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An assessment of factors that lead to low agricultural productivity in Malawi

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Poverty is said to be very high in developing countries, and many people live below the poverty line. There are different causes of poverty, but the most common one is food insecurity. Therefore, the contribution of agriculture to ensuring food security in the poor countries cannot be ignored. Although many farmers in some developing countries practise subsistence farming, agriculture accounts for a large share to the means of livelihood in the rural areas of developing countries. This is because about 80% of people in developing countries live in rural areas and depend on agriculture for livelihood. Despite the large contribution of agriculture to rural development in developing countries, the sector (agriculture) is confronted with many different challenges. There is low agricultural productivity (especially in peasant farming) because of the use of traditional technologies, and other factors. And this results in food insecurity in many households. However, countries implement different programmes and policies to increase productivity in agriculture. It is in this respect, this paper looks at the different policies, methods and programmes implemented by the Malawi government to increase agricultural productivity/production since the period of colonialism.

Key words: Agriculture, rural development, crop production, food security, poverty, green revolution.

INTRODUCTION

Rural development as a development process in developing countries gained momentum after the Second World War, and intensified during the period of colonialism (Berry, 1993). The idea behind rural development was to improve the living standards of the rural poor by reducing poverty, unemployment and food insecurity (Lea and Chaudhri, 1983; Dixon, 1990). The above economic and social problems were solved through different rural development strategies, and the major rural development strategy was to increase productivity in agriculture (IFAD, 1991). In this respect, the initial period of rural development in Africa focused on soil erosion control and conservation measures (Makoa, 1999), as well as increasing agricultural productivity by introducing rural development projects, such as the Improved Farmers' Systems in countries such as Tanganyika (Berry, 1993). Raising the productivity of African peasant agriculture was a key concern for colonial governments, based on the assumption that traditional agriculture was backward and unproductive. Some colonial governments in Africa blamed the state of environmental degradation, especially soil erosion on the Africans' poor methods of cultivation and overuse of the natural resources. Therefore, anti-erosion campaigns for

use of resources were introduced (McCann, 1999; Benjaminsen, 2000). And the measures used to control soil erosion included among others, compulsory tie-ridging, terracing, and compulsory reduction of livestock numbers (Östberg, 2000). Other conservation measures used by some colonial governments included demarcating forest reserves in which Africans were prohibited from farming or grazing livestock, and restricting access to natural resources. For instance, Benjaminsen (2000) points out that the colonial government in Senegal passed the law on the use of forests and forest products. The natives were prohibited from collecting nuts, wood, hunting and use the forest areas as pastures. While such measures were supposed to serve both the interests of Europeans and Africans, in practice, they often discriminate against the Africans. Some colonial governments also introduced policies that aimed at transferring income and surplus from the rural areas in Africa to finance the urban development. For instance, in some countries such as Kenya and many others, the colonial governments introduced the hut tax to generate revenues. This income transfer left the peasants trapped in a vicious circle of poverty, as some of the farmers had to sell their livestock in order to pay the

farmers had to sell their livestock in order to pay the hut tax (Ensminger, 1996). Many African countries inherited some of the colonial governments' rural development policies and programmes at independence. In this case, the post-colonial states received most of their revenues from the peasants as the predominant producers in the economy. This was done by for example, using state marketing boards which engaged in unfair exchange with the peasants. Marketing boards bought peasants' produce at lower than market prices, the balance going to the state. The use of marketing boards to extract surplus from peasants has been observed elsewhere in Africa, for example in Zimbabwe (Cliff, 1988). The use of marketing boards has, in the majority of cases, tended to be a way of state extraction of surplus and income from the peasantry to finance mainly industrial development (Pugh, 1996).

Some colonial and post-colonial rural development policies and programmes in Africa and elsewhere contributed to poverty and food insecurity. As a result, the use of improved methods of production in agriculture was adopted during the modernisation period starting from the 1950s and onwards (Ellis and Biggs, 2001). This is because poverty, food insecurity and a lack of development in many developing countries were related to the use of outdated methods of production, especially in agriculture (Norton et al., 2006). In this regard, a lack of development in developing countries is illustrated by different theories / models of development that emerged in the Post-World War II, mainly in the 1950s and 1960s. First, Lewis (1954) associated a lack of development (poverty and food insecurity) in the rural communities of developing countries with low agricultural production and population pressure on marginal lands that forced people to migrate to urban industries in search of employment opportunities (Thirlwall, 1995). Second, Nurkse (1953) linked the underdevelopment in developing countries to vicious poverty. Nurkse (1953) argued that low incomes in developing countries result in little savings. In this regard, lack of savings results in low capital that can be used for investment/production. Third, Rostow (1960) also associated poverty, food insecurity and a lack of development in the rural communities of developing countries to low agricultural productivity because of the use of poor methods of production. Fourth, scholars such as Furtado, Myrdal and Frank ascribed underdevelopment in developing countries to unequal power relations between the North and South countries.

