



## **POLICY BOTTLENECKS THAT CONSTRAIN THE WORK OF PAN-AFRICA BEAN RESEARCH ALLIANCE (PABRA)**

**A Consultancy Report for the period September, 2011-March, 2012**

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**Cover Picture:** *From left, Red Wolaita, Awash Melka and a range of other Phaseolus vulgaris bean types grown in Ethiopia.*

### **Acronyms and Abbreviations**

ARD	Agriculture and Rural Development policy of the EAC
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
AU	African Union
CAADP	Comprehensive Africa Agriculture Development Program
CIAT	Centro Internacional de Agricultura Tropical.
COMESA	Common Market for Eastern and Southern Africa
DRC	Democratic Republic of Congo
EAC	East African Community
EASCOM	East African Seed Committee
ECABREN	Eastern and Central Africa Bean Research Network
ECAPAPA	Eastern and Central Africa Program for Agriculture Policy Analysis
ECX	Ethiopian Commodity Exchange
FANR	Food, Agriculture and Natural Resources
FANRPAN	Food, Agriculture and Natural Resources Policy Analysis Network
FOFIFA	The National Research Organisation in Madagascar
MSIRI	Mauritius Sugar Industry Research Institute
NBRP	National Bean Research Program
NEPAD	New Partnership for Africa's Development
NPT	National Performance Trials
OAU	Organisation of African Unity
PABRA	Pan-Africa Bean Research Alliance
R&D	Research and Development
RECs	Regional Economic Communities
SABREN	Southern Africa Bean Research Network
SADC	Sothern Africa Development Community
SSSN	SADC Seed Security Network

WASA West African Seed Association.  
WECABREN West and Central Africa Bean Research Network

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### **Executive Summary**

This is a report of the consultancy study meant to contribute to the development and promotion of the tools to influence policy formulation that positively impacts on the bean sector of at least 10 PABRA countries. Specifically the consultancy aimed to identify key policy bottlenecks in each region of Africa for each of the 5 areas of project focus (the enhancement of resilience to environmental stresses, NRM, nutrition and health, market and gender) that hinder the achievement of PABRA's objectives, to identify PABRA's limitations, strengths and opportunities that constrain/facilitate her to intervene in policy matters, to propose intervention strategies that will bring about expected policy outcomes for each region, and to develop indicators of policy change for each of the 3 regions. The study used extensive literature review, secondary data collection, and a survey of key informants who included national coordinators and representatives from PABRA member countries, partners, and PABRA outcome leaders.

The bottleneck that was found most constraining across the three networks was insufficient government financial support for agricultural research and specifically for variety release and certification. At the same time beans do not seem to rank highly among priority food security crops, particularly for SABREN countries. This is reflected in the policy documents where no specific mention is made of beans as a national crop while in some (Tanzania, Swaziland and Zambia) a nutrition policy does not exist at all. The second bottleneck that was found equally constraining across the three networks was the high cost of inputs for farm production in almost all the countries. This raises the need for deliberate policy frameworks to encourage the use of the associated inputs and techniques so that farmers can realise the potential benefits of improved varieties. Variety release procedures were also found to be constraining particularly in ECABREN. At the same time, markets in ECABREN are constrained by the lack of market information systems, and absence of proper weights and standards in the grain market. There are country specific policy issues as well; the need for a policy to support the distribution of good quality seed by FOFIFA and her regional partners in Madagascar, in Ethiopia, the need to

increase the participation of small holder farmers in the ECX, and raising the profile of beans in Kenya and Tanzania. The following intervention strategies are being proposed;

- i) Consolidation and analysis of existing data on variables that can be used in negotiations with policy makers in order to raise the profile of beans in national policy documents, to formulate policies where they do not exist, and improve on existing policy documentation. Data could be analysed to show the impact that improved varieties have had on the incomes of men and women.
- ii) Conduct market studies to identify possible intervention areas in price policy, to improve seed and grain marketing, regional trade, and flow of market information.
- iii) Conduct other studies with a view of collecting and analyzing data on variables that do not exist in PABRA documents but would be useful in negotiations with policy makers to raise the profile of beans at national level, and lobbying for increased financial support.
- iv) Development of policy briefs summarizing key policy issues for engagement with policy makers. Initially policy briefs will be developed targeted at raising the profile of beans at the national level of selected countries per network, improved financial support for agriculture in general and seed technology development specifically, seed/grain markets and trade.
- v) Regional and country level fora such as workshops, symposia to engage stakeholders and policy makers on the identified issues.

## 1. Introduction

Common bean (*Phaseolus vulgaris* L.) has evolved rapidly in Africa and is steadily transforming from a traditional subsistence to a market-oriented crop, with major impacts on household incomes, food and nutritional security, and national economies (Buruchara *et al*, 2011). It is a grain legume grown on more than four million hectares annually in Africa. It provides dietary protein for over 100 million people in rural and poor urban communities, with an annual per *capita* bean consumption in Eastern Africa (50 -60 kg) being the highest in the world (ISAR, 2011). However, these benefits are yet to be felt in many parts of the continent because of multiple constraints that limit bean productivity. The bean-linked public research sector in Africa has also been continuously plagued by a number of issues including inadequate government funding, low numbers of scientific staff, and high turnover of skilled staff due to low professional incentives. In addition, acute events such as war, civil strife, droughts/floods, and political instability have also hindered ongoing bean research for prolonged periods.

PABRA is a consortium of African-owned regional bean networks, an international research organisation [Centro Internacional de Agricultura Tropical (CIAT)] and the donors supporting the Alliance. The three networks that make up PABRA, the Eastern and Central Africa Bean Research Network (ECABREN), the Southern Africa Bean Research Network (SABRN) and the West and Central Africa Bean Research Network (WECABREN), have a combined membership of 29 national bean programmes. The networks are autonomous and are managed by regionally-recruited coordinators who respond to their respective sub-regional organisation - the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), the Southern Africa Development Community's Food, Agriculture and Natural Resources Unit (SADC/FANR) and the West and Central African Council for Agricultural Research and Development (CORAF/WECARD), which provide policy and oversight.

PABRA aims to contribute towards the goal of improved nutrition and health, food security, a resilient production system that is able to recover rapidly from the adverse effects of environmental stresses and market challenges and therefore contribute sustainably to better livelihoods and incomes of resource poor small-holder families in eastern, central, southern and western Africa. This is being achieved through research on beans; developing and disseminating

technologies that enhance food security, nutrition, income generation and mitigate environmental and natural resource degradations. PABRA operates with 5 major objectives:

- i) to develop strategies and technologies that enhance resilience to environmental stresses and improve productivity and product quality,
- ii) to improve food nutrition security and health of vulnerable communities,
- iii) to link farmers to equitable and sustainable markets,
- iv) to develop and implement strategies to reach 16.5 million households and other end users in the target areas with bean based technologies,
- v) to build the capacity of PABRA partners in knowledge management, policy and advocacy.

This is a report of the consultancy work that was carried out between September, 2011 and March, 2012 with the overall objective to contribute to the development and promotion of the tools to influence policy formulation that positively impacts on the bean sector (variety release, seed systems, management of environmental stresses, better nutrition, markets and gender) of at least 10 PABRA countries.

