

A CRITIQUE ON RESEARCH PRIORITISATION ON NEW BEAN MARKETS AND THE YOUTH IN MALAWI: TRANSFORMING THE REGION¹

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ABSTRACT

The livelihoods of many young Malawian bean farmers are constrained by poor access to both input and output markets. Despite government interventions and research, there is still a big problem in addressing the needs of young farmers.

The study employs a literature synthesis to document the status of research on challenges and opportunities associated with bean markets in Malawi and the role of the youth in those markets. The study used secondary information available on bean sub-sector analyses, regulatory frameworks, and government reports on bean markets, prices, consumption, and production, related policies for Malawi, export and import data. The results indicated that much effort has been put in research for development in improving bean varieties and bean production systems to bring forth a bean revolution; however, this has been frustrated by poor sequencing of agricultural policy reforms. Furthermore, it was further established that bean markets are largely affected by high transaction costs. Results further showed that weak government support on marketing and trade facilitation impedes progress in food market development. Earlier on, bean prices were set below the export parity price which created an implicit tax on bean farmers. However, the adoption of structural adjustment and agricultural market reform poses a great opportunity for young bean farmers to sell their beans above export parity price. Furthermore, Malawi being a member of COMESA, SADC, AGOA, EBA and the WTO is an opportunity for many young bean traders to compete in international markets. The challenge remaining is that many of the young farmers do not know about the existence of such opportunities. It has emerged that most of the research work on beans focuses on improving bean varieties and increasing bean production, with no regard for the benefits of engaging the youth in marketing the produce which, if supported, can reduce hunger, poverty, and increase economic growth. The study therefore recommends a shift in research priorities by putting forward workable methods on how the youth can be integrated within research activities on scientific technologies, to utilize the bean market opportunities in the region.

Key Words: Bean Markets, Young bean farmers, government interventions, food markets

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Introduction

Malawi's population comprises 52% youth below 18 years of age. However the country's literacy rate at 64% and the skills development level measured by 52% gross enrollment rate for tertiary and vocational training institutions remains very low (Munthali T, 2010). This population of youth is challenged by lack of skill development policies and programs. The only opportunity for the youth whose parents have money to send them to school is training for white collar jobs. Those who do not go far with education receive limited support try their little business ideas. Most young people involved in agricultural production are constrained by poor access to both input and output markets. The Malawian government like many African Governments is challenged by lack of yield increasing technologies that take into consideration both the resources and goals of resource constrained farmers. Furthermore, there is still limited adoption of recommended technologies which is an indicative of a disconnection between research and the young smallholder farmers.

The common bean (*Phaseolus vulgaris L*) is one of the most important food and cash crop for Malawian smallholder farmers. The crop is a significant source of protein and demand has grown due to the scarcity and high price of animal protean. The fact that beans are early maturing means it can serve as an insurance crop against malnutrition and food insecurity (Buruchara et. al, 2007). Despite the crop's importance to the majority of the population, its production continues to be too low to meet the demand of the growing population as well as export. This can be explained in part by low uptake of improved technology and limited use of farm inputs. Furthermore, weak links to markets, high transport costs, few and weak farmer organizations, poor quality control and inadequate information on markets and prices have also undermined the profitability of smallholder agriculture. Investment and re-investment has been poor due to high risks in agricultural production and poor access to credit.

Much research on common bean has been done in Malawi and many improved bean varieties have been developed. However research on how young farmers can make use these varieties to enter national and international markets is limited. Lusk and Hudson (2004) states that there are two key factors that affect the success of any kind of business: production costs and consumer demand for the new product or service. In most instances, these are the key determinants of product pricing.