The power relations are such that the South countries occupy the subservient position in the international division of labour. The international division of labour is organized such that, the poor countries specialise in the production of agricultural raw materials that are bought at low prices by the rich countries on the international market (Kay, 2005), and the North countries specialise in finished goods in the international market, and they are expensive for many poor countries. Evidence further shows that, the terms of trade for agricultural raw material

materials have declined in the world market with the introduction some synthetic products.

It is argued in this paper that, rural development in Malawi, especially agricultural production was state driven. In this regard, government introduced different programmes to increase agricultural productivity to ensure food security. It is also argued that, although agriculture does not contribute to food self-sufficiency in Malawi, poverty and persistent food insecurity were witnessed during the collapse of donor funded rural development projects and introduction of the Structural Adjustment Programmes (SAPs) in the late 1980s and early 1990s that emphasized a cut on government spending in agriculture (especially by helping small-scale farmers). This paper further argues that, there are some other factors that contribute to low agricultural productivity in Malawi besides reducing government expenditure on agricultural subsidies.

Methods

This research is based on secondary data collected from different sources. The main sources of data for this study were books and journals. The internet also provided useful information on the rural development policies and programmes adopted by some developing countries to increase food production. Data on rural development programmes in Malawi was collected mainly from the Five Year Development Plans. This research report is not simply about review of the literature, but analyses the agricultural rural development programmes and policies adopted by some developing countries to increase productivity.

The green revolution and modernisation of agriculture

Rural development strategies in the 1950s and 1960s focused on improving the lives of the rural poor by increasing national income and productivity in agriculture (Ruger, 2005). This was achieved through the introduction of the Green Revolution (Holdcroft, 1984; Machethe, 1995) that was concerned with improving agriculture through the adoption or the diffusion of modern agricultural technologies, especially the high yielding varieties (Davies, 2003). The adoption of the Green Revolution technologies came after realisation that the use of traditional technologies in agriculture is a stumbling block for development (Pavlich, 1988). The theme around the transformation of traditional agriculture is well illustrated by Rostow in his model of "Stages of Economic Growth" (Rostow, 1960). The first stage of the model is about "the traditional society". This stage states that societies adhere to traditional norms, where traditional agriculture is the main activity. Rostow (1960) argues that in traditional societies production is very limited and follows pre-capitalist methods. According to Rostow's argument, societies which wanted to develop (modernise) had to transform their agricultural system

and practice to allow them to prepare for implementation.

The so-called 'backwardness' of countries is also illustrated by Sir Arthur Lewis (1954) in the model of dual economies. This model stipulates that many developing countries have two sectors of the economy: the traditional (rural) and modern (urban) sectors. The former is traditional and has a reserve of unskilled labour, while the latter is considered modern and depends on the former for labour and agricultural products (Lewis, 1954). The model states that surplus labour in the traditional sector causes declining agricultural productivity. Therefore, the solution to the problem of diminishing returns is to increase productivity by modernising agriculture. The diffusion of modern technologies in agriculture was expected to increase productivity and reduce the number of people working on small pieces of land. Modernisation of traditional agriculture in the late 1960s and 1970s was done by the use of the Green Revolution technologies.

According to Paddock (1970) and Sonnenfeld (1992) the Green Revolution was initiated in Mexican agriculture in the early 1940s by the Rockefeller Foundation. The Green Revolution was also a common practice in some Latin American and Asian countries in the 1950s and 1960s (Evenson and Gollin, 2003). Sonnenfeld (1992) opines that the Rockefeller Foundation developed fertilisers and hybrid seed in laboratories in the United States and Mexico that would be used on large-scale irrigated landholdings. In the initial years the term Green Revolution was associated with the improvements in the high yielding varieties of rice and wheat only, whereas the high yielding varieties have nowadays been developed for other food-stuffs, such as maize and sorghum (International Food Policy Institute, 2002). The Green Revolution technologies achieved three important outcomes in developing countries:

First, there was a considerable increase in agricultural productivity/production. According to Bernstein (1992) the Green Revolution technologies increased yields and incomes for many farmers in Asia and other developing countries. In the processes, the yielding time of selected agricultural varieties was increased. For instance, the new rice varieties were preferred to the traditional ones which took 150 to 180 days to mature, while the new varieties took only 100 days (Davies, 2003). Therefore, the Green Revolution was a shift from the traditional use of agricultural methods to modern technologies where farmers could increase their productivity (Sen, 1970). The mechanisation of agriculture during the Green Revolution replaced labour-intensive methods of production (Randhawa, 1977). This is because the new technologies enabled the specialisation of operations and changing practices to ensure high productivity. It is

further stated that in order to increase productivity/production, the economies of scale were greatly enhanced by increased farm size and with the use of hybrid seedlings, the best yields were generated (Schuh et al., 1970). The potential of plants to be more productive was increased by breeding a variety of seed which had the characteristics of high yield, resistance to

stem and leaf rust, drought resistant and a high adaptability to different conditions (Goldman and Smith, 1995; Davies, 2003). The Green Revolution also focused on the improvement of animal husbandry (Sonnenfeld, 1992; Leaf, 1980). As has been pointed out by Goldman and Smith (1995), the number of animals that provided people with meat, milk and other products increased dramatically.

Second, the Green Revolution ensured food security (Leaf, 1980). Therefore, as a result of increased production from the Green Revolution technologies, some countries in Asia (for example, Pakistan), Latin America and a few from Africa reduced their food insecurity and dependence on wheat imports from the United States (Shepherd, 1998). For instance, in India, food production per capita increased by about 30%, and from being a net importer of grains from 1951 to 1975, there were 30 million tons of grains in government reserves in 1984 to 1985 (Bernstein, 1992). The above-mentioned scholars argue that this increase in productivity was important so as to achieve national food sufficiency and a reduction of malnutrition, hunger and starvation in the country. Bernstein (1992) further points out that High Yielding Varieties packages enabled at least three harvests per year. There was a decline in real food prices affected by the cost-reducing technologies. The Green Revolution packages benefited mainly the poor because they had the means of producing their own food and this reduced their dependence and spending on food sourced elsewhere (Bernstein, 1992). Even though many scholars discuss the potential benefits of the Green Revolution, they argue that the Green Revolution often failed to solve the problems related to high levels of poverty, inequality and inequity. A number of crucial points should be explored in this respect.

First, the Green Revolution technologies did not ensure sustainable food production. The growth rates that were highlighted were simply a feature of the 1970s (Shiva, 1991) and were not sustained in the decades that followed; thus what resulted was food insecurity.

Second, the Green Revolution technologies failed to solve the problems related to poverty among the peasant communities. Citing Saith (1990), Bernstein (1992) points out that there was high government spending to reduce rural poverty during the Green Revolution in India. Because there were so many people below the poverty line, any government intervention through the provision of funds, improved their lives in the short term, rather than increasing the high yielding varieties packages (Deva, 1984). Strauss (2000) argues that there is an increasing number of people suffering from diseases that are related to insufficient caloric intake, despite the advent of these new agricultural technologies.

Third, access to the Green Revolution technologies was a matter of affordability. According to Ghatak (1995), Shepherd (1998), Strauss (2000) and the International Food Policy Research Institute (2002), access to agricultural inputs is determined by the amount of money one has. This was seen in practice when the Green

Revolution technologies were monopolised by the large commercial farmers (Sen, 1970; Havens and Flinn, 1975; Hayami, 1984) because they had economic power and they could afford these technologies for their own use. Thus, the Green Revolution was blamed for causing and perpetuating social differentiation among the peasantry (Goldman and Smith, 1995).

Fourth, the Green Revolution did not assist in rural employment creation as these technologies were expected to be labour intensive (Jacoby, 1972). At the same time, in order to increase productivity, farm machinery was used. This caused an increase in unemployment in labour surplus economies, and the negative impact of the Green Revolution technologies was experienced by the labour tenants who depended on wages from agriculture for survival. This was evident when most of them lost their means of livelihood due to the advent of new farm machineries (Barrow, 1995; Ghatak, 1995).

It can be observed from the above discussion that the Green Revolution technologies were introduced to improve agricultural productivity in some developing, especially in Asia (India and Pakistan) and Latin America. However, the methods used to enhance agricultural productivity were not restricted to the adoption of the Green Revolution packages, there were other methods used. The following section studies the methods and programmes used by the Malawi government (formerly known as Basutoland) to increase crop production during the colonial period.

RURAL DEVELOPMENT PROGRAMMES AND POLICIES IN Malawi

Rural development as a process took place in Malawi during the colonial period. The colonial government was more concerned with controlling soil erosion, destocking and other programmes intended to increase productivity in agriculture. The post colonial government included rural development programmes and policies in the Five Year Development Plans. The idea was also to increase production in agriculture through the adoption of new methods of production. This section studies rural development programmes and policies in Malawi during colonial period and after independence, mainly during the Five Year Development Plans.