The specific objectives of the consultancy were;

- i) to identify key policy bottlenecks in each region for each of the 5 areas of project focus (the enhancement of resilience to environmental stresses, NRM, nutrition and health, market and gender) that hinder the achievement of PABRA objectives,
- ii) to identify PABRA's limitations, strengths and opportunities that constrain/facilitate her to intervene,
- iii) to propose intervention strategies to bring about expected policy outcomes for each region, for each of the 5 areas,
- iv) to develop indicators of policy change for each of the 3 regions.

## **1.2 Methods and Activities**

The study used extensive literature review, secondary data collection, and a survey of key informants who included national coordinators and representatives from PABRA member countries, partners, and PABRA outcome leaders. Literature was reviewed to gain sufficient background around issues of bean research, the selected identified bottlenecks from interactions



with respondents, country specific policy documents and various studies. The main purpose of having interviews with key informants was to obtain their individual impressions of the policy issues constraining PABRA's work particularly at national level, and possible solutions. Group discussions were held with the outcome leaders in Ouagadougou, Burkina Faso, and in Kawanda, Uganda, with the main objective to identify the policy issues per outcome area.

## **2.0 Regional Economic Communities and the policy environment**

The wider agricultural policy environment at the continental (AU-NEPAD CAADP) and regional (RECs) levels provides the context to which the national policies of the different countries are aligned. Recent developments in this policy environment are worth noting as they aimed at easing some of the bottlenecks identified at country level. Countries however are at different stages and have different capacities of implementing these provisions.

### **The NEPAD**

The New Partnership for Africa's Development (NEPAD) was endorsed by OAU Heads of State and government with the vision to promote African-led accelerated growth and sustainable development, eradication of poverty and food insecurity. These goals were to be pursued along a number of development issues and sectors. Recognising that agriculture is the main stay of most African economies, NEPAD took the lead in highlighting the critical role that agriculture must play in successful efforts to reduce food insecurity and poverty. The specific agenda for agricultural development was then endorsed as the Comprehensive Africa Agriculture Development Programme (CAADP) in the AU Maputo Declaration, June 2003, in Mozambique. CAADP is a common framework, reflected in a set of key principles and targets, to guide country strategies and investment programmes; stimulate and support policy dialogue and review, organisational and capacity development, regional peer learning, private sector engagement and agriculture related entrepreneurship development and growth; and facilitate greater alignment and harmonisation of efforts of development partners, international and local institutions, knowledge centres and think-tank institutions (NEPAD, 2010).

CAADP is continental in scope, and an integral part of national efforts to realise accelerated agricultural sector growth and related socio-economic development. CAADP translates the NEPAD vision into an operational framework to guide agriculture-led development. CAADP's overall goal is to improve livelihoods, food security, and environmental resilience in Africa's

largely agrarian economies. CAADP's specific objective is to support country-driven agricultural development strategies and programmes by establishing clear commitment to deliver on specific targets, including investing 10% of national budgets in the agricultural sector and achieving a 6% growth in agricultural domestic product, promoting analyses of growth options and strategies by key stakeholders, leading to consensus around a national plan of action for agricultural development, enhancing systemic planning and implementation capacities, taking advantage of best practices and analyses of past successes and failures among others. Given the complex array of challenges facing the African agricultural sector, CAADP sets out an approach that clusters analytical issues and interventions under the four 'pillars' one of which is ; Improving agricultural research and systems to disseminate appropriate new technologies and increasing the support given to help farmers adopt them; the principal issues include technology development, access and dissemination, innovation systems, platforms, and building research capacity and training.

There are core institutions that are involved in the CAADP implementation process, each with its own roles and responsibilities, and acting at three different levels; the country level implementation teams, regional economic communities (RECs), and networks that provide technical expertise and know-how related to the CAADP pillars. In particular the RECs are mandated to facilitate the country and regional processes. Their main roles and responsibilities include driving the CAADP agenda at the regional level (mainly the trans boundary priorities), and supporting countries to come up with regional priorities, facilitating links and sharing experience with other teams to enhance the competence of the process design among others. The following RECs are constituted by PABRA member countries.

### **The East African Community (EAC)**

The treaty that established the EAC<sup>1</sup> was signed by the Heads of State in 1999 in Arusha, Tanzania with the main thrust to widen and deepen cooperation in productive sectors which consist of agriculture, fisheries and food security among others, as well as cooperation in fields that are political, social, cultural, research and technology, legal, judicial and others (EAC secretariat, 2006). The Agriculture and Rural Development

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<sup>1</sup>The partner states of the EAC are Uganda, Kenya, Tanzania, Rwanda and Burundi. See also Figure 1.

Policy of the EAC (ARD-EAC) that was later developed in 2006 recognizes that although the economies of the partner states heavily depend on agriculture for growth and development, the majority of the people in the region are food insecure, and there is a growing challenge of expanding crop production in the face of increasing land subdivision due to population increase. The policy in its various statements therefore has the overall objective to achieve food security and rational agricultural production, providing a pillar for a shared regional vision for sustainable development.

Among the issues that constrained food and crop production in the region prior to the development of the policy, apart from land subdivision, was the lack of good quality seed in sufficient quantity. One of the factors contributing to this was that the seed policies, laws, regulations, and procedures in each country were costly to meet. These high costs, coupled with relatively low effective demand, made it unprofitable for either local or international seed companies to make the investments required to provide the quantity, quality and variety of seed needed to support an expanding agricultural base in the region (Minde and Waithaka, 2006). The regulations and policies existing then in the countries were established when most plant breeding and formal seed production were in the hands of the public sector. Variety release procedures had been designed to meet the needs of public research institutes and seed certification was focused on public or parastatal seed enterprises (ECAPAPA 2002). Each country developed its own seed regulatory regime, criteria, procedures for variety testing and approval, which were lengthy and constituted a significant barrier to seed production and inhibited the spread of new varieties beyond national boundaries. This led to delays in release and often rejection of useful varieties that did not meet national criteria. Phyto sanitary regulations also hampered seed trade.

There was effort in the region to create an enabling policy environment for seed production and trade and to improve national seed systems. For example the ECAPAPA project of the Association for Strengthening Agricultural Research in Eastern and Southern Africa (ASARECA)<sup>2</sup> on rationalization and harmonization of seed policies and regulations in eastern Africa was established in 1999, which led to the establishment of the East African Seed Committee (EASCOM) in 2001. EASCOM has since then been responsible for the review of seed policies, laws and regulations; strengthening of national seed and plant breeder associations;

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<sup>2</sup> The partner states of the EAC are members of ASARECA.

operationalization of harmonized agreements among others. The ASARECA-ECAPAPA project has made progress in the areas of variety release, seed certification, phytosanitary controls among others (Tripp, 2005) albeit being slow. For example the enactment of legislation (Seed Act) that accounts for harmonization agreements has been achieved in all the 5 countries; Burundi (Seed Act 2009), Kenya (Seed Bill revised in 2010 and draft Plant Act 2008, Rwanda (Seed Act 2003), Tanzania (Seed Act 2003), and Uganda (Seed and Plant Act 2006). The Seed Act implementing regulations have been finalized in 3 of the 5 countries; Kenya (NPT Regulations 2009), Tanzania (Seeds Regulations 2007), and the Uganda draft Seeds Regulations of 2010 to implement the Seed and Plant Act of 2006. Work is still in progress in Rwanda and Burundi (Waithaka *et al*, 2011).

