Version II of The Atlas of the Common Bean in Africa

Rachel Muthoni Andriatsitohaina (CIAT), Andrew Farrow (GeAgrofía), Moses Ojara (NaCCRI -Uganda)

Introduction

The Bean atlas is a comprehensive map of the bean growing areas in Africa (Wortmann C, 1998). The first version was first published in 1998 in a paper format. PABRA has been developing the second edition, this new edition contains information from major bean producing areas in Eastern, Southern and Western Africa and represents a total of 23 countries. Upon release, this new version will be available online as well as on paper format.

Methodology

A Delphi method (e.g. Di Zio and Pacinelli, 2011) of consensus building with experts from 23 countries was used to review existing administrative and production maps, secondary and primary data on country production statistics. Over 150 different themes are included in the atlas including: bean cropping systems, utilization, markets, seed systems and constraints. ArcGIS geographical information software was used to convert simple maps into raster images and vector polygons, spatial data compiled. 176 Major Bean Production Areas identified, assigned into African Bean Environments according to the statistical overlap between the datasets. Triangulation aimed at cross validating data as well as capturing different dimensions of the same observations using a variety of other data and documented scientific work known to CIAT PABRA and regional scientists.

Some of the Results

Bean area in Africa

4.6 million hectares of common bean grown in Africa.

Eastern African highlands: 35% of the total production area.

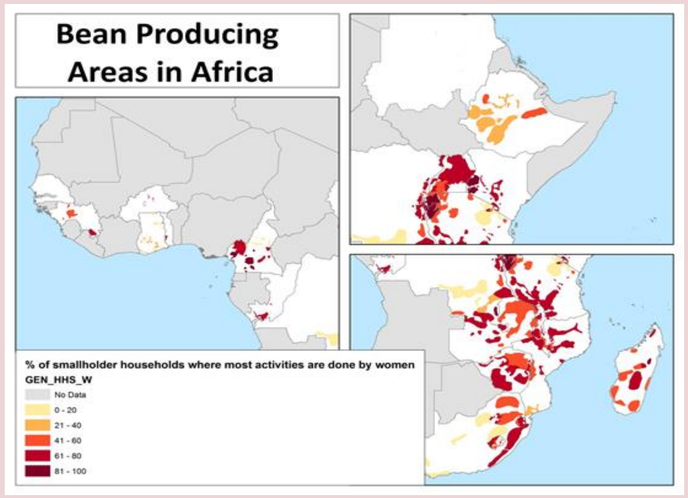
Southern Africa mid-altitude regions: 22% of total production area

West African lowlands: 7.4 % of total production area

Sub-region	Bean Area ('000 ha)			
	Total	Bush beans	Semi-climbing	Climbing beans
East Africa	3,332	2,207	608	516
Southern Africa	894	423	239	174
West Africa	338	148	78	112
Total	**4,564**	**2,779**	**924**	**802**

Farm size

The average size of farms for smallholder bean producers in Africa is less than one hectare, with the largest average farm size of 5 ha in Sudan and South Africa and the smallest (0.1 ha) in Madagascar.

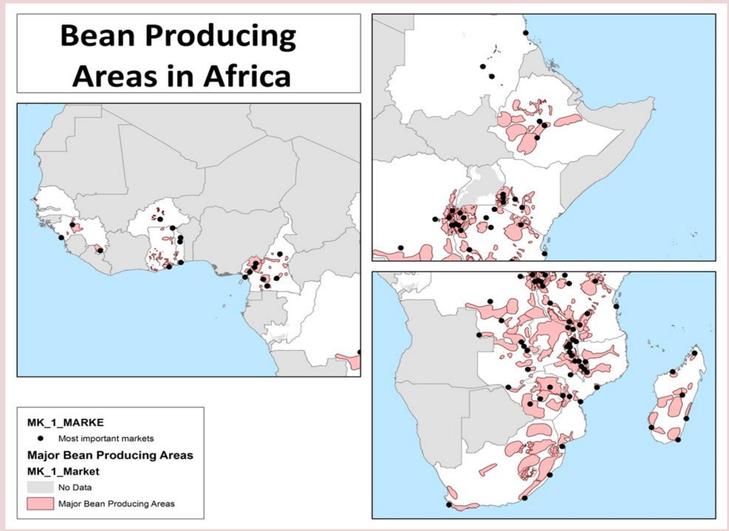


Percentage of household where most bean production and marketing activities are conducted by women

Bean commercialization

In regions where beans are a staple moderate levels of commercialization averaging 40-50% of the production are recorded. In regions where beans are not a staple, relatively higher levels of bean commercialization ranging from 49% in Cameroon for dry beans to almost 100% in Senegal for snap/green beans were recorded.

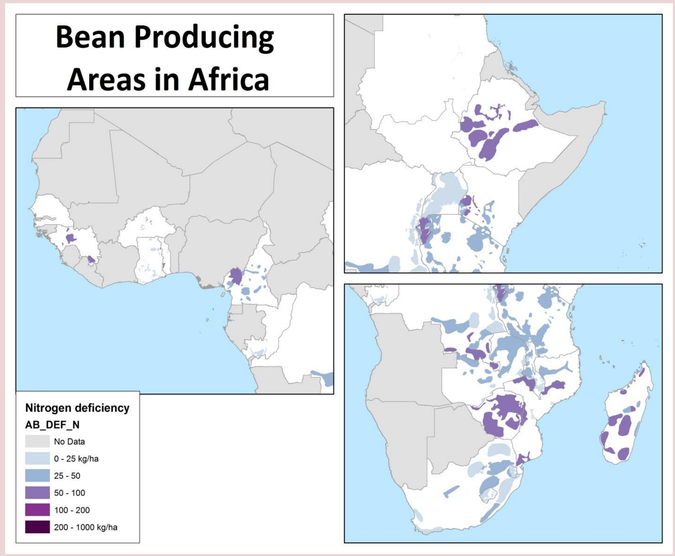
Regions	% of production marketed	% of production sold in the local/national markets	% of production sold to regional and international markets
Eastern Africa	56	43.5	12.2
West and Central Africa	74	54.1	19.8
Southern Africa	62	56.1	5.5



Most Important Markets for Beans

Major Constraints to Bean Production in sub Saharan Africa

Constraint	Importance
Drought	+++
Heat	++
N deficiency	+++
P deficiency	+++
Acid soil toxicities (Al, Mn)	+



Nitrogen deficiency across bean growing areas

Expected Impact

The Knowledge, data and information generated informs targeting processes as well as perspectives and justification for ongoing research.

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Contacts: r.muthoni@cgiar.org; andrewfarrow72@gmail.com