In Malawi the National Agricultural Research Services (NARS) together with CIAT have developed high yielding, drought tolerant and disease resistant varieties. On the contrary, the demand side, as a strategy to promote adoption of the improved varieties among seed

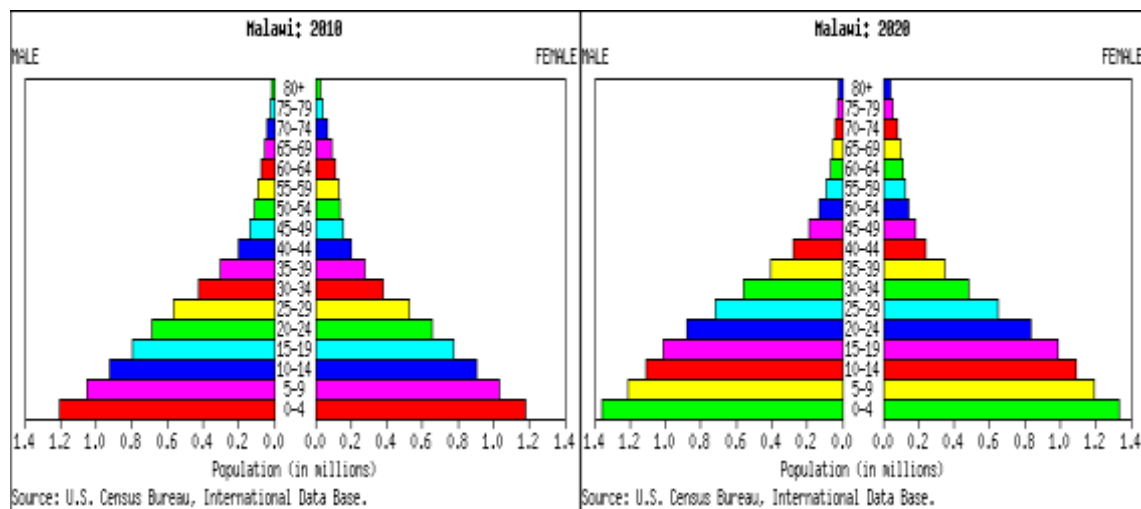
enterprises, a participatory varietal selection (PVS) was conducted. This involved a number of stakeholders identifying their preferred varieties from a given group. The stakeholders involved include farmers, consumers and traders. The stakeholder revealed their preferences based on pre and post- harvest selection. Traits like taste, cooking time and palatability were gender based, mostly selected by women and traits like grain yield and marketability were chosen by both men and women. A total number of 10 improved varieties were selected in Malawi. To ensure that seed is available when demanded, breeders' and foundation seed production for existing bean varieties were initiated with various stakeholders in Malawi and about five tonnes of seed were produced (Chirwa *et al.*, 2009).

If bean productivity is to increase, research in collaboration with extension services needs to develop and disseminate science based information that addresses the young farmers' needs. This paper argues that the evolving market situation brought about by economic reforms in Sub Saharan Africa calls for a shift in research priorities from the country being a predominantly producer of primary raw materials a predominantly exporter of processed agricultural goods. The low priority accorded mechanization and processing technologies in research is a clear evidence of the flawed sustainable development strategy. The failure to incorporate youths in crop research policy statements and action plans reduces the scope for improving the welfare of people through increased revenue from exports of high value crops like beans as well as the creation of alternative employment opportunities. The study employs a literature synthesis to document the status of research on challenges and opportunities facing bean markets in Malawi and the role of the youth in those markets.

Youth Population in Malawi

The population pyramids shown in Figure 1 reflect a population typical of many developing economies. About 52 percent of Malawi's population is aged 18 years and below. This represents a large proportion of people whom if well equipped with relevant skills can be very productive for the economy. The Sub-Saharan region has a population growing at over 2% with countries like Malawi registering 3% annual growth over the past decade. The growing population of the youth can have a positive economic impact on a country especially looking at production and productivity. However this impact is not automatic but must be earned by the presence of suitable economic policies that allow a relatively large work force to be productively employed (Munthali T, 2010). It is in this regard that it can be argued "why not involve the youths in bean production?"