Although the ARD-EAC was later developed to provide regional mandate for the harmonization of different policies, regulations and procedures, the countries of the EAC still face challenges with variety release procedures, seed and other related agriculture policies because ASARECA does not have a political mechanism of its own. ASARECA needs to pursue a legal framework for the approval and endorsement of the seed policy harmonisation agreement by nesting it within existing political processes of the EAC or COMESA where the partner states have membership (Waithaka *et al*, 2011). Another challenge that remains for the EAC is to fast track the enactment of various seed policy bills into laws and to improve the capacity for the implementation of agreements and performance of national and regional seed systems.

### **The Common Market for Eastern and Southern Africa (COMESA)**

The COMESA is a regional grouping of 21 African states established to promote intraregional trade. The COMESA<sup>3</sup> was set up in 1994 to replace the Preferential Trade Area (PTA) which had been in existence since 1982. It is currently the largest regional trade bloc on the African continent, representing a potential market of around 380 million people.

In 2010, COMESA adopted a programme aimed at harmonising seed policy for COMESA member countries. The agreement was put in place and approved by the COMESA Council of

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<sup>3</sup> The 21 COMESA member countries are Angola, Burundi, Comoros, D.R.Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Sudan, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe. See Figure 1.

Ministers in 2011. The overall objective or purpose of the COMESA Variety Release System is to encourage investment in seed business in the COMESA Member States, increase access to new and existing varieties in the COMESA Member States, and to stimulate the breeding and availability of increased seed varieties resulting in increased variety choices for all farmers (COMESA, 2011). The objective of a Regional Seed Certification System is to encourage the use of consistently high quality seed in Common Market for Eastern and Southern Africa (COMESA) countries and to ensure farmer access to high quality seed. The purpose of the harmonization on phytosanitary measures for seed in the COMESA region is to facilitate the safe movement of seed within the Member States, in a transparent manner and without dissemination of any pest of quarantine importance. Although these arrangements are provided for in the harmonization agreement, it is worth noting that countries still have to domesticate the agreements in their national instruments and mechanisms. Moving the regional agreement to practice will require addressing issues related to capacities and performance of the national and regional seed systems at various levels (COMESA, 2011).

#### **The Southern Africa Development Community (SADC)**

The SADC<sup>4</sup> was established in 1992 by the heads of state with the determination to ensure, through common action, the progress and well-being of the people of Southern Africa, to alleviate poverty, with the ultimate objective of its eradication, through deeper regional integration, sustainable economic growth and development, and to meet the challenges of globalization. In pursuance of these objectives, the SADC undertakes to harmonise the political and socio-economic policies and plans of Member States among other things. SADC operates with four directorates among which is the Food, Agriculture and Natural Resources (FANR) Directorate.

The main function of the FANR Directorate is the coordination and harmonization of agricultural policies and programmes in the SADC region, with the main focus to ensure food availability, access, safety and nutritional value; disaster preparedness for food security; equitable and

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<sup>4</sup> Members of the SADC are Angola, Botswana, DRC, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe.

sustainable use of the environment and natural resources among others. In particular, the Crop Development Unit of the FANR Directorate is responsible for coordinating, monitoring and facilitating crop development activities. The Unit runs the SADC Seed Security Network (SSSN) whose purpose is to improve access and availability of seed. One of its major achievements has been the development of the SADC common systems for variety release, seed certification and sanitary and phytosanitary.

One of the major impediments to the attainment of food security in the SADC region has been the lack of good quality seed. The Region's seed systems are weak and do not deliver seed in an effective manner particularly to small-scale farmers, while disasters such as droughts, floods, cyclones and conflicts have become cyclic and have further worsened the seed insecurity situation of small farmers. The movement of seed from one SADC member state to another continues to be a problem because of barriers brought about by various pieces of seed legislation. As a result, sourcing of seed by countries with deficits from those with surpluses within the SADC region is hampered by diverse and fragmented seed legislations. This situation has not been in the best interest of securing food security. Due to the diversity of national regulatory systems in the countries, farmers in the SADC have often been seed insecure, seed markets are segregated, small, and difficult to access. In each country a new variety must go through lengthy variety testing and release procedures before seed can be marketed. Seed companies are compelled to select only a few countries for release which denies or delays farmers' access to new products. Variations in national standards for seed certification and quality control, and in quarantine and phytosanitary measures for seed, complicate the trading of seed between countries and cause difficulties for the efficient movement of emergency seed consignments. As a result of the above, new as well as existing seed entrepreneurs are discouraged from investing in the market. Furthermore, seed prices are not subject to efficient competition and farmers' choices remain limited (SADC secretariat, 2008).

SADC Seed Security Network was established in 2001 as a project within the Food, Agriculture and Natural Resources (FANR) Directorate to contribute to improved food security through increased seed security and better disaster preparedness in the SADC Region. In order to address these problems, the FANR Directorate of the SADC Secretariat, through the SSSN initiated the formulation of the harmonization of seed regulations. The purpose of the harmonization was to

integrate smaller and isolated national seed markets into one larger Southern African Development Community (SADC) market for seed. This, in turn, will promote the entry of new improved varieties in the region and ease the movement of quality seed from countries with surplus to countries in need of seed. Three Harmonization Systems were formulated and completed in 2005; the SADC Variety Release System, the SADC Seed Certification and Quality Assurance System and the SADC Quarantine and Phytosanitary Measures for Seed. The SSSN continues to coordinate and facilitate the system. (SADC secretariat, 2008)

The Memorandum of Understanding (MoU) for the implementation of the SADC Harmonized Seed Regulatory System was signed by all ministers of the SADC in Nov, 2010 thereby ratifying the three protocols and turning it into a legal document. Unfortunately, the ratification of the MoU alone did not mean that the Protocols could be implemented immediately. The biggest restraint was that there was no central office, such as the previous SADC Seed Security Network, that could co-ordinate the implementation of Protocols and administer the Regional Variety Release Catalogue. At the time of writing this report, no clear indication was available when this would be established. Furthermore, all of the SADC Countries still needed to amend their legislation, or develop new legislation for those countries that had no seed legislation in place, in order to make provision for the Protocols. This was expected to take some time to accomplish (SANSOR, 2010). full implementation of all the harmonization systems would take time to accomplish, but all concerned were of the view that it would significantly ease the movement of seed in the region when it eventually did materialize.

The Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) is a multi-stakeholder, multi-national policy network that supports the development and implementation of better food, agriculture and natural resources (FANR) policies in Southern Africa. Its members include universities, research institutes, the business sector, farmer groups and other civil society organisations that have a stake in FANR policies. The member countries of FANRPAN are all members of the SADC.