Colonial rural development strategies (1930s- 1965)

A number of measures were taken in an attempt to improve agriculture during colonial period in Malawi. First, a range of measures was introduced to control soil erosion. The country had an exceptionally eroded landscape which had called for mitigation and prevention measures since 1936 (Showers, 1989; Showers, 1996). The control of soil erosion was tasked to the Department of Agriculture whose responsibilities included such activities as building anti-erosion control measures to

prevent the run-off of surface water and to trap eroded soil. The most common control measures were building terraces, contour banks, meadow strips, and making furrows (McCann, 1999). In addition to establishing these measures, the ministry included other anti-erosion controls, such as planting trees and building dams and silt traps (Wallman, 1969). Among the anti-erosion projects implemented was, for instance, the Taung Reclamation Scheme established between 1956 and 1961 (Wallman, 1969). also notes that in some places, the colonial government prohibited farmers from cultivating their land for a certain period in the name of conservation.

Second, the government introduced open and closed seasons on rangelands for livestock in response to the overgrazing which was a major factor in the erosion of the rangeland (Ferguson, 1985). Thus, the blame was placed on the practices of livestock farmers for contributing to environmental degradation (Quinlan, 1995). As a result, pastures in the mountain areas were closed for certain periods and farmers instructed to move their livestock to places opened for grazing (Driver, 1999).

Third, measures to increase agricultural productivity were introduced by implementing area-based development projects which were mainly concerned with increasing productivity in agriculture and adopting the Green Revolution principles of using improved agricultural inputs. Wallman (1969) avers that the main objective of these projects was to increase production in agriculture by introducing improved methods of production, the use of improved agricultural inputs and the control of soil erosion, while implementing it in the name of Community Development. Some of these area-based development projects included, among others, the Tebetebeng pilot project, which ran from 1960 to 1970 and the Maphutseng Valley Rural Development Project, established in 1947 (Cadribo, 1987; Makoa, 1999). These projects were concerned with the control of soil erosion, range management and improving productivity in agriculture. Makoa (1999) further states that the Maphutseng project mobilised farmers to form a block that would allow farming to be done jointly. Another important area-based development project was the Mafeteng Farm Mechanisation project which was established in 1960 and was concerned with the production of wheat (Wallman, 1969). The government provided farmers with agricultural inputs, including seeds and tractors but the costs of production were deducted from farmers after harvest (Makoa, 1999).

In general, these attempts during colonial rule were mainly focused on addressing soil erosion and improving agricultural productivity in order to ensure food security for the nation. It is observed that, unlike during the colonial period where anti-erosion control was the major task in rural development, in the 1970s many countries were concerned with rural development through modernising agriculture and other sectors of the economy

by means of methods, policies and programmes in the Five Year Development Plans. The Malawi government was not an exception. Thus, the next section scrutinises agriculture as the main rural development strategy in Malawi. The section studies how agriculture was supported and promoted during the Five Year Development Plans.

Rural development during the five year development plans (1970-1999)

According to Mashinini (2000), the rural development sector in Malawi comprised two distinct elements from 1970 to 1999; namely, agriculture and community development activities. The agriculture sub-sector involved crop production, livestock production and range management (Mashinini, 2000).

The Government of Malawi introduced its First Five Year Development Plan in 1970, covering the five-year period of 1970/1971 to 1974/1975. The objective of this was to “lay the foundations for economic development and economic independence” (Kingdom of Malawi, 1970:23). This was the result of the concern by the government about declining agricultural productivity. The target of the Government of Malawi during the First Five Year Development Plan was to “to achieve a marked increase in productivity in the agricultural sector” in both crop and animal husbandry as “crop yields are generally poor and output of maize averaged 2-3 bags an acre, compared to 30-35 bags per acre on irrigated experimental cultivations” (Kingdom of Malawi, 1970:9). The plan further states that there were differing reasons behind the decline in agricultural productivity, including: adverse climatic conditions; sandy soils with low fertility; a lack of irrigation; a shortage of labour because of the migrant labour system; the use of primitive farming practices due to insufficient agricultural equipment; and inadequate credit facilities (Kingdom of Malawi, 1970).

The traditional land tenure system, soil erosion and use of primitive farming practices, such as monoculture were cited as the major obstacles to the modernisation of agriculture in the 1970s (Wallman, 1972). Traditional land tenure makes farmers reluctant to improve their land holdings, and also impedes their obtaining access to agricultural credit (Kingdom of Malawi, 1970). The plan also argued that the country was importing food stuffs unnecessarily because of the low productivity in agriculture. Hence rural development with an agricultural focus, linked to processing was the most immediate, necessary, and sensible means to increase nationally produced wealth (Kingdom of Malawi, 1970). It is discussed in the introduction that agriculture in developing countries was characterised by low productivity in the 1960s and 1970s because farmers used primitive methods of production. Therefore the modernisation of agriculture, by increasing productivity, was emphasised and encouraged in the 1970s through the adoption of Green Revolution technologies, both in crop and animal production. Thus, the Malawi Governme-

nt's objective was to increase productivity in agriculture by adopting some of the principles of the Green Revolution. According to the First Five Year Development Plan “the long term development objective for crop production is to transform crop farming from its present subsistence basis to the production of cash crops, such as wheat, peas and beans for import substitution and export” (Kingdom of Malawi, 1970:56).