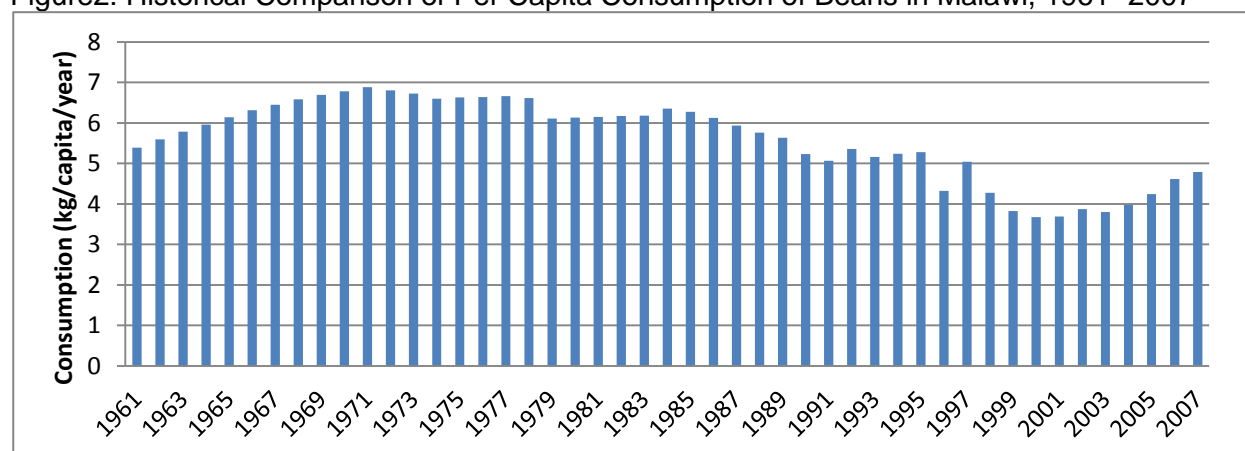
Figure 1: Age and sex distribution for the year 2010 and 2020 for Malawi:



Bean Productivity and Consumption in Malawi

Malawi is one of the highest consumers of beans in Sub-Saharan region on a per capita basis, with consumption estimated at 5.6 kg per capita per year. It is known that beans came from the eastern coast of Africa over 300 years ago through the influence of traders and merchants (Mughogho et al., 1979). Beans are expected to remain in the food security equation of Malawi even as the agricultural economy becomes more diversified. From Figure 2 below, it can be noted that bean consumption increased from 1961 to 1971 which was followed by a decline from 1983 to 1999. However from year 2000 it has again been increasing. This may be attributed to the increasing scarcity of animal protean e.g. fish and meat. The trends in levels and growth of livestock per capita show that livestock production has been declining. The numbers of chickens and cattle per capita have been declining, with the average in the last past five years being lower than that recorded in the early 1970s.

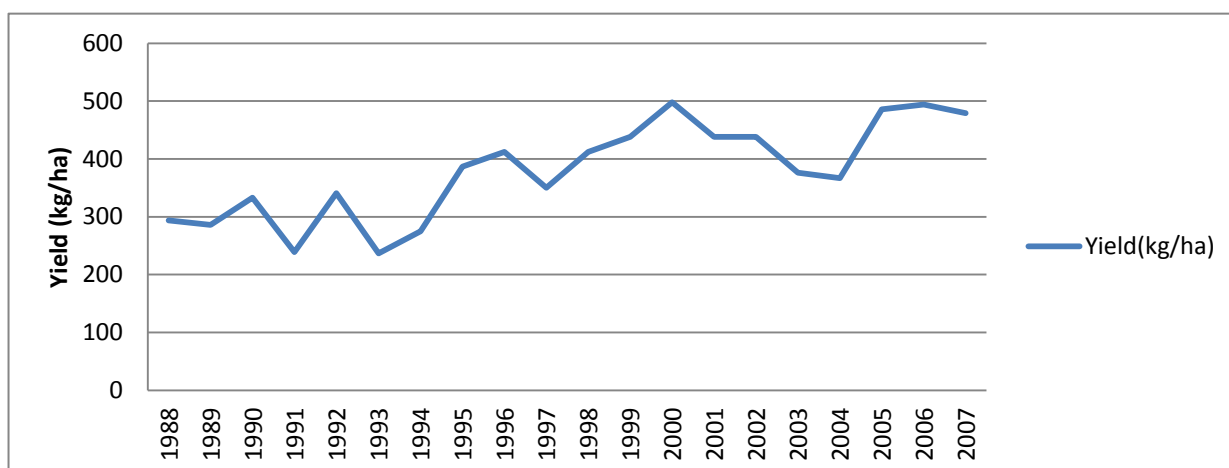
Figure2: Historical Comparison of Per Capita Consumption of Beans in Malawi, 1961- 2007



