Project overview

Beans are important in terms of nutrition, food security and household income. They are among the most consumed crops with per capita consumption of 50-60 kg per person per year in the East African region. Beans have increasingly become a modern and market oriented crop.
However, though important, the processing of the bean crop is still limited and yet there are a number of opportunities for value addition and this was observed as the main area that this project would contribute towards adding value through processing beans into precooked beans.
Precooked beans offer attractive opportunities for increased production, improved food and nutrition security and economic growth for small holder farmers and consumers in the region.

The project will be implemented as a partnership of National Agricultural Research Organization (NARO) – National Crops Resources Research Institute (NaCRRI), Uganda; Kenya Agricultural & Livestock Research Organization (KALRO) – Katumani Research Centre, Kenya; International Centre for Tropical Agriculture (CIAT) – Nairobi, Kenya, Lasting Solutions (LS) – Kampala, Uganda; Smart Logistics Solutions (SLS) – Nairobi, Kenya; Community Enterprises Development Organization (CEDO) – Rakai, Uganda. Other key actors that will be key in the project were noted as Farmer groups/Associations/Organizations/Federations; Private sector (Traders, transporters), NGOs, CBOs, Church Organizations and the central and Local Government and Universities.

The overall objective of the project is;

"To increase the use of pre-cooked beans for improved food and nutrition security, income generation and conservation of natural resources in Kenya and Uganda".

And the specific objectives as;

- To develop and evaluate affordable pre-cooked bean products targeting different consumer groups
- To test models for increasing the production and supply of bean varieties suitable for processing into pre-cooked beans
- To assess demand, identify promotion mechanisms and widely promote the consumption of precooked beans for different consumer groups
- To analyze and mainstream gender in the precooked bean value chain
- To test and assess different formal and informal uptake mechanisms and inform food and nutrition policies in the region

Immediate results expected are;

- Varieties suitable for precooking with high nutrient contents
- Business case models
- Precooked bean products
- Scientific information
- Multi-stakeholder bean innovation platforms

Key development outcomes from the project will be;

- Increased bean production at household level
- Increased employment with the emergence of agro-enterprises at various stages of the value chain - production, grading, bulking, packaging, transportation, and marketing especially for women and youth
- Increased income and more equitable distribution of income at household level
- Increased consumption of beans by households in rural, urban and peri=urban areas
- A reduction in women's time and in fuel wood energy use in cooking beans
- Increased women and youth economic empowerment

VARIETIES FOR PRECOOKING

NABE 4



- Released 1999
- Bush
- Medium-sized kidney shaped seed
- Attractive red mottled seed colour
- Fairly high yield potential 2000- 2500 kg/ha
- 80-90 days to maturity
- Ranked 6 in proteins
- 23.01% m/m proteins, 1090 Calcium 72 iron 0.02 selenium mg/kg, and 4.1g/100g sugar
- Tasty and swells on cooking
- Cooks fairly fast
- Best suited for low-mid altitude area
- Resistant to CBB, ALS

NABE 6



- Released 1999
- Bush
- Small-sized seed and oval shaped
- White seed colour
- Fairly high yield potential 2000- 2500 kg/ha
- 85-90 days to maturity
- Ranked 4 in proteins
- 23.87%m/m protein, 1100 calcium 72.5 iron 0.32 selenium mg/kg, and 3.42g/100g sugar
- Cooks fairly fast
- Best suited for low-mid altitude area
- Canning quality
- Drought tolerant

NABE 14



- Released 2006
- Bush type
- Large seeded and kidney shaped
- Bright light red in colour
- High yield (1500-2500 kg/ha)
- Mature in 80-90 days
- Ranked 5 in proteins
- 23.59% protein m/m, 2770 calcium 142 iron 0.02 selenium mg/kg, and 2.99g/100g sugar
- Vigorous growth habits
- Tolerant to bean root rot disease
- Tolerant to low soil fertility
- Market class