The transformation of subsistence farming was implemented through different programmes. First, the government introduced improved farming practices, including the use of fertilisers (Kingdom of Malawi, 1970). The First Five Year Development Plan stated that the consumption level of fertilizers in the 1970s was too low at less than 100 000 packets and accordingly, increased consumption to 700 000 pockets over a period of five years (Kingdom of Malawi, 1970). Second, the government introduced the mechanisation of agriculture via a tractor hire service. The Plan stated that draft animals were disappearing in the country and that in order to compensate for this, the government would introduce tractor hire to facilitate a more rapid process for the ploughing of fields. In addition, the objective of tractor hire was to ensure that there were no fallow lands in the country. Third, the government introduced irrigation projects on the basis that, according to the Plan, Malawi would have enough water available for irrigation purposes. Fourth, the government introduced agricultural information services and farmer training centres, including among other things, the Malawi Agricultural College for the training of agricultural personnel, such as extension workers.

It is stated in the First Five Year Development Plan that increasing productivity in agriculture, especially in crop production needs immediate attention through the use of some of the Green Revolution technologies, such as tractors and the application of fertilisers. It is during the Second Five Year Development Plan when the Government of Malawi introduced agricultural programmes aimed at increasing productivity in agriculture to increase food security in the country. According to the Second Five Year Development Plan, “Malawi is a rural, agricultural nation; and rural development with an agricultural focus is the most immediate, necessary and sensible means to increase nationally produced wealth” (Kingdom of Malawi, 1976:71). As a result, the Ministry of Rural Development was formed in 1976 from the Department of Community Development (Walton, 1978) to implement rural development initiatives.

As a way of improving the living standards of the rural poor, the objectives of the Malawi government during the second plan involving crop production included among other things; “to foster general yield and production increases but specifically to achieve net self-sufficiency in basic grain and vegetation production; to increase crop-derived income with greater cash crop area especially of wheat and beans; greater forage crop area in support of greater forage crop area in support of commercial

livestock production; and significant introduction of high value cash crops including potatoes and asparagus" (Kingdom of Malawi, 1976:78). In this respect, area development projects were established to meet the above objectives. However, the major shortfalls in the quality of farming were observed in some area development projects (especially in Thaba Bosiu). As a result, the Malawi government proposed an attempt to improve the provision of basic services to farmers by stabling the Basic Agricultural Services Programme in 1978 (van de Geer and Wallis, 1982).

The objectives of the Basic Agricultural Services Programme were to improve traditional agriculture by encouraging the use of new innovations (agricultural inputs), such as seeds, fertilisers, insecticides and marketing outlets to farmers, the improvement of animal husbandry and the establishment of physical infrastructure (Walton, 1978; van de Geer and Wallis, 1982). The projects that benefited from the Basic Agricultural Services Programme and had a combination of crop and livestock production included: Thaba-Tseka; Khomokhoana, Phuthiatsana; Matelile and Thaba-Bosiu Integrated Rural Development Projects (Kingdom of Malawi, 1976). However, for the purposes of this paper, the discussion will analyse the Thaba Bosiu and Thaba Tseka Integrated Rural Development Projects. Programme in 1978 (van de Geer and Wallis, 1982).

The objectives of the Basic Agricultural Services

Thaba-Bosiu integrated rural development

According to the Second Five Year Development Plan (1975/1976 to 1979/1980) the objectives of the Thaba-Bosiu Integrated Rural Development Project were:

- (i) To control erosion and increase crop production within the existing social system.
- (ii) To transform land use that integrated farming, that is, combining appropriate crop rotation with livestock production can be achieved.
- (iii) To provide a more assured subsistence and to increase considerably the income derived from crops and livestock.

To provide data for the preparation of similar rural development projects in other areas. Programme in 1978 (van de Geer and Wallis, 1982).

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- (vii) To provide data for the preparation of similar rural development projects in other areas.

The Second Plan indicates that these broad objectives were implemented through dry-land crop production, soil conservation, livestock production and asparagus production and canning. Asparagus cultivation at the Thaba-Bosiu Integrated Rural Development Project was linked with the establishment of a processing cannery in the project area in the year 1975 (Kingdom of Malawi, 1976). However, a bigger cannery (agribusiness), Basotho Fruits and Vegetable Cannery, was established in Masianokeng in 1976 through the assistance of Del Monile Cooperation from Germany, the United Nations Development Programme and Food and Agriculture Organisation (Khati, 1984). The processed asparagus was exported to the European Union, especially to West Germany. Once again, there is some evidence that agricultural production was associated with rural development.