The importance of beans in Malawi cannot be overemphasized. The crop fixes nitrogen in the soil, provides inexpensive protein to humans as well as quick cash. Despite these benefits, production remains relatively low in Africa in general and in Malawi in specific. For instance, of 20 million hectares grown with legumes in Africa, only 5 million is for common beans compared to 11 million of cowpeas (Chirwa et.al 2006 in Lupwayi *et al.*, 2011). In Tanzania, bean yield is 500kg/ha as compared to potential yield of 1500 – 3000 kg/ ha (Chirwa et. al 2006 in Hillocks *et al.*, 2005). This is also the same with Malawi, although the yield increased from 237 kg/ha in 1994 to 459 kg/ha in 2003, the average yield still remains lower below potential (Chirwa *et al.*, 2006). Some of the factors accounting for this include: drought, poor performance of landraces due to pest and disease susceptibility, poor seed quality and poor crop management. This mostly leads to seed insecurity and at household farmer level, seed security is defined as the state in which a farmer has access to the sufficient quantities of seeds of their preferred varieties with adequate physical quality, at the right time of planting.

Over the years, a lot of effort has been put in research for development to improve bean varieties and bean production systems. These efforts translated into the release of several improved bean varieties, nine by Bunda College at the University of Malawi, and eight by the Department of Agricultural Research services (DARS), Chitedze Research Station with backstopping from CIAT (Chirwa et al., 2006). It was established that farmers usually grow a wide range of bean varieties that vary tremendously in grain size, color and shape as well as plant growth habit. In order of importance, the following are the major bean-growing districts in Malawi: Dedza, Thyolo, Mulanje, Ntchisi, Chitipa, Dowa, Mzimba, Mangochi and Ntcheu (Chirwa et.al., 2007). Although the release of improved varieties sought to bring forth a bean revolution it was frustrated by the drought that hit the country from 2002 to 2005, restricted access to fertilizer, low soil fertility, losses to field and storage pests, undeveloped markets for agricultural produce and weak extension services. All these factors, along with shifts in relative prices of competing crops, as well as the unfavorable weather patterns have contributed to the major fluctuations in bean yield and production in the past decade (Figure 3).

Figure 3: Trend in Bean Yield, 1988 - 2007



In response to some of the socio-economic problems, in 1995, the Danish Fund for International Development (DFID) through the Department of Agricultural Research Services initiated the Bean Improvement Programme (BIP) (Chirwa et al, 2001). The BIP is aimed at transferring technology to seed production enterprises in a sustainable manner; and provide technical advice and practices to the seed multiplication enterprises. There are several technological practices which are encouraged, some of which includes: use of improved seed varieties; recommended fertilizer types and rates; enhanced cropping systems and pest, disease and weed control. The BIP in conjunction with Bunda College of Agriculture, which are the two main seed breeding institutions in Malawi, has released improved varieties of bean seed for multiplication. However much as this is being done to improve bean production levels there is need to work with young farmers in a participatory way so that they take up the improved varieties as their own.

Chirwa and Aggarwal, (2001) argue that lack of farmers' access to seed can be a major problem contributing to low productivity of common beans. Other studies in support of this include Ferguson *et al*, (1991). This can be evidenced by resistance of private seed companies to venture into multiplication of beans and other self-pollinated crops. This is due to low profit margins which come with limited demand for seed and again, recycling of seeds by farmers for planting successive crops.

Consequently, the Ministry of Agriculture and Irrigation under BIP started focusing on smallholder bean seed production as a way of promoting the improved varieties. Through provision of improved technologies, BIP encouraged farmers to produce the improved bean seed locally.