## **ECOWAS**

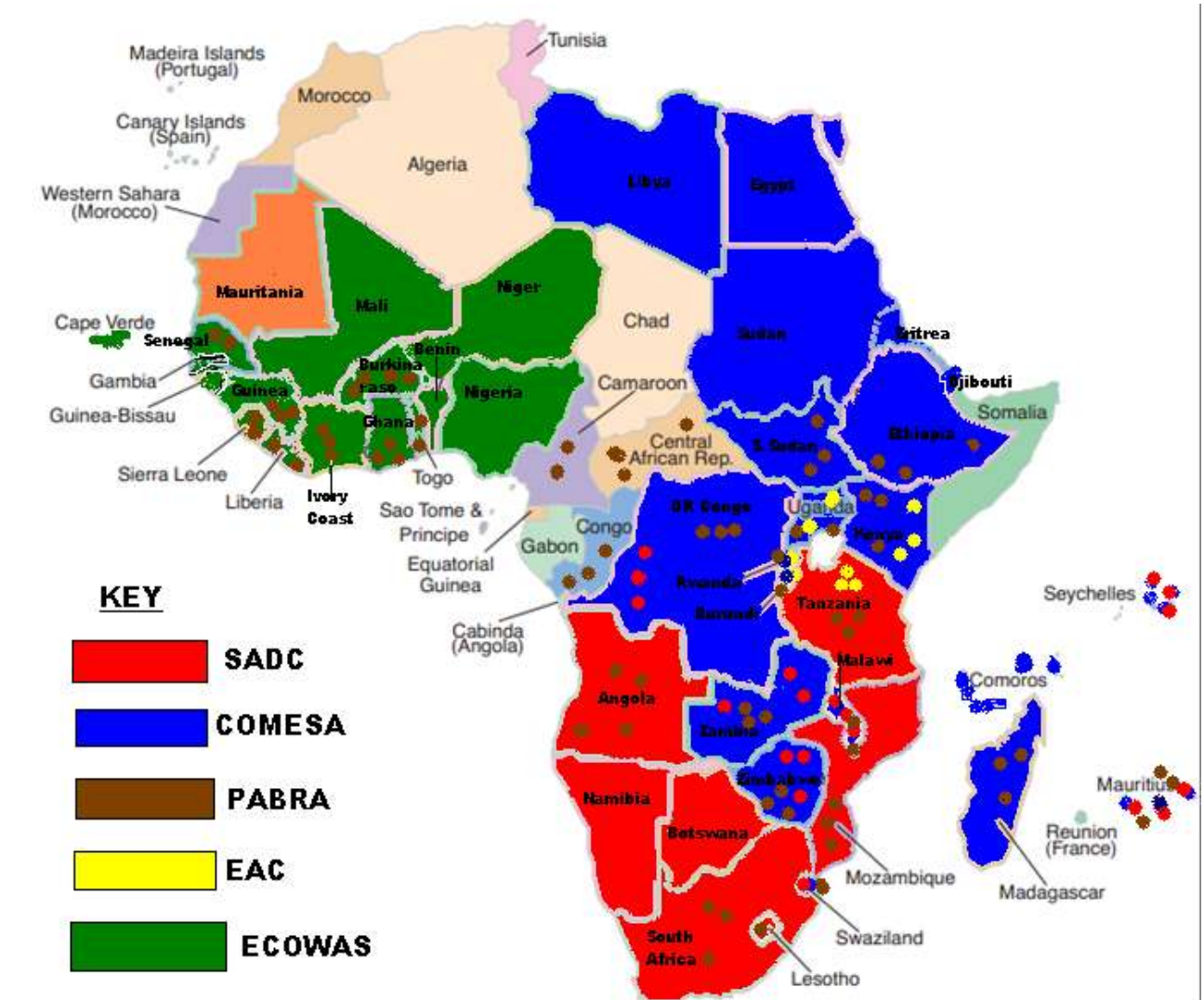
The Economic Community of West African States (ECOWAS) is comprised of 17 countries (Figure 1). The ECOWAS agricultural policy (ECOWAP) defines for all ECOWAS member

countries the vision and objectives of West Africa in terms of agricultural development. The ECOWAP is articulated around three complementary axes of intervention, namely (1) Improvement of the productivity and competitiveness of agriculture, (2) Implementation of the intra-community trade regime, and (3) Adaptation of the external trade regime according to the specific circumstances of the agricultural sector. Since seeds are one of the most important agricultural inputs whose commercialization had been impeded by unreasonable regulations both at national and sub-regional levels, the need arose for the harmonization of the national seed regulatory frameworks among the member countries after the adoption of the policy.

Unlike in Southern and Eastern Africa, the process of harmonization of seed legislation and regulations in West Africa has been lagging behind. National and sub regional networks and institutions have collaborated on developing new varieties for decades, but seed legislation and regulations had not yet been discussed for a long time. The low level of private sector involvement in the seed sector in West Africa and the predominance of the informal sector may explain this lack of interest in harmonization. However, new developments have taken place. In recent years, the harmonization of seed rules and regulations has been a major area of FAO's work to achieve seed security. Harmonized seed regulatory frameworks have been developed in the 17 countries of ECOWAS. In 2008, the countries approved a common variety release system, common seed certification standards and accreditation, and later a quarantine pest list based on science and export-import manuals. The obstacles that still exist for the harmonization process in West Africa include among others; the absence of IPR so that, researchers, including those from the public sector, have little incentive to introduce new technologies, long periods of time spent by researchers in testing a new variety before it can be registered or released, and little collaboration between legislators, researchers, customs officials and civil servants from the Ministry of Trade on harmonization issues.



**Figure 1: Map of Africa showing Regional Economic Communities and PABRA member countries**



### **3.0 Regional/Network Policy bottlenecks**

#### **3.1 ECABREN**

The major concern for individual respondents in ECABREN were the variety release requirements and procedures which were costly, long and restrictive. Yet access to sufficient quantities of quality seeds of improved bean varieties by farmers is still a major bottleneck in production (Buruchara *et al*, 2011; Katungi *et al*, 2009). It was pointed out that in order for a new variety to be released, it is recommended that it has a 15% yield advantage over existing varieties. Yet it is not easy to get a variety of beans with a 15% yield advantage. Furthermore many good materials have been produced with good nutritional attributes, resistance to multiple constraints, but with only 6% yield advantage. They reach the level of National Performance Trials (NPT) but cannot be released because of this requirement. If the requirements in several countries in a region could be reviewed and relaxed, this would have regional impact in terms of the availability of improved bean varieties. Eight countries of ECABREN participated in identifying the policy bottlenecks; DRC, Burundi, Kenya, Sudan, Rwanda, Tanzania, Uganda and Madagascar. All these countries also pointed out that they were experiencing limited funding for variety release, seed certification procedures and research. Madagascar was in addition experiencing limited support for extension services.

Over the years, ASARECA has made good progress in rationalizing and harmonizing seed policy in the region, resulting in the reduction of the length of the variety release period from three or more years to only two seasons (Waithaka *et al*, 2011). Individual countries in the region are at different stages of establishing and implementing the regulations; In Tanzania, variety release regulations were established in 2007, in Kenya they were established in 2009, while in Uganda and Burundi, draft regulations in place are yet to be enacted by parliament (Waithaka *et al*, 2011). PABRA member countries who are also members of ASARECA need to be made aware of this progress by ASARECA and to engage the policy makers to speed up the process of the implementation of the agreements. In Madagascar, FOFIFA, the national research organization, has in the recent past made effort to disseminate good quality seed to farmers. Regional partners have also been empowered to produce the seed to widen distribution. In order for this to be of effect in the country, the national research organization is advocating for a policy that farmers obtain the quality seed from FOFIFA and the recognized regional partners. The strategy in

Madagascar is similar to one that has been adopted by CIAT and National Bean Research Programs (NBRPs) to strengthen linkages between the formal and informal channels of seed multiplication and distribution, and to overcome the problem of seed availability and accessibility (Katungi *et al.*, 2009).