NABE 17



- Released 2012
- Bush type
- Red and dirty white mottles in colour
- Market class quality
- Ranked 3 in proteins
- 24.05% proteins m/m, 1920 calcium 95.8 iron 0.02 selenium mg/kg, 4.29g/100g sugar
- Medium seeded and oval shaped
- Maturity (58-75 days)
- Yield (2000-2500 kg/ha)
- Tolerant to anthracnose , BCMV, ALS, and other diseases

NABE 19



- Released 2012
- Bush type (indeterminate bush)
- Red mottled in colour
- Market class quality
- Ranked 11 in Proteins
- 21.94% proteins m/m, 2790 calcium 144 iron 0.4 selenium mg/kg, 3.73g/100g sugar
- Medium seeded and kidney shaped
- Maturity (61-70 days)
- Yield (2000-2500 kg/ha)
- Resistant to anthracnose , BCMV, ALS, and tolerant most of other diseases

NABE 21



- Released 2012
- Bush type
- Dirty yellow with red tan mottles in colour
- Medium oval shaped seed
- Market class quality (Kanyebwa type)
- Ranked 2 in proteins
- 24.87% proteins m/m, 1570 calcium 81.4 iron 0.64 selenium mg/kg, 3.39g/100g sugar
- Maturity (58-70 days)
- Yield (1500-2000 kg/ha)
- Tolerant to anthracnose, BCMV, ALS, and most of other diseases

NABE 23



- Released 2012
- Bush type (determinate bush)
- Market Class (Kanyebwa type)
- Large seeded and kidney shaped
- Dark tan and dirty red stripes
- Maturity (64-75 days)
- Yield (2000-2500 kg/ha)
- Ranked 1 in proteins
- 25.05% m/m proteins, 1100 calcium 72.7 iron 0.12 selenium mg/kg, 2.93g/100g sugar
- Tolerant to anthracnose, BCMV, ALS, root rots and most of other diseases

KAT B1



- Released in Kenya
- Market class
- Medium seeded and oval shaped
- Yellow in colour
- Maturity 65 days
- Ranked 8 in proteins
- 22.66% m/m proteins, 1200 calcium 231 iron 0.3 selenium mg/kg, and 3.81g/100g sugar
- Drought and heat tolerant
- Cooks fast, swells when cooked and is tasty

KAT B9



- Released in Kenya
- Market class
- Medium seeded and oval shaped
- Maroon in colour
- Maturity 65 days
- Ranked 9 in proteins
- 22.28% m/m proteins, 1570 calcium 82.1 iron 0.1 selenium mg/kg, and 3.85g/100g sugar
- Drought and heat tolerant
- cook fast, swell when cooked and is tasty

RWR 2154



- Released in Rwanda
- Large seeded with cuboid shape
- Cream with purple speckles
- Maturity (65-70 days)
- Yield (1500-2000 kg/ha)
- Ranked 7 in proteins
- 22.89% m/m proteins, 1410 calcium 50.4 iron 0.5 selenium mg/kg and 3.18g/100g sugar
- Market class

OTHER NAMULONGEBEAN VARIETIES

NABE 1



- Released 1995
- Bush
- Medium-sized seed
- Attractive seed colour
- Fairly high yield potential 1000- 1500 kg/ha
- 80-90 days to maturity
- Tasty and swells on cooking
- Cooks fairly fast
- Best suited for low-mid altitude area
- Spacing 50 x 10 cm
- Market class
- Susceptible to multiples constraints

NABE 2



- Released 1995
- Only black bean so far released
- Bush
- Small-sized seeded
- High yield potential 2000- 2500 kg/ha
- 85-90 days to maturity
- Best suited for low-mid altitude area
- Spacing 50 x 10 cm
- Preferred majorly in northern Uganda
- Drought tolerant
- Resistant BCMV

NABE 3



- Released 1995
- Bush
- Small-sized seed
- High yield potential 2000- 2500 kg/ha
- 85-90 days to maturity
- Best suited for low-mid altitude area
- Spacing 50 x 10 cm
- Resistant BCMV

