimbugwe D⁴
¹Iowa State Univ., ²National Crops Resources Research Institute,
³Volunteer Efforts for Development Concerns, ⁴Makerere University
 contact: rmazur@iastate.edu



Project Builds on & Contributes to Sustainable Livelihoods Approach

Purpose

- Sustainable livelihoods approach for asset based community development (ABCD)
- Understanding and building on strengths to address prioritized local issues
- Asset building to enhance resilience and reduce vulnerability and risks of innovation
- Project responds to identified needs for increased production; secure storage of harvest; improved diet/nutrition; increased income through collective marketing

Enhancing Assets/Capitals

- *Human* – train/support volunteer community agriculture & nutrition/health workers
- *Social* – strengthen farmer groups as recognized, registered organizations
- *Natural* – improved varieties, nutrient-dense & nitrogen-fixing crops, compost manure
- *Physical/Built* – training & resource centers, sanitation facilities, safe water sources
- *Financial* – increasing income levels and sources, savings, access to microfinance
- *Cultural* – strengthening family structures with improved food security and incomes
- *Political* – learning/action platforms for value chain stakeholders, policy advocacy



Improving Harvested Bean Yield and Quality

- Participatory on-farm evaluations of farmers' preferred variety and NaCRRRI bred varieties – engages farmers in research to fit local environment, beneficiaries' needs and preferences (agronomic and consumption characteristics).
- Germination test of seed at home (two 100-seed batches) before planting ensures that most/all seed planted will germinate in the field. This facilitates efficient use of good seed, predicting yield, planning marketing, etc. Recommend: beans with germination below 80% are not be planted or sold as seed, but eaten or sold as food grain.
- Using improved varieties (Certified Seed or Quality Approved Seed) and good cultural practices (rotation, trap cropping, intercropping) makes early identification of pests and diseases easier and reduces losses, resulting in vigorous plant growth, and higher yields.
- Timely planting & proper spacing (50 cm x 10 cm or 25 cm x 20 cm) increase access to nutrients, and facilitate weeding, pest/disease identification, and harvesting.



Supporting Community-Based Seed Production by Farmers Groups

Purpose

- Sustainable access to quality seed of improved varieties that farmers test & select
- Foster viable local agriculture-based enterprises for income earning
- Use Certified seed, producing Quality Approved Seed for dissemination
- Mentor seed producing groups in marketing (price info., negotiation, contract adherence)

Approach/Method

- Train and support of six farmer groups to produce/distribute quality improved seed

Implications/Impact

- Multiplication gardens and project farmers' fields are reliable seed source
- Train new groups, each ½ acre demo. garden, disseminate quality seed and methods
- Researching most effective materials, media and format for training & extension
- 850+ more farmers grow improved varieties, crop mgmt. practices & technologies

Promoting Improved Post-Harvest Handling & Storage

Drying & Threshing – reduce seed/grain damage, breakage, loss

- Using clean tarpaulins or plastic sheets/mats
- Gentle application of small sticks in threshing
- Testing to ensure optimum moisture content (12-14%) reduces risk of storage pests, pathogens

Storage in Airtight Containers kills any live bruchids, preserves the quality and quantity of beans, and eliminates the need for periodic re-sunning of beans. Jerrycans (10 & 20 litre) for small quantities, and triple bagging (up to 100 kg) for large quantities. Properly stored beans can be kept up to six months.

Solar Treatment (2 hours) of beans kills bruchids, larvae and eggs before storage, eliminates need for bi-weekly re-sunning.



Strengthening Farmers' Roles and Success in Value Chain Development

Purpose - Improve farmers' understanding of market price variation (among traders, markets, seasons), enhance their ability to manage harvested grain to obtain increased prices through loss-minimizing storage, negotiation skills, and coordination of collective marketing.

Approach/Method - Assessment of farmer groups and associations interests, capabilities, needs → facilitating establishment and nurturing of bean value chain stakeholders forum in Kamuli.

Results to Date

- CRSP project team developed 'Invitation for Bids' to purchase two varieties from project farmers for scaling up to new farmers and groups
- Created two page negotiated contract for all 6 groups
- Purchasing several tons from CRSP project farmers
- Mentor and support for value chain stakeholders forum



Acknowledgement: USAID, Dry Grain Pulses CRSP, Iowa State University