It is important to note that preferences for varieties vary among farmers, traders and consumers. Varieties also vary in their adaptation to diverse environments including biotic and abiotic stress factors. As a way of improving production and productivity, a participatory varietal selection (PVS) was conducted to identify preferred bean types and develop efficient bean seed production and delivery systems. A total number of 10 preferred varieties were selected across the country including: NUA 35 5, NUA 56 4, NUA 45 4, NUA 59 4, CIM 9422-2 4, VTTT 924/17-2 4, VTTT 925/11-7 3, VTTT 924/4-4 3, PAN 150 2, MC 12832-8. The criteria of selection included: disease resistance, resistance to drought, tolerance to low soil fertility, early maturing, good leaf texture for vegetable, good grain colour, large seed size, high yield, and marketability (Chirwa *et al.*, 2008). However none of these efforts involved young people.

Not only are the youths challenged with access to bean production inputs but also land. Land problems emanates way back from 1964 when the country got its independence. The Malawi government pursued an agricultural led development strategy which had two approaches: (i) the promotion of estate agriculture for export earnings and the creation of agricultural employment; (ii) encouraging smallholder agriculture for subsistence and food security. It is the promotion of estate agriculture, particularly production of tobacco that reduced agricultural land for smallholder farmers. This created unequal distribution of land such that by the year 1997/98 about 33% of smallholder farmers were cultivating between 0.5 and one hectare. With rapid population growth, there is high pressure on agricultural land. Population density is estimated at more than 105 inhabitants per square kilometer of arable land. Note that many youths are given land from their parents of which many rural household have a size of 4-6 persons. Hence for young farmers to access enough land for bean production is a big challenge. This therefore calls for the Government to complete developing the new Malawi National Land policy of legislative reform to support the policy.

Furthermore, the land rights infringe progress in bean production. In Malawi there are two types of marriage systems, matrilineal and patrilineal. Under matrilineal the man follows the woman and settles in her home, children born belong to the mother's side. Whilst under patrilineal the woman follows the husband and children born belong to the husband. In both systems, the man is considered to be the final decision maker on what to be grown in the fields. And most Malawian men are interested in tobacco production than beans hence for them to allow their wives or children to put beans on part of the land is a challenge. Knowledge and information development is one of the least developed areas of Malawi's land rights efforts. If the researchers in collaboration with the government can raise

awareness of the contents of the Malawi National Land Policy land rights for everyone will be clear and young farmers will not fear investing in bean production.

Involving the youths in research: where do we start from?

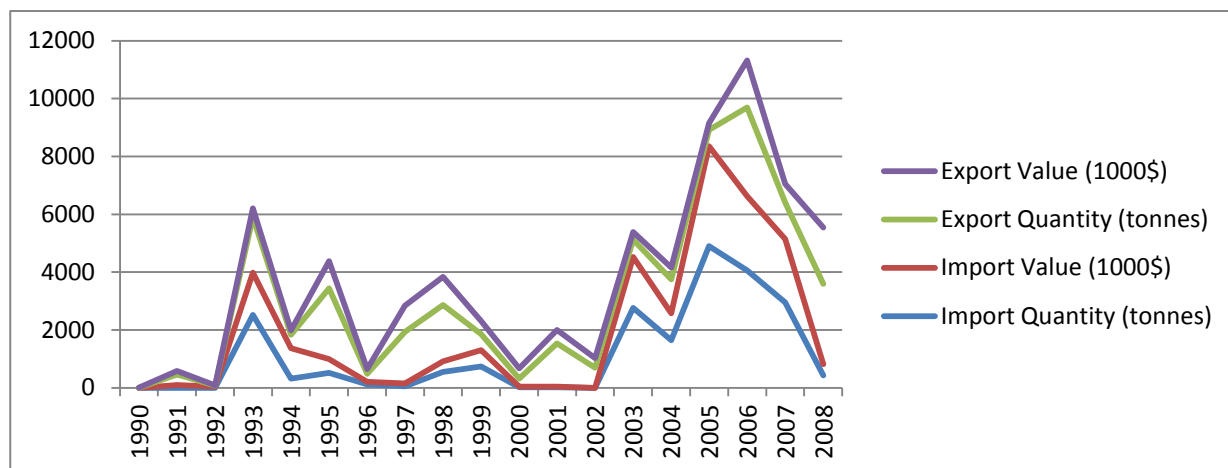
It is very imperative to create conducive environment for both researchers and the youth. These young farmers need to know the sources of bean seed and understand roles of every player along the supply chain.

