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Malawi: Analysis of Informative Policies to Resolve Agricultural Issues

Chapter 1: Introduction

Malawi, a landlocked country in south-west Africa, comprised of a primitive and agriculture-based economy is one of the most underdeveloped countries world-widely. Malawi constantly suffers from hunger, low food quality, and poverty due to both natural and anthropogenic reasons. There was a time when most the governmental efforts were counteracted by subsistent factors including the scarcity of finance support and the lack of experience; however, in recent years, Malawi's government has made remarkable progress by establishing a series of policies, such as the NAP (National Agricultural Policies) and the FISP (Food Input Subsidy Program), to combat targeted issues efficiently. With so many other countries tolerating even more severe conditions than Malawi, there are absolutely lessons we can learn from its actions. Therefore, it is necessary to analyze the current situation in Malawi, the causes to those main negative phenomena, and the value of the policies.

Like any other agriculture-based economies, Malawi is confronting the instability of agricultural production caused by climate volatility. And like other underdeveloped country, Malawi's progression is limited by its shortage of capital accumulation and its behindhand education system. For decades, the nation sustained simultaneously from the lack of comprehensive acknowledgment of the status quo, anti-disaster abilities from floods, droughts, and the coordination and coherence in agricultural policies.

Negative impacts such as the deteriorating food security and quality, the aggravating food monotony, and the restricting development of agricultural modernization, occurred within the issues mentioned in the prewise paragraph and would persist in the next decades.

However, despite the inconvenience to development, Malawi has enormous potential in agricultural development. According to the Ministry of Agriculture, the nation has the ability to double the agricultural production, to improve food security, and to improve civil welfare through NAP (National Agricultural Policies) by transforming the self-sufficient economy to commercial economy. Moreover, Malawi possesses an abundant amount of agricultural resource which ensured the sustainable development and a fundamental condition of further agricultural modernization.

Chapter 2. Analysis of the current Agricultural Situation in Malawi

2.1 Agricultural Activities

2.1.1 Synopsis According to the data referred from IFPRI (International Food Policy Research Institute), the percentage of households cultivating crops in the rainy and dry seasons presented a rearing livestock between

2009/10 and 2015/16 agricultural year, but a slight increase in fisheries involvement occurred. The graph below shows the intuitive proportions of the five main agricultural activities in Malawi. Due to climate volatility, all the main activities except Fisheries have declined in the past five years.

Figure 1¹

2.1.2 Fertilizer In Malawi, median land area cultivated per agriculture household remained small and declined from 0.57 hectares and 0.45 hectares. Within this household feature, the usage of fertilizer remained incomprehensive, due to the poor economy performance of the nation. Despite large investments in the farm input subsidy program and distribution of subsidized inorganic fertilizer, nearly a quarter of maize plots cultivated (22%) have no fertilizer applied and an additional 9 percent of maize plots were cultivated using only organic fertilizer. Median maize yields were highest where inorganic and organic fertilizer were used together, followed by plots using inorganic fertilizer only

2.1.3 Intercropping Intercropping is a kind of farming technique that planted different kinds of plants on the same field simultaneously in order to make more efficient application of the agricultural resources. Maize, the

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main crop in Malawi, is primarily intercropped with legumes, including pigeon peas, beans, groundnuts, soybeans, and nkwani like pumpkins leaves; other plants like ground nuts, tobacco, and rice were mostly mono cropped which means only a certain kind of plant can be produced within a certain period of time on the same field. Maize yields were higher when plots were intercropped with beans and nkhwani, relative to pure mono cropped maize.