ECABREN country representatives reported the high cost of farm inputs as constraining the adoption of bean technologies and farm production. The countries that reported this as a serious problem were DRC, Burundi, Madagascar, Sudan and Tanzania. In the area of markets, an organized market information system was largely reported to be missing by respondents from DRC, Burundi, Madagascar, Sudan, and Tanzania. Specifically in Burundi, private sector participation in bean seed and grain marketing is limited which further constrains the availability of market information. In Kenya, the lack of formal marketing structures for beans constrains their marketing. The bulk of common bean trade, in Kenya as well as neighbouring countries such as Tanzania and Ethiopia, has been recognized as being through informal sector, characterised by non-standardisation of weights and measures. Small-scale traders dominate the rural markets gathering common bean from scattered small-scale producers to sell to larger scale urban-based traders. Farmers learn about market situation through traders, who withhold some information to protect their interests (Katungi *et al.*, 2011).

Further on markets, and specifically for Ethiopia, the Ethiopian Commodity Exchange (ECX) has listed some six crops to give market support in its activities. The crops include haricot beans but with emphasis on the white beans for export. Yet the small red bean is becoming more important both in the domestic and regional markets and is easily planted by the majority of small holder farmers. The proposed change by the national PABRA team was for the ECX to allow all bean market classes to be traded and supported by the exchange market to give an opportunity for the majority of the small scale farmers to participate in this organized market. The proposed change has now been considered by the authorities of the ECX but the issue of the required size and standards still remains a constraint to many small holders.

### **3.2 SABREN**

The countries of SABREN that participated in the study were eight; Democratic Republic of Congo (DRC), Lesotho, Malawi, Mauritius, Swaziland, Tanzania, Zambia and Zimbabwe. For these countries, policy formulation and documentation was itself identified as having a problem.

Although beans are recognized as an important household food security crop, this is not emphasized in most countries' agriculture and food policy documents. This was pointed out for Zambia, Zimbabwe, Malawi, and Mozambique. In a report by Flaherty, 2011, beans are also not among the major crop items that form the focus of a country's research priorities in a number of SADC countries. Among the countries in that study, Madagascar, Mauritius, South Africa, Tanzania, and Zambia are members of SABREN. Furthermore, respondents observe that institutional arrangements do not allow for creativity and innovation especially in the NARS. At the same time government has great control over radio and television and would need to be lobbied for space to air the relevant programs on beans.

SABREN countries, like WECABREN and ECABREN are equally constrained by limited financial support from government for key processes such as variety release, seed certification, research and the agricultural sector as a whole. Flaherty, 2011, also observes that total investment in public agricultural research and development (R&D) in the Southern African countries during 2001-08 grew on average at a lower rate than the comparable average of 2.4 percent for SSA as a whole.

**Table 1: Public agricultural R&D spending for selected SABREN countries, 2001-2008**

Country	Annual growth rate (2001-08)
Madagascar	4.3
Mauritius	-4.4
Mozambique	-2.3
South Africa	0.4
Tanzania	10.7
Zambia	-2.9
SSA total	2.4

**Source: Flaherty, 2011 (SABREN countries have been selected from the range that were considered in Flaherty, 2011).**

Mauritius and Zambia experienced negative annual growth of -4.4% and -2.9% respectively in public agricultural spending in R&D, while South Africa had a small positive rate of 0.4%. Although the respondents report limited financial support from their respective governments, the reasons for this also vary according from country to country. Flaherty, 2011 reports that in Zimbabwe, it was the country's economic decline since 2000 that has greatly reduced the amount of government funding directed towards agricultural research, while in Mozambique the country's agricultural R&D largely depends on unstable donor funding and reducing government support for agricultural research. In Mauritius, the decreased production and world prices of sugar since 2002 have been the major cause of reduced public investment levels since a tax on sugar exports funds the largest agricultural R&D agency, the Mauritius Sugar Industry Research Institute (MSIRI).

SABREN countries also observe that inputs for agricultural production including irrigation equipment, are very expensive. This was specifically pointed by Lesotho, Swaziland, Zimbabwe, and Zambia. In their contributions towards the formulation of a SADC Regional Agricultural Policy, the member countries identified priority areas that they felt the policy should address and the issue of expensive inputs was one of them (SADC, 2010). Swaziland in particular has a small population where economies of scale are perhaps a barrier to the local production of inputs. Madagascar and the DRC were additional countries that indicated the problem of expensive inputs in their contribution.

### **3.3 WECABREN**

Nine countries of WECABREN participated in this study; Burkina Faso (BF), Cameroon, Togo, Guinea Conakry (GC), Central African Republic (CAR), Mali, Senegal, Congo-Brazzaville, and Ghana. The key policy bottlenecks that were identified in this period for WECABREN, include limited government funding for research and seed certification as identified by respondents from Senegal, Burkina Faso, Cameroon, Central African Republic (CAR), Ghana, Togo and Mali. The same countries pointed out that prices for irrigation equipment and other farm inputs were very expensive for the producers. This was also true for Congo Brazzaville, while Guinea Conakry identified transport for the farm products as being expensive. The inequitable distribution of land affecting equitable access to farm land by gender was especially identified to be a serious

issue in Mali, Congo, Ghana, Togo and Burkina Faso. Table 2 below shows the identified issues and the respective rankings by the country representatives.

Policy Issue ( <i>Question de politique</i> )	Country indicating		
	Not very serious ( <i>pas très sérieux</i> )	Moderately serious ( <i>moyennement graves</i> )	Very serious ( <i>très graves</i> )
Government control over the seed systems( <i>Le contrôle du gouvernement sur les systèmes semenciers</i> )	Congo, Ghana, GC, (3)	Mali, BF, Cameroon, CAR, (4)	Senegal, Togo, (2)
High tax on bean seed imports ( <i>D'imposition élevés sur les importations de semences de haricot</i> )	Congo, Mali, BF, Cameroon, Ghana, GC, Togo (7)	CAR, (1)	Senegal, (1)
Nutrition Policy does not exist ( <i>Politique nutritionnelle n'existe pas</i> )	Mali, BF, GC,(3)	Congo, Cameroon, CAR, Ghana (4)	Senegal, Togo, (2)
Market Information system missing ( <i>le manque d'un système d'information sur le marché</i> )	Congo, Mali, Ghana, GC, (4)	Senegal, BF, Cameroon, CAR, Togo,(5)	(0)
Government monopoly on radio and TV ( <i>Monopole du gouvernement sur la radio et la télévision</i> )	Congo, BF, Mali, Senegal, Cameroon, Ghana, GC,(7)	CAR, Togo, (2)	(0)
Slow variety release procedures ( <i>L'homologation des semences est lent</i> )	Congo, Cameroon, CAR, GC,(4)	Mali, Senegal, BF, Ghana, Togo, (5)	(0)
Inequitable distribution of land ( <i>La distribution inéquitable des terres</i> )	Cameroon, GC, (2)	CAR, Senegal (2)	Congo, Mali BF, Ghana, Togo,(5)
Insufficient government funding for research and seed certification ( <i>manque des fonds public pour la recherche et les services de certification de semences</i> )	Congo, GC, (2)	Mali (1)	Senegal, BF, Cameroon, CAR, Ghana, Togo, (6)
Irrigation equipment and other farm inputs are very expensive and not easily accessible ( <i>Matériel d'irrigation et autres intrants agricoles sont très coûteux et pas facilement accessible</i> )	GC,(1)	Mali, BF, (2)	Congo, Senegal, Cameroon, CAR, Ghana, Togo, (6)
<b>Any other issue not listed above;</b> ( <i>toute autre question non énumérés ci-dessus</i> )  <i>Coût transport des produits</i>	GC,		