NABE 5



- Released 1999
- Bush
- Medium-sized seed
- Sugar bean
- White/red speckled
- Fairly high yield potential 2000- 2500 kg/ha
- 80-90 days to maturity
- Tasty and swells on cooking
- Cooks fairly fast
- Best suited for low-mid altitude area
- Spacing 50 x 10 cm
- Market class
- Resistant to CBB, ALS

NABE 7C



- Released 1999
- Climber
- Small seeded
- High yield potential 2500- 3500 kg/ha
- 90-110 days to maturity
- Best suited for Medium-high altitude area
- Spacing 50 x 20 cm
- Resistant to root rots

NABE 8C



- Released 1999
- Climber
- Large seeded
- Attractive seed colour
- Fairly high yield potential 2500- 3500 kg/ha
- 90-110 days to maturity
- Best suited for low-mid altitude area
- Spacing 50 x 20 cm
- Market class

NABE 9C



- Released 1999
- Bush
- Large seeded
- Sugar bean
- White/black speckled
- Fairly high yield potential 2500- 3500 kg/ha
- 90-115 days to maturity
- Best suited for High altitude area
- Spacing 50 x 20 cm

NABE 10C



- Released 1999
- Climber
- Small-sized seed
- red seed
- High yield potential 2500- 4000 kg/ha
- 90-110 days to maturity
- Best suited for mid-high altitude area
- Spacing 50 x 20 cm
- Resistant to anthracnose

NABE 11



- Released 2003
- Bush
- Large seeded
- Sugar bean
- Fairly high yield potential 1000- 1500 kg/ha
- 80-90 days to maturity
- Cooks fairly fast
- Best suited for low-mid altitude area
- Spacing 50 x 10 cm
- Resistant to CBB, ALS

NABE 12C



- Released 2003
- Climber
- Large seeded
- Attractive cream with purple speckles colour
- High yield potential 2500-3500 kg/ha
- Average 33 pods per plant
- 90-110 days to maturity
- Tasty and swells on cooking
- Large attractive fresh pods
- Cooks fast
- Conducive for mid-high altitude area (cool environments)
- Spacing 60 x 20 cm
- Market class

NABE 13



- Released 2006
- Attractive red colour
- Require mid- high altitude regions for proper colour dev't
- Large seeded
- High yield (1500-2500 kg/ha)
- Vigorous growth habits
- Tolerant to bean root rot disease
- Tolerant to low soil fertility
- Market class
- Spacing 50 x 10 cm
- Mature in 80-90 days

NABE 15



- Released 2010
- Bush type
- Medium seeded
- Market class
- Early maturity (60-70 days)
- Tolerant to bean anthracnose
- Suitable for all regions
- Tasty and swells on cooking
- High yield (1800-2000 kg/ha)

NABE 16



- Released 2010
- Bush type
- Medium seeded
- Market class
- Early maturity (65-75 days)
- Tolerant to bean anthracnose
- Suitable for all regions
- Tasty and swells on cooking
- High yield (2000-2500 kg/ha)

NABE 18



- Released 2012
- Bush type
- Large seeded (49.3 g/100 seeds)
- Dark seed colour preferred in northern Uganda (Purple mottled)
- Maturity (63-78 days)
- Yield (2000-2500 kg/ha)
- Resistant to anthracnose BC
- MV, ALS & tolerant to Root rot diseases

NABE 20



- Released 2012
- Market class quality (Kanyebwa type)
- Medium seeded (41 g/100 seeds)
- Maturity (58-70 days)
- Yield (1600-2200 kg/ha)
- Bush type (indeterminate bush)
- Tolerant to anthracnose, BCMV, ALS, and most of other diseases

NABE 22



- Released 2012
- Northern Uganda Market
- Medium seeded (42 g/100 seeds)
- Maturity (58-70 days)
- Yield (1500-2000 kg/ha)
- Bush type (determinate bush)
- Resistant to anthracnose, BCMV, ALS, and tolerant to root rots and most of other disease