Thaba-Tseka integrated rural development project

According to the Second Five Year Development Plan (1975/1976 to 1979/1980), even though Thaba-Tseka Project was established as a decentralisation process in Malawi, the project improved the lives of the rural people in the mountains.

As a result, there was an improvement in animal husbandry and crop production. As stated by Wallman (1976), the mountain areas are mostly suitable for livestock production. Therefore, some development of low-cost techniques for producing and improving forage was very important for improved livestock. An improvement in animal husbandry was seen especially in dairy farming and in wool and mohair marketing (Kingdom of Malawi, 1976). There was also the establishment of some non-farm rural industries, such as handicraft centres for processing raw materials from wool and mohair production (Kingdom of Malawi, 1976). As a way of ensuring communication between the project area and the market area for the supply of raw materials and other businesses, a road was constructed linking the project area with the lowlands, especially with Maseru.

Agricultural credit institutions

During the Second Five Year Development Plan, the Malawi government established credit schemes to encourage improvement in input use in mechanisation; contribute to the adoption of new higher-yielding crops; higher quality breeds of animals; and more efficient methods of farm management and marketing (Kingdom of Malawi, 1976). The plan highlights the involvement of credit institutions including: forty-eight credit unions; twenty-seven thrift societies; three banks; three area-based projects; and four other institutions (Kingdom of Malawi, 1976). However, the discussion will be limited to the credit schemes. First, the Agricultural Development Fund provided short-term loans (3-5 years) to farmers; furthermore, channelling credit to some farmers through the Government Extension Service. In addition to providing loans to farmers, the Agricultural Development Fund also supervised farmers using their credit. Second, Co-op Malawi was established in 1974 to market crops produced in Malawi (Moody, 1976). Co-op Malawi provided agricultural credit to members (farmers and cooperatives saving with it), in the form of farm inputs and marketing (Kingdom of Malawi, 1976). Other credit institutions included Credit Union Cooperatives and Project Credit Revolving Funds which were established to provide credit to farmers in the area-based, integrated rural development projects.

Although different programmes and institutions were established to facilitate rural development process during the Second Five Year Development Plan, there were many challenges in implementing such programmes. Most of the integrated rural development projects in the country received funding from external sources. The main funding agencies were the World Bank, the Food and Agriculture Organisation and other bilateral institutions. However, most of the donor funded rural development projects lacked sustainability and as a result collapsed, due to a number of reasons.

First, as stated by Walton (1978), a lack of community participation in development projects is considered the major hindrance to meaningful development. As pointed out by the author, rural development projects in Malawi lacked consultation. This is because delegates from donor institutions met with government officials to decide on what could be done to improve the lives of the rural poor, but the affected people were not included. Therefore, many of these projects lacked popular support at local level. For example, according to the FAO (1977) many farmers in the Mohale's Hoek District where the Senqu River Valley project was established and implemented did not know about it. However, the FAO (1977) argued that some farmers acknowledged the benefits brought by the Senqu River Valley Project, such as the introduction of fertilisers and consolidated block farming. Another integrated rural development project that demonstrated the lack of farmers' participation in the decision-making process was the Thaba-Tseka agricultural project concerned with cash cropping. As stated by Ferguson (1994) the local farmers did not need cash crops, such as wheat and peas; instead, they

needed the provision of social services, such as water, health and other services.

Second, according to the FAO (1977) most of the rural development projects introduced by the foreign lending agencies advocated consolidated block farming. The report by the Food and Agriculture Organisation states that this practice worked effectively in some rural development projects, but it introduced problems to others. This is because some activities, such as harvesting and weeding needed communal labour, especially in block farming. Moreover, some people were reluctant to work because they did not like farm work (FAO, 1977) and this created a burden or too much work for those who liked farming. This shows that some farmers were free riders, taking advantage of the situation.

Although there were some challenges facing rural development initiatives during the Second Five Year Development Plan, the Third Five Year Development Plan emphasized a move towards self-sufficiency in basic foodstuffs for food security and processing by agro-industries (Kingdom of Malawi, 1981). In order to achieve the objective of ensuring food self-sufficiency and the supply of raw materials to agro-industries, the government introduced an agricultural project called Food-grain Self-Sufficiency Programme. The project received funding from China and specialised in the production of wheat and maize (Morakeng, 1984).

In order to enable the processing of wheat and maize produced under the auspices of the Food-grain Self-Sufficiency Programme, the Malawi government established the Malawi Flour Mill in 1979, with a silo complex for storage purposes (Kingdom of Malawi, 1981). The Third Plan addresses the purpose of the flour mill which was to make Malawi "self-reliant in wheat flour and bran processing, create local value added, and a link to the programmes of accelerating domestic wheat production" (Kingdom of Malawi, 1981:170).