**Table 2: Ranking of Policy Issues in WECABREN**

The policy issues that were thought to be very serious in WECABREN were insufficient government funding for research and seed certification, and irrigation equipment and farm inputs being very expensive and inaccessible, which were both ranked as very serious by six (6) countries. 5 countries also ranked inequitable distribution of land as very serious. The lack of a market information system and slow variety release procedures were both ranked as moderately serious by 5 countries each.

According to the West African Seed Association (WASA), the use of improved varieties in West Africa is among the lowest in the world, despite the importance of agriculture (WASA, 2010). The seed sector is not well developed. For food crops, most farmers either use own-saved seed, or they may access seed from the informal market, which accounts for almost 90% of seed traded in the region. A ranking of problems at country level in 4 West African countries by WASA, 2010 also shows that in all the countries, seed production constraints ran first among the three

most important. The second most important constraint is a poor seed policy environment in Bénin and Mali, marketing in Ghana, and lack of organized institutions to handle seed distribution among farmers in Nigeria as shown in Table 3 below from WASA, 2010.

Table 3

**Ranking of three most important bottlenecks to seed deployment by country.**

Country	Production constraints	Seed policy environment	Marketing constraints	No organized institutions	Farm level demand
Bénin (n = 4)	1	2	–	–	–
Nigeria (n = 15)	1	3	–	2	–
Ghana (n = 14)	1	3	2	–	–
Mali (n = 6)	1	2	2	–	2
Number of times ranked 1 <sup>st</sup>	4	–	–	–	–
Number of times ranked 2 <sup>nd</sup>	–	2	2	1	1
Number of times ranked 3 <sup>rd</sup>	–	2	–	–	–

Note: – implies ranking does not apply, and rank 1 is the most important.  
Source: DTMA seed sector survey (2007/2008).

### 3.4 Summary of policy bottlenecks, proposed intervention strategies and indicators

**Table 4** below summarizes the identified policy bottlenecks in each network, the respective PABRA outcome area, proposed intervention and indicators of change.

Region	Policy Bottlenecks	Outcome Area	Intervention Strategies	Indicators
ECABREN	<ul style="list-style-type: none"> <li>Variety release requirements and procedures are costly, long and restrictive. <i>Kenya, DRC, Madagascar, Tanzania, Rwanda, Burundi.</i></li> <li>Quality seed production and distribution, <i>Madagascar</i></li> </ul>	Seed systems	<ul style="list-style-type: none"> <li>Meetings to sensitise PABRA members on current developments with seed systems policy in the region,</li> <li>Consolidation of available data and more studies on variables that can be used to negotiate with policy makers,</li> <li>Meetings with key stakeholders and policy makers to lobby for country specific measures to implement agreements,</li> </ul>	<ul style="list-style-type: none"> <li>No of meetings and sensitization workshops,</li> <li>No. of countries committing to implement certain agreements,</li> <li>No. of agreements implemented,</li> </ul>
	<ul style="list-style-type: none"> <li>Insufficient government funding <i>Kenya, Rwanda, Sudan, DRC, Burundi, Madagascar, Tanzania, Uganda</i></li> </ul>	Cross-cutting	<ul style="list-style-type: none"> <li>Consolidation of available data and more studies on variables that can be used to raise the profile of beans in national policy documents and negotiate with policy makers,</li> <li>Development of policy briefs and other material for lobbying policy makers,</li> <li>Sensitisation and lobbying policy makers in meetings and workshops,</li> </ul>	<ul style="list-style-type: none"> <li>No of studies</li> <li>No of policy briefs targeting specific issues,</li> <li>No. of meetings and workshops,</li> <li>No. of countries/institutions making commitments to improve funding,</li> </ul>
	<ul style="list-style-type: none"> <li>High cost of farm inputs, <i>DRC, Burundi, Madagascar, Sudan, Tanzania, Uganda, Kenya, Rwanda.</i></li> </ul>	Cross-cutting	<ul style="list-style-type: none"> <li>Studies to assess the impacts of alternative price policy instruments in selected countries,</li> </ul>	<ul style="list-style-type: none"> <li>No. of price policy studies,</li> <li>No. of policy instruments identified.</li> </ul>
	<p>Issues on markets eg.</p> <ul style="list-style-type: none"> <li>Market information system missing (<i>DRC, Burundi, Madagascar, Sudan, Tanzania, Kenya, Uganda</i>)</li> <li>Weights and measures (<i>Kenya and neighbouring countries</i>)</li> <li>ECX (<i>Ethiopia</i>)</li> </ul>	Markets	<ul style="list-style-type: none"> <li>Meetings and workshops with country stakeholders on MIS, weights and measures,</li> <li>Negotiations with the stakeholders and management of the ECX to enable more participation of the small-holder farmers,</li> <li>Market studies to improve seed and grain marketing, regional trade, and flow of information,</li> </ul>	<ul style="list-style-type: none"> <li>No. of workshops/meetings,</li> <li>No of studies/issues discussed,</li> <li>No of Restrictions revised in the ECX,</li> </ul>