2.2 Food Security

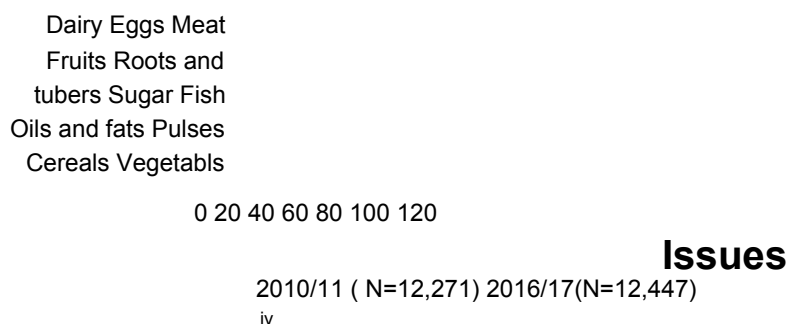
2.2.1 Definition of Food Security The food security is defined by multiple indications of disrupted eating patterns and the reductions of nutrition intake, as well as reductions in food quality, variety, quantity, and frequency of food consumed.

2.2.2. Synopsisⁱⁱ The overall situation of food security in Malawi was not optimistic, and the food quality tends to keep declining in the near future. From agricultural year 2010/11 to 2016/17 the number of families suffering poor food security doubled and reached 61%ⁱⁱⁱ among all families in Malawi.

2.2.3. Household Food Consumption The household consumption of major food groups in 2010/11 and 2016/17 showed a notable decline in the percentage of households that consuming fruits, roots and tubers, sugar and meat. The decline of meat consumption with smaller declines in consumption of pulses and fish, suggested decreased protein intake. Declines in root and tuber consumption were driven by a sharp decline in the percentage of

households consuming cassava, from 43% to 25%.

Figure 3: Household Consumption of Major Food Groups,
2010/11, 2016/17



Chapter 3. Evaluation of Main

3.1. The Negative Cycle between Usage of Fertilizer and Volatility of

Climate

3.1.1. The Usage of Fertilizer

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As the agricultural growth in Malawi is heavily dependent on rainy seasons and the growth is volatile due to frequent droughts and floods, the farmer spontaneously expands the usage of fertilizer to deal with food deficits.

3.1.2. The Climate Volatility in Malawi Malawi comprises of a savanna climate with an annual average temperature of 20°C. Universally, a savanna climate is featured with a high annual average temperature and divided rain and dry seasons caused by the alternative influence of equatorial depressions and the trade winds. In addition, Malawi also suffers from the El Nino, an unusual periodic phenomenon that causes climate volatility such as droughts and floods.

3.1.3. The Negative Cycle ^vAccording to Malawi's heavy dependence on precipitation mentioned in 2.1.1, farmers would inevitably expand the usage of fertilizer when confronting the food deficit caused by climate volatility. When the employment of fertilizer expands, environmental problems may emerge including the decreasing soil quality and the unstable climate. As a result of the lack of necessary knowledge, farmers would employ more fertilizer to retain the food production which will eventually form a negative cycle between the usage of

fertilizer and volatility of climate.

3.2. The Scarcity of Agricultural Modernization

3.2.1. The Importance of Agricultural Modernization The process of agricultural modernization is to transform the subsistence traditional agriculture into the modern agriculture which contains the assistant of novel technology. As a result, an agricultural production system with high yield, high quality, and low consumption; an agricultural ecosystem with a rational usage of resources, environmental protection, and high conversional efficiency would be formed.

3.2.2. Analysis of the Irrigation System in Malawi In Malawi, the irrigation systems (an example of Agricultural Modernization in Malawi) aren't used regularly during the rainy session; while in dry reasons they are put in use among a wide range, 67.1% of all the plots. Within the irrigation system, "Buckets" is the most popular form accounted for 50.9%, the second popular form is stream diversion for 8.1% followed by treadle (3.5%) and gravity-fed systems (2.8%). It is clear that the irrigation systems in Malawi remains primitive and the agricultural modernization should be one priority work for government.

Chapter 4. Solutions and Prospects

4.1. Policies

4.1.1. The Functions of the "NAP" and "FISP" According to the "National Agricultural Policy"^{vi}, the main purpose of the program is to "ensure sustainable development, increase mechanization, expand irrigation, increase agricultural processing and added value, strengthen risk management, strengthen marketing systems, accelerate export growth,

and improve food security and nutrition."