An idea of establishing, upgrading and extending activities of the existing agro-industries was considered during the Fourth Five Year Development Plans (Kingdom of Malawi, 1987). This was in particular reference to the National Abattoir and Feedlot Complex. As stated by the Fourth Plan, the objectives of agro-industries resemble those of the industrial sector as a whole; the generation of growth and employment. The plan further states that the activities of the existing agro-industry (Basotho Fruits and Vegetable Cannery) were to be extended to some other places. In addition, the National Abattoir and Feedlot Complex was to encompass other activities, such as a meat deboning factory, a meat packing and processing plant and a pig slaughter facility (Kingdom of Malawi, 1987). However, these developments did not take place because of a number of financial constraints.

The financial constraints that hindered implementation of some rural development strategies during the Fourth Five Year Development Plan could be linked to the macroeconomic frameworks that the Malawi government

introduced, mainly stricter fiscal policy. The Fifth plan states that “fiscal policy has the aim of increasing the flow of resources to the government sector for financing development expenditures and providing infrastructure that in turn should generate more growth” (Kingdom of Malawi, 1992:43). Fiscal policy in Malawi considered some of the macro-economic problems, such as the budget deficit that hampered development. In order to solve the macro-economic problems, the Malawi government adopted the Structural Adjustment Programmes in 1988, while enhanced Structural Adjustment Programmes were adopted in 1989/1990 and 1990/1991 (Matlosa, 1991). The plan states that during the reforms, the government was able to reduce the fiscal deficits from 17.4% of the Gross Domestic Product in the fiscal year 1988/1989 to a projected 2.2% of the Gross Domestic Product in 1990/1991 (Kingdom of Malawi, 1992). The major reforms were undertaken especially in agriculture, health, education and other sectors of the economy. According to Matlosa (1991), the privatisation of state institutions was implemented in the early 1990s. This resulted in the privatisation of some state institutions, such as Co-op Malawi (Kingdom of Malawi, 1992). The plan states that Co-op Malawi was performing under its capacity; therefore, it had to be sold out. It is also stated that these credit and financial institutions were inefficient (Kingdom of Malawi, 1992).

The impact of macro-economic reforms on rural development

The impact of the macro-economic reforms in Malawi was still felt in the decades that followed the 1980s, and the main sector affected was agriculture. The Malawi government stopped providing agricultural programmes and institutions with subsidies. The agricultural development programme that was affected most was the Food Self-Sufficiency Programme that government stopped supporting, as well as its Technical Operations Unit (Makenete et al., 1997). As a result, the programme collapsed. Another example is that of Co-op Malawi that experienced the state's withdrawal of agricultural subsidies (Makenete et al., 1997), leading to its closure in the early 1990s. The implication of this is low agricultural subsidies (Makenete et al., 1997), leading to its closure in the early 1990s. The implication of this is low agricultural productivity leading to food insecurity. In this regard, one can argue that reduction/withdrawal of government expenditure on agriculture resulted in food shortage. As a result, the country is too dependent on food donations/aid sourced from other countries. Although the impact of macro-economic reforms, especially reduction of agricultural subsidies to small-holder farmers can be cited as the major contributing factor to food insecurity, agriculture in Malawi is confronted with different impediments.

Factors affecting agricultural productivity/production in recent years

It should be noted from the previous discussion that rural development in Malawi has centred on improving agricultural production through the use of modern agricultural inputs. However, research on the country reveals that the total land area of the country is 30 355 square kilometres, of which 75% is mountainous, while only 9% is suitable for cultivation (Sebotsa and Lues, 2010; Morojele, 2012). Even though about 85% of Basotho households are in the rural areas, and 70% of them make a living from agriculture (Central Bank of Malawi, 2003), productivity in agriculture has been in decline for the past few decades because of different factors. First, soil erosion is cited as the major factor that results in low agricultural production. It is argued by Wellings (1986) and Mbata (2001) that the arable land is situated in the lowlands, but the soils are thin, infertile and prone to erosion. As a result, the contribution of agriculture to the Gross Domestic Product has been in decline for a number of years. For example, in the 1980s the contribution of agriculture to the Gross Domestic Product fluctuated between 20 and 26%, and in 1991 it declined to 13.9% (Selinyane, 1997; Johnston, 1996; McCann, 1999; Central Bank of Malawi, 2003). Evidence further shows that from 1991 even the small manufacturing sector contributed more to the Gross Domestic Product than agriculture which is the sector employing the largest proportion of the labour force, according to official statistics (Central Bank of Malawi, 1997). Furthermore, self-sufficiency in the major staples, such as maize and wheat fluctuated between the 1980s and 1990s. For example, maize production declined from 50 to 40%, while wheat declined from 50 to 15% (Ministry of Economic Planning, 1997).