<b>SABREN</b>	<ul style="list-style-type: none"> <li>Policy formulation and documentation (beans not emphasized in policy documents, nutrition policy does not exist etc.) <i>Swaziland, Tanzania, Zambia, Malawi, Zimbabwe, Mozambique.</i></li> </ul>	Cross-cutting (Nutrition, Gender, markets, seed systems)	<ul style="list-style-type: none"> <li>Consolidation of available data and more studies on variables that can be used to raise the profile of beans in national policy documents and negotiate with policy makers to formulate policies where they do not exist, improve on existing documentation,</li> <li>Development of policy briefs and other material for lobbying policy makers,</li> <li>Sensitisation and negotiations with policy makers in meetings and workshops</li> </ul>	<ul style="list-style-type: none"> <li>No of studies on specific issues,</li> <li>No of policy briefs developed,</li> <li>No. of workshops and meetings with policy makers,</li> <li>No. of countries formulating/revising policy documents</li> <li>No. of policy documents designed and revised.</li> </ul>
	<ul style="list-style-type: none"> <li>Limited financial support from government for research, variety release etc. <i>Lesotho, Swaziland, Tanzania, Zimbabwe, Malawi, Mauritius, Zambia.</i></li> </ul>	Cross-cutting (Nutrition, Gender, markets, seed systems)	<ul style="list-style-type: none"> <li>Same as with policy formulation above,</li> </ul>	<ul style="list-style-type: none"> <li>Same as with policy formulation above,</li> </ul>
	<ul style="list-style-type: none"> <li>Expensive inputs for farm production, <i>Lesotho, Swaziland, Zimbabwe, Zambia, Mauritius, Tanzania.</i></li> </ul>	Cross-cutting (Nutrition, Gender, markets, seed systems)	<ul style="list-style-type: none"> <li>Studies to identify possible intervention areas in price policy, and propose country specific policy instruments to influence input price or support farmers in input acquisition,</li> </ul>	<ul style="list-style-type: none"> <li>No. of studies on price policy,</li> <li>No. of countries studied,</li> <li>No. of policy instruments identified.</li> </ul>
<b>WECABREN</b>	<ul style="list-style-type: none"> <li>Insufficient government funding for research and seed certification, <i>Senegal, Burkina Faso, Cameroon, CAR, Ghana, Togo, Mali.</i></li> </ul>	Cross-cutting	<ul style="list-style-type: none"> <li>Studies on specific variables that can be used to lobby policy makers,</li> <li>Development of policy briefs</li> <li>Meetings and workshops to sensitise and lobby policy makers for improved financial support,</li> </ul>	<ul style="list-style-type: none"> <li>No. of workshops and meetings with policy makers,</li> <li>No of studies/policy briefs developed,</li> </ul>
	<ul style="list-style-type: none"> <li>Expensive inputs for farm production and irrigation, <i>Congo, Senegal, Cameroon, CAR, Ghana, Togo, Mali, Burkina Faso.</i></li> </ul>	Crossing-cutting	<ul style="list-style-type: none"> <li>Studies to identify possible intervention areas in price policy, and propose country specific policy instruments to influence input price or support farms in input acquisition,</li> </ul>	<ul style="list-style-type: none"> <li>No. of studies on price policy,</li> <li>No. of countries studied,</li> <li>No. of policy instruments identified.</li> </ul>

**Table 4: Summary of policy bottlenecks by network**

#### **4.0 SWOT analysis of PABRA**

The results of the SWOT were extracted from an analysis done by the ECABREN group at the Plant Breeders' workshop in October, 2011 in Lilongwe, Malawi supported by literature. The details of the SWOT are shown in the Annex. These results also have implications for PABRA's ability to intervene in the above policy matters, as discussed below.

##### **Strengths**

The major strengths that PABRA has that relate to policy intervention include good response to regional and local priorities and needs, efficient flow and utilization of germplasm across the NARS, and the possibility of exchange of improved materials which has the potential to accelerate the release of varieties across the NARS. PABRA is able to do this through partnerships which constitute the core of its operations. These include partnerships between and among CIAT and National Agricultural Research Systems (NARS), partnerships with actors all along the varied bean product value chains, and partnerships with technology end-users, including the poor and women (Buruchara *et al*, 2011). These strengths seem to provide good ground for enhanced variety release across a given region if the procedural and other policy constraints could be addressed. In addition, PABRA works with regional networks and in close collaboration with other regional for a working on policy issues, promotes publication and information exchange which would be vital for sharing policy related information across regions.

##### **Weaknesses**

The weaknesses of PABRA can be broadly categorized into two; those that relate to information availability or the lack of it, and those that relate to the roles and responsibilities of the partners. First related to information, ODI, 2006 points out in advocating for a policy change, that it is useful if there are documents that demonstrate that the desired change has been piloted and found to have value. In PABRA there are information gaps eg in the documentation of pedigrees, germplasm flows, and on gender aspects, poor information on the numbers and sex of farmers reached by interventions. It would therefore be difficult to provide evidence of the value of an intervention when certain important details have not been documented. Further the analysis shows that PABRA publications are few and communication of research findings among

countries and among partners is poor. This has the effect of constraining the visibility of PABRA's achievements as well as undermining her supporting evidence for policy change.

Secondly, it has been noted that some partners do not play their roles eg of passing on materials and information to other partners while in other cases, the roles and responsibilities of the partners are not clearly spelt out. This constrains the flow of information to stakeholders who would need to use it. In other cases still, roles of partners and stakeholders are clear but there is no flexibility in executing these roles, and lack of creativity and innovation especially by the NARS. This would be a big constraint since policy work requires creativity and innovation and being able to take advantage of situations as they present themselves.

### **Opportunities**

In many of the partner countries, policy makers are at present receptive to information that can guide policy formulation and reform. In this respect, PABRA is in position to influence policy in the areas of environmental management, better infrastructure eg roads and storage facilities, budget allocations and gender equity. Technically, 'beans' is a major crop with genetic diversity in almost all the operating countries. It has high consumption and usually termed as a women's crop. It is therefore likely to benefit more women, children and the disadvantaged. Beans as a crop has variation in its biotic and abiotic constraints and the different countries present various ecologies for screening for these constraints under natural conditions. Advanced technologies eg MAS and modern breeding methods such as biotechnology molecular breeding are available to raise PABRA's profile in bean research. In the area of markets, beans have diverse niche markets which are likely to trigger regional markets across countries.

### **Threats**

The major threat relating to policy work is that a lot of the data available is more than ten years old and therefore may not be appropriate to influence policy.

## **5.0 Conclusion**

The bottleneck that was found most constraining across the three networks was insufficient government financial support for agricultural research and specifically for variety release and certification. Although African states are urged by the CAADP to increase investment in their

agricultural sector to 10% of their national budgets, a number of them have not yet achieved this for various reasons ranging from economic reasons to strengthening internal security. Non the less with the *status quo*, beans do not seem to rank highly among priority food security crops, particularly for SABREN countries. This is reflected in the policy documents where no specific mention is made of beans as a national crop while in some (Tanzania, Swaziland and Zambia) a nutrition policy does not exist at all. The second bottleneck that was found equally constraining across the three networks was the high cost of inputs for farm production in almost all the countries. Given that the improved varieties of seed are more costly than the locally obtained seed, and are preferably used in association with other technologies such as fertilizers and irrigation in the drier areas, farmers find their adoption rather costly in spite of their nutritional and environmental stress resistance. There is need for deliberate policy frameworks to encourage the use of complementary improved integrated crop management (ICM) practices so that farmers can realise the potential benefits of improved varieties, as varieties alone will hardly make a big difference in crop productivity at farm level (Buruchara *et al*, 2011).