Bean markets in Malawi do not function well, in large part because of high transactions costs that limit trade and lower market efficiency. High transportation costs within the country as well as to international markets are one major component of transactions costs, but other institutional and policy factors also play a role.

Lack of effective institutions to resolve contract disputes inhibit the development of more sophisticated trade. Similarly, absence of institutional credit constrains grain storage for many farmers and small traders (Smale and Jayne, 2003).

Government policies to spur development of bean markets stabilize prices and provide appropriate price incentives for producers and consumers have varied considerably over time, alternating between government interventionism and market liberalization. Before market liberalization, the government intervened heavily in agricultural markets. Market liberalization in the later 1990s resulted in far less government intervention, but with mixed results. Major markets for beans exist both local and internationally. Malawi has had a highly structured state dominated marketing system for smallholder outputs and inputs. The private sector is now more active in smallholder input and output marketing and this role is likely to expand (Smith, 1995). Beans are widely traded in and between Malawi and other countries. Within Malawi beans from Dedza and Ntcheu districts go to Lilongwe, while those from Ntcheu and Mulanje go to Blantyre finally those from Mzimba and Chitipa go to Mzuzu and Karonga Districts. Both Malawi and Mozambique import and export some beans with the largest flow being exports from Milange, Angonia and Tsangano districts of Mozambique to Malawi. Small quantities of high quality dry pack and canned beans come from South Africa. (DeBoer et . al., 2003).

Figure 4: Import and Export of Beans, 1990 - 2008)



In a study conducted by Muthoni et al (2007), it was established that 28 different bean varieties were traded in the three regions of Malawi. Out of these 28, 16 were improved bean varieties, of which five were new and eleven were old varieties. Among the new improved varieties, the most dominant ones were noted to be Kabalabla, BCMV-B4 and Kholophethe varieties. In the category of old improved varieties, Phalombe, Napilira and Maluwa were identified to have dominated in the markets. These improved varieties are characterised by high yielding potential of 1500 to 2500kg/ha compared to other varieties which yield as low as 381 kg/ha (FAO, 2008). These varieties are further tolerant to major production constraints e.g. they are resistant to diseases such as bean common mosaic necrotic virus, black root rot, angular leaf spot, common bacterial blight and rust and some have the ability to withstand drought(Muthoni et.al., 2007).

Consumers in central Malawi prefer “sugar beans” (tan with brown, black and red speckles). Those in southern Malawi tend to prefer red beans. Most of the beans flowing over the border at Milanje were largely red beans produced as a cash crop by Mozambican growers because the most preferred bean in most parts of Mozambique are sugar bean. There is evidence of a premium for red beans on Milange market because of the demand from southern Malawi. This was also confirmed in a study by Chirwa et.al 2007, that among the grain colors, dark red kidney was singled out as the grain type that most consumers preferred, because consumers believed that eating red beans increased the red blood cells levels in the blood.

A study conducted by Chilongo et.al. (2004) noted that Phalombe variety was being sold by the majority of the traders (77%), followed by Nanyati and Napilira. About 12% of the traders were selling mixed beans while at Jenda market in Mzimba had the highest number of

varieties. There were at least 11 bean varieties at Jenda market alone. In fact, of the 16 varieties identified in the study, 7 varieties were found only at Jenda market and not at the other sampled markets. These varieties were Kamtauzgeni, Jandalala, Kamchenga, Masusu, Nyauzembe, Kachikwama and Kanyalugwe. On the international market, DeBoer et. al. (2003), reported that according to NASFAM the South African market for sugar bean included Botswana and Namibia. It was reported further that the South Africa market requires red markings on the light brown background of which the organization collected seed from CIAT but noted that the market prices in Malawi were higher than the price in the export markets because demand is high on the domestic markets. Similarly, ADMARC handled no beans in 2003 because the farm level price was higher than what they obtain for the product on the export market. Farmer's world a seed and farm Produce Company also reported that farm level prices for sugar bean (kholophethe) are higher than the export price in South Africa.