The downturn in food production resulted in food insecurity in the country, affecting mostly the poor, women and other vulnerable groups. In this regard, vulnerability estimates a nation-wide food deficit ranging from 10 to 47% of the total access to food (Sebotsa and Lues, 2010). Thus, food aid from countries, such as the United States of America and Japan and food imports from South Africa are used to ensure food availability in the country (Makenete et al., 1998; Mbata, 2001). access to credit, inputs, extension services and marketing structures to farmers (Wellings, 1986).

Third, high population growth increases the demand for settlements on agricultural land. It is stated by Omole (2003) that the population growth in Malawi is estimated at 2.6% per annum. Therefore, population pressure has resulted in landlessness estimated at about 60% in the year 2000 compared to 22% in 1980 (Omole, 2003). In addition, the increasing fragmentation of landholdings and the rising level of landlessness are associated with high population pressure (Wellings, 1986).

The research on Malawi further associates existing non-development in the rural areas to labour migration (Wallman, 1972). This is because the migration of the active labour force from the rural areas of Malawi to South African mines causes a decline in agricultural production (Cadribo, 1987; Ulicki and Crush, 2007), as well as the failure of some rural development projects (Wallman, 1972). This situation occurs because agriculture is left in the hands of old and young people (Wallman, 1972; Cadribo, 1987). However, more recent studies show that South African Gold mines have been shedding more jobs (Central Bank of Malawi and Bureau of Statistics, 1995; Marais, 2013) starting from the 1990s, and this has coincided with downsizing in the public sector due to the adoption of Structural Adjustment Programmes by the Malawi government in 1991 (Matlosa, 1991). Therefore, the challenge that faces Malawi is to absorb a high number of retrenchedees from the South African Gold mines, together with people who were retrenched from the public sector because of downsizing. At the same time, food security to food insecure households has to be ensured (Mbata, 2001; Sebotsa and Lues, 2010).

CONCLUSION

Lesotho is faced with many development challenges, mainly poverty and food insecurity. It is expected that the introduction of the Green Revolution technologies by the Malawi government after independence would have increased food production. The Malawi government worked together with some international organizations to ensure food security. The development aid played an imperative role in this regard. For instance, the Malawi government benefitted greatly from donor agencies such as FAO, the World Bank and some bilateral institutions to increase food production. Many of these donor rural development programmes are discussed in this research paper. However, many of them collapsed after the project's life circle, while others were less supported by the local communities. Many of these agricultural development programmes were initiated by the government and donors for the local people. They lacked participation on the part of the beneficiaries during the planning stage. As a result, many of them collapsed. The clear example is that of the Senqu River Valley agricultural project that faced resentment from the young people because many of them were not interested in farming but working in the South African mines. Some other factors that affected agricultural production in Malawi include severe droughts, soil erosion and encroachment of arable land by settlements.

The decline in agricultural productivity/production in Malawi has forced many Basotho men to migrate into South Africa in search of employment in the mines, plantations and industries to supplement meagre

agricultural incomes. The migrant labourer remittances are also used to purchase the agricultural inputs to improve subsistence farming. However, recent studies show that the number of Basotho men working as migrant labourers in the South African goldmines has declined drastically over the years. And this has affected subsistence farming severely. The decline in migrant labourer incomes also suggests that, the incidence of poverty has increased among the households that depended on such incomes for making a living. The prevailing food insecurity has forced the Prime Minister to declare the state of emergency on food insecurity in 2012 and pleaded with the outside world to assist with food donations/hand-outs.

In the light of the above, this research paper recommends the implementation of the programmes and policies that can increase food production. First, that the land tenure system in Malawi should be revisited. Land ownership in Malawi is based on inheritance, and many farmers who lack resources engage in subsistence farming. Lack of resources by many farmers resulted in many fields or land remaining fallow for many years. In this respect, land should be redistributed to capable farmers who have resources and capital. The traditional land tenure system should be replaced with private leasehold tenure with the hope to promote small-scale commercial farming. Second, farmers should be encouraged to diversify their crops, they should cultivate both subsistence and cash crops. In this regard, asparagus production should be revived, and other cash crops that are suitable for the agro-climatic conditions of Malawi should be introduced. Third, irrigation projects should be resuscitated and irrigation farming be promoted throughout whole country. Most of the government and donor funded agricultural rural development projects used irrigation facilities. However, with the collapse of such projects, farming in Malawi depends on unreliable rainfall, and during the dry seasons food production declines drastically.

Conflict of Interest

The authors have not declared any conflict of interest.

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