

## Project Summary

Title	Selection for Pod Quality and Multiple Disease Resistance in Bush and Climbing Snap Beans
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Purpose	This project seeks to contribute to development and competitiveness of snap bean products in regional and international export markets.

Project Summary	<p>Snap bean ('French bean'), is a strain of common bean, <i>Phaseolus vulgaris</i> L. which is grown as a cash crop by large scale and smallholder farmers. More than 90% of the crop produced in eastern Africa is exported to regional and international markets. Production is dominated by bush types. Climbing types which are generally more productive and have a longer harvest period compared with bush types, could be expected to be of particular interest to smallholder farmers wishing to intensify returns to use of family labour. However, suitable varieties for eastern Africa have yet to be developed. The aim of this project is to select and evaluate bush and climbing snap bean with multiple disease resistance to rust, angular leaf spot and anthracnose, the most devastating diseases of snap bean in eastern Africa, and market preferred pod traits and high yield potential. The lines will be selected from 97 F<sub>5</sub> populations derived from 31 crosses between diverse and well known sources of resistance to these diseases, and susceptible commercial varieties. The populations were developed at the University of Nairobi. Selection will be conducted following artificial inoculation in the greenhouse. Resistant F<sub>6</sub> lines will be evaluated for marketable pod traits, harvest frequency and pod yield at three sites (Kabete, Mwea and Ol Jorok) using participatory variety selection methods with farmers, exporters, traders, consumers and exporters. Promising lines will be distributed for further evaluation by national bean programs through the East and Central Africa Bean Research Network (ECABREN). Funds requested will support research for two graduate students. One student will focus on selection of bush snap beans. Second student will focus on climbing types. Climbing snap types have higher yield potential but no suitable varieties have been developed for this region. This research will contribute to RUFORUM's business plan through increased productivity, sustainable resource use and strengthening innovation capacities of communities and knowledge generation.</p>
Country and Specific Location(s)	Kabete, Mwea and Ol Jorok, Kenya
Participating Institutions	University of Nairobi Catholic Diocese of Murang'a KARI-Thika
Start Date	September, 2012
End date	August, 2014
Amount of Funding	US\$ 59,900