Constraints that Inhibit Bean Marketing

Many factors constrain bean marketing in the country and these include socio-economic factors, price policies, storage, lack of improved seed varieties at affordable prices, unable to exploit improved access to foreign markets, and weak supporting marketing and trade facilitation (Phiri et .al., 2005; FAO, 2005). The other major constraint is unstable and uncertain producer prices but also unstructured markets. Market forces at the time of sale determine prices that most farmers receive for their output. These prices are both unstable and unpredictable which creates problems for farmers.

High marketing costs arise from inadequate and inappropriate market infrastructure; lack of competition in domestic supply chains. Following the liberalization of agricultural markets in Malawi, farmers in rural areas where ADMARC withdrew its services faced difficulties in purchasing inputs, food and selling produce (Kleih, 2001). A survey conducted in four districts noted that lack of transport was another constraint in agricultural marketing. The availability of transport provides the poor with better physical access to markets. There is ample evidence that availability of transport enhances agricultural productivity by addressing the special dislocation and distributional consequences associated with lack of adequate means of transport particularly for the rural poor. A survey of traders by Fafchamps et.al.(2006), noted that the structure of costs was dominated by transport costs, a large share of which covers the traders travel to place of purchase or sale.

Lack of marketing information is another characteristic of remote areas. This often influenced by poor road network and low traffic volumes, in particular, in areas where there is no

telephone or other communication infrastructure. Farmers and traders require other information in addition to prices. For example, information on supply and demand, trade contacts, technical matters and new institution arrangements brought about by decentralization (Klieh, 2001).

Effective Strategies for Unlocking the Enabling Bean Markets

Domestic market: There are currently a number of private companies that have ventured in bean seed production and marketing. This is an opportunity for the young bean farmers to engage in bean production for commercial purposes. Even as these private companies are engaged in bean production there is still unmet demand. This represents an opportunity for young farmers.

In addition to the above, beans for a long time were considered as women crop since they were commonly grown by women. Whilst women were busy growing beans men were involved in tobacco farming which was once referred to as Malawi green gold. However, with the current anti-smoking campaigns there is great transition from tobacco farming to growing other crops like cotton. With this transition, young farmers can take advantage of the emerging bean market and together with the women farmers can meet the unmet demand for beans. In addition, the production costs for beans are very low and they don't need a lot of capital to produce despite higher market prices (ranging from Mk 200 to Mk 350per kg) which is good for young farmers due to their limited finances.

International market: A basic requirement for efficient export of agricultural commodities is a stable and predictable macroeconomic environment in which individuals and enterprises can engage in productive activities (Westlake, 2005). Trade in Malawi is liberalized with import and export license only required for very few products that have a bearing on security, health, food self-sufficiency, and the preservation of infant industries. Malawi is a member of COMESA (Common Market for Eastern and Southern Africa); SADC (Southern African Development Community) ACP/SU Cotonou Agreement and the World Trade Organization (WTO), as well as a beneficiary of the African Growth Opportunities Act (AGOA) and Everything but Arms (EBA) Agreement. Bilateral Agreements exist with South Africa, Zimbabwe, and Botswana. Further agreements are currently under consideration with Zambia, Tanzania and Mozambique. These, alongside other initiatives such as the Growth Triangle and Spatial Development Initiative, offer considerable opportunities for increasing trade and investment in the region and stimulating growth.

Specific measures to deregulate the private sector and create new investment opportunities have already been enacted, including the elimination of price controls, the termination of import restrictions and of the accompanying import licenses, divestiture of state-owned companies and steps to rectify the external transport situation.

Conclusion

Malawi being a country with vast population increase can either sit on a ticking bomb or act. Creating jobs for youth requires development of two sets of skills: skills that meet the short and long-term requirements of the existing industry, and self-employing skills for those that cannot be absorbed by the industry. For this to work it should be supported with credit and technical advice for self-employment. There is need to support service sectors that links with agriculture and ultimately feeds into agro-processing and manufacturing. The study therefore recommends a shift in research priorities by putting forward workable methods on how the youth can be integrated within research activities on scientific technologies, to utilize the bean market opportunities in the region. There is also need to impart the youth with agribusiness skills so that they can compete in the already existing bean markets.

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