The focus of the policy is to achieve farmer-led agricultural transformation and commercialization, that is, to treat agriculture as a business. The policy also promotes and takes advantage of the dynamic transformation taking place within agricultural communities, particularly the shift of agricultural households to non-traditional high-value agricultural value chains, and increased participation in profitable off-farm and non-agricultural livelihoods. The

FISP, “Food Input Subsidy Program”, on the other hand, focused on the reduction of fertilizer and seeds cost. In general, FISP is to deal with the emergency climate volatility and the instability of agricultural growth caused by the incoherent policies and the overdependence on maize and tobacco.

4.1.2. The functions of the Revised National Seed Policy The Revised National Seed Policy (RNSP), aimed to regulate and control all seed-related issues, protect consumers and distributors, and promote the establishment of a responsible and efficient seed industry. With maize being the main crop for ensuring food security in Malawi, in order to alleviate the impact of poor harvest of staple food, the government has established a food reserve supervised by the National Food Reserve to make up for the deficiencies of the current system, and improved the management of the Strategic food Reserve. The government also established the Malawi Early Warning System (MWS) to provide timely funds to support agriculture.

4.1.3. The Effect of the Policies Depending on the food-based social safety nets in 2016/2017, 20% households received free maize and 15% received free food other than maize. Moreover, children in 11 percent of households benefited from various school feeding programs. Reduction of fertilizer and seeds cost; Under this scenario national GDP growth averages 7.2 percent, with growth in cereals driving overall economic growth

¹The subsidy serves coupon for either fertilizer or seed. And the coupons are available for one fifth of the agricultural households. Most of the receivers get a fertilizer coupon, while only 9.6% of the available farmers received both fertilizer and seed coupons.

Subsidized fertilizer and seed mainly for maize production has led to a rapid growth of GDP. An abundant supply for calorie-laden staple maize is good for reducing calorie deficiency. On the other hand, the Methods to reduce the issue of micronutrient deficiency is still unclear within the FISP policies.

4.2. The transition from Self-Sufficient Economy to Market Economy

4.2.1. The feasibility of external funds ^{viii} As mentioned in 4.1.1, the NAP aimed to increase mechanization, expand irrigation, increase agricultural processing and added value, strengthen risk management, strengthen marketing systems, and accelerate export growth. Considering the underdeveloped performance of Malawi's national economy, it is necessary to expand international trade within which process external funds will spontaneously rush into the prominent market with high developing potential.

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The government itself won't give up the multiple benefits brought by external funds. In recent years, due to the establishment of the NAP policies, Malawi has accumulated enough capital to globalize. Moreover, Malawi's administration is aware that only to provide working opportunities and comprehensive education to gain knowledge, can the nation achieve the transformation to commercial economy and develop stably and sustainably. And both of the things mentioned can be promoted by the introduction of external funds. Meanwhile, Malawi has plentiful available land resource for companies to develop processing industry based on Malawi's agricultural production and consequently working position and advanced knowledge are given to the famers and their family.

4.2.2. Proposals in Funding ^{ix} Considering the feasibility of external funds and the natural advantages, there are many investment advantages in Malawi. The most basic investment proposal is to enhance agricultural modernization. Horticultural products such as vegetables, fruits, and rice can use surface water, gravity water pumps, river diversion or irrigation. According to the Ministry of Agriculture, only 74,000 hectares of the 400,000 hectares of the land suitable for irrigation have been irrigated which indicated great opportunity in developing horticultural products. Soybean planting is another ideal target for funding, Malawi needs high-protein crops to make breakfast cereals for people living with HIV/AIDS. Soybean can also be made into additives in meat, bread, and animal feed and also to produce soy mild and soap. Like other light processing industry, the processing scale of soil bean is small, but the investment potential is sizable. Peanut planting has an overall similarity with soybean planting, but the investment can be more specific. The main problem of peanut planting in Malawi is the low quality and backward cultivation technique that results in exceeding aflatoxin content. The funds on peanut farming should be focused on the deep processing. Another potential beneficial investment is the dairy industry. The average consumption in Malawi is far lower than the standard WHO's recommended which is 40 times higher than the consumption in Malawi. In Malawi, there are 17,000 dairy farmers and 8,800 own cows, with an average daily yield of 67,000 liters, and small dairy farmers produce a yield of about 2,400 liters a day. The overall dairy productivity in Malawi is primitive. Consequently, 50% of the dairy products need to be imported. The investment should focus on cow feeding, feed planting and production, planting, production and sale of hay and other services such as artificial insemination, pot operation, drug management, raw milk transportation.