Variety release procedures were found most constraining in ECABREN. This is perhaps because in the SADC region a lot of progress has been made in the harmonization of seed policies across countries as well as their implementation. In ECABREN there has been progress on seed policy harmonization but little progress in implementation by the different countries. In fact, all the 4 RECs reviewed as well as stakeholders such as ASARECA have made progress in achieving harmonization agreements for their regions. Member countries have to be sensitized about what has been achieved and to task policy makers to establish implementation modalities and legislation. Markets in ECABREN are constrained by the lack of market information systems, and absence of proper weights and standards in the grain market. There are country specific policy issues as well; the need for a policy to support the distribution of good quality seed by FOFIFA and her regional partners in Madagascar, in Ethiopia, the need to increase the participation of small holder farmers in the ECX, and raising the profile of beans in Kenya and Tanzania. The following intervention strategies are being proposed;

- i) Consolidation of existing data on variables that can be used in negotiations with policy makers to raise the profile of beans in national policy documents, to formulate policies where

they do not exist, and improve on existing policy documentation. Data could be analysed to show the impact that improved varieties have had on the incomes of men and women.

ii) Conduct market studies to identify possible intervention areas in price policy, and propose country specific policy instruments to influence input price or support farmers in input acquisition. In the same way, an assessment of the impacts of alternative price policy instruments in selected countries will be required, in order to select the most effective instruments for given situations. Market studies will also be conducted with a view to improve seed and grain marketing, and flow of market information.

iii) Conduct other studies with a view of collecting and analyzing data on variables that do not exist in PABRA documents but would be useful in negotiations with policy makers to raise the profile of beans at national level, and lobbying for increased financial support. Data can be collected and analysed, where this has not been done, on the welfare effects of the improved bean varieties such as changes in household incomes, possible improvements in gender income disparities and contributions to food security.

iv) Development of policy briefs summarizing key policy issues for engagement with policy makers. Initially policy briefs could be developed targeted at raising the profile of beans at national level, improved financial support for agriculture in general and seed technology development specifically.

v) Regional and country level fora such as workshops, symposia to engage stakeholders and policy makers on the identified issues. This will include engagement on the implementation of seed policy harmonization agreements especially in ECABREN, as well as engagements with stakeholders in those countries that have country specific policy issues eg the ECX in Ethiopia, the distribution of quality seed by FOFIFA in Madagascar, and raising the profile of beans in Kenya and Tanzania.

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**Annex: SWOT ANALYSIS AS DEVELOPED BY THE ECABREN GROUP AT THE PLANT BREEDERS' WORKSHOP IN OCT, 2011 IN LILONGWE, MALAWI.**

**Strengths**

- Efficient flow and utilization of germplasm across NARS
- Good response to regional and local income and consumer market priority and needs
- Efficient/effective utilization of financial and human resources as funding is based on comparative advantage and sharing of results
- Publication and information exchange was enhanced through (proceedings, reprints, seminars and workshops, traveling learning tours to share results
- Exchange of improved materials accelerates release of varieties across NARS

**Weaknesses**

- Weak involvement of other scientists in national programs e.g. from universities, private sector
- Inability of some partners to play their roles
- Limited allocation of resources vs activities expected
- Not all national bean programs achieve their targets
- No flexibility and adaptation to the internal and external trends
- Exchange of experiences and capacity building less attended
- Responsibilities allocation for market class needs to be reviewed
- Information gap in different aspects (germplasm flow, pedigree etc..)
- More of regional approach needed
- No feedback from other programs due to less information exchange fora
- Poor infrastructure. i.e., cold rooms and screenhouses in collaborating countries
- Lack of creativity and innovation by NARS
- Many projects and sub projects at network level but not increased staff within NARS while some of them have limited human resources (allocated by central govt)
- Very static staff and very few young scientists and therefore static ideas which may now be irrelevant
- Failure by some scientists to freely share materials
- Limited information on pedigree of introduced lines
- Pedigree documentation
- Data recording on number of farmers reached
- Insensitive for NARS staff
- Over reliance on one country to address a given trait because of interest and not because of strength
- Overdependence on specific countries to develop breeding lines/pops
- Communication of research findings is poor especially between individual countries and PABRA
- Inability of some programs and program to provide enough testing materials within a short notice
- Poor tracking of germplasm due to change of names
- Extension/dissemination not emphasized
- Few publications developed therefore the science happening is perceived of low caliber by outsiders
- Weak/poor/absent data, information of both technical nature and related to seed as well
- Poor information sharing-not using email effectively-non responsiveness to email communication
- Environmental diversity in the region not considered at the early phase of evaluation
- Fewer learning and exchange study tours



- Gender based in breeding program and no records also on gender based on number of farmers reached
- Weak gender reporting and breeding

### **Opportunities**

#### funding

- Donors more than before but interest ship to fund organized groups – supplementary funds more available
- Centers better placed to handle what they are competent in
- Funding based on comparative advantage
- Avoiding duplication/saves time and resources
- Proposal based on regional issues across countries with similar constraints/priorities

#### **Market opportunity**

- High demand of marketable type
- Existence of niche markets
- Increased urbanization will increase demand for beans
- High consumption of beans especially in east and central Africa
- Involvement of industry in evaluating canning qualities (where industry exists)

#### **Policy**

- to influence policy makers towards conducive environment about:  
environmental management;  
better infrastructure (roads, agro-inputs, storage facilities, development  
budgetary allocations and  
gender equity

#### **technical**

- Availability of variation for some constraints (diseases and drought)
- Availability of modern breeding to support conventional one: Biotechnology molecular breeding
- Beans as major priority crop in operating countries
- The prevailing climate change the challenges phasing the community; Biotic and abiotic challenges
- Diverse ecologies for screening for abiotic and abiotic constraints under natural conditions
- Diverse niche markets which may trigger regional markets between countries
- Availability of advanced technologies e.g. MAS
- Genetic diversity (on beans) in operating country

#### **Gender**

- Targeting women farmers as men go to towns
- Beans a women crop and more likely to benefit the women, children and disadvantaged in society

#### **Human resources**

- Capacity/human capacity available
- Related to publication commission more write shops every year and support national partners to consolidate data for journals
- Diversification and specification of scientists across regions
- Experienced staff (stable staff)
- Capacity building across all programs possible
- Regional projects possible: address common issues within a short request
- Trained manpower in many disciplines
- Skills sharing across the network
- To have varieties released in several countries where it is adaptable

- Capacity building in data organization for different uses technical to social impact type of data
- Improved capacities in the NARS created

#### Climate change

- Changing research environment due to climate change
- Specific and storage project or program to link with PABRA
- Take advantage of different stress in the region (climate change)

#### THREATS

##### Collaboration

- Reduced confidence and trust among partners

##### Market

- Changing consumer habits
- Changing market dynamics

##### Funding

- Availability of funds
- Support by different govt through NARS
- Experienced breeders
- Sharing information within NARS through seminars, workshops, conferences, papers and posters
- Funding of activities not tailored to comparative advantage and competence
- Fewer workshops and seminars to share results
- Coordination of network can be more strengthened
- Resource limitations, dynamic change in research cost
- Global economic crisis affecting funding

##### Environmental

- In case of calamities there could be loss of a whole program
- Emerging constraints in relation with climate changes and variability
- Changing pest/disease/climate dynamics
- Climate change
- Climate change and climate availability seems to be complicated to cope with, since it is changing too much
- Climate change (unpredictable)

##### Mgt

- Objectives never achievable due to misallocation of funds to program that do not have capacity or interest in the activity
- Inadequate and erratic flow of funds

##### HR

- Trained scientists leaving the program
- Trained man power turn over from NARS

##### Policy

- Policies which encourage specific market class to be traded
- Ad hoc restrictions to cross borders trade by governments
- Changes in relative importance attached to beans by producers
- More of the data collected is ten years old and can be out dated and difficult to use to convenience policy or donors