4.3. Prospects:

Methods to diminish Hunger and Poverty in Underdeveloped Countries.

4.3.1. The Principle of Policy Establishment—Reference to Practical Situations

Throughout Malawi's exploration to development, the nation has conquered numerous obstacles. In the early years it was restricted by overdependence on government enforcement. After stabilizing the domestic situation, extreme climate volatility devastated the feeble accumulation. When the country finally went on the track of free market and targeted government subsidies, issues like government corruption and the incoherent policies occurred. And finally, in 2016, Malawi established the "National Agricultural Policies" and its ancillary subsidy programs under the administration of H.E Prof. Arthur

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Peter Mutharika, the present president who aimed to resolve all the issues that limit the efforts to confront poverty and hunger in this country.

The present backbone policy in agricultural issues, also the main issue in economic development, puts inconceivable attention in promoting modernization, gathering international funds, and improving agricultural structure. Meanwhile, the "NAP" advocates the balance between governmental intervention and free market based on the experience and capital accumulation in the recent years, the balance, which both ensure governmental aid and the market vitality, is one of the most efficient patterns to stimulus development for an underdeveloped country.

In addition, Malawi focused on the backbone category, the agriculture. It aimed at improving the basic quality of agricultural production and also set plans to enhance the processing industry of agricultural products. Within this process, it decided to introduce external funds which will also bring technological modernization, working opportunities, and better education to the nation. Malawi decided to maximize the profits of its advantageous agriculture, then use the accumulation to transform to service industry and processing industry.

Despite the small capacity of social welfare due to Malawi's economic disadvantages, the government established a series of practical subsidy to help farmers by distributing coupons of seeds and fertilizer, ensuring food supply for children, supervising seed qualities and so on.

4.3.2. The most Fundamental Solution—Education and Working Opportunity If we look

through the world history, social development is directedly motivated and limited by economic performance. Economic performance generally contributes to two elements, the enhancement of education and increasing working opportunities and will make alike contribution to the two elements. As an underdeveloped country with a self-efficient economy, Malawi naturally lacks both of the elements; however, in recent years, Malawi has made an impressive growth in its GDP and set up ambitious goal to receive external funds. During this process, when profit-seeking investors rush into Malawi's market, the working opportunities especially in industrious field will ascend dramatically; therefore, the government can improve the primitive education system using the revenue from industry and the improved education ,which provides talents, will also benefit the industry and social development. Consequently, the poverty and hunger will be diminished by the prosperity emerged from the positive cycle mentioned above.

4.3.3. The Opportunities—Modernization and Globalization Both of the prospects mentioned in 4.3.1. and 4.3.2. are based on two opportunities and only if a country adhere to the opportunities of modernization and globalization, can it achieve the positive consumptions mentioned in 4.3.1. and 4.3.2. For domestic agricultural development, modernized agriculture using technological assistants is the most fundamental and effective way to boost economic growth. Modernization will maximize the productivity and consume natural resource in the most efficiently way. Globalization is the fundamental channel to gather external funds in order to deal with the shortage of capital in an underdeveloped country. Globalization will also increase working opportunities and enhance education which are accompanied with economic development and will promote a better commercial performance.

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Just as Malawi did, after clarifying the obstacles of social development, mainly in agricultural field, the government should adhere to globalization and modernization to diminish poverty and hunger in its country.

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