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FARMER MANAGED SEED SYSTEM: FIGHTING FARMER INPUT SUPPORT PROGRAMME (FISP) IN ZAMBIA



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LIST OF ACRONYMS/ABBREVIATIONS

COVID 19	Corona Virus Disease 2019
DRC	Democratic Republic of Congo
FISP	Farmer Input Support Programme
GMOs	Genetically Modified Organisms
GRZ	Government Republic of Zambia
IAPRI	Indaba Agriculture Policy Research Institute
ITPGRFA	International Treaty on Plant Genetic Resources for food and Agriculture
NPK	Nitrogen, Phosphorus and Potassium
РН	Potential Hydrogen
UNDP	United Nations Development Programme
UPOV	International Union for the Protection of New Varieties of Plants
UPOV	Union for the Protection of New Varieties

1.1 Background

Zambia is a landlocked country located in the southern hemisphere of the African continent. It is surrounded by countries namely: Democratic Republic of Congo (DRC) to the north, Tanzania to the north-east, Malawi to the east, Mozambique, Zimbabwe, Botswana and Namibia to the South and finally Angola to the west. Zambia enjoys a stable political, social, cultural and religious environment. It has a population currently estimated at over 13 Million people with the largest population concentrated around Lusaka and Copperbelt provinces¹.

Peasants are smallholder farmers. In the article 'Peasant Farming', Gwladys Esteve, Maelle Herve and Simon Giulliano defined peasant farming as "an agricultural mode of production, defined by interconnected rules such as seeking self-sufficiency in all of the farm's operations, respecting the surrounding environment, and sparing scarce resources such as water and energy. Seed production, storage, exchange mechanisms and variety development by local farmers are principal components that form peasant seed systems"². Peasant seeds are produced through the inspiration of natural systems in particular countries with particular climatic conditions and have been selected and managed by local people in the local growing environment. Farmer managed seed systems play an irreplaceable and critical role in sustaining farming practices and form by far the most important source of seeds for crops production at all scales.

In the year 2002, the Government of the Republic of Zambia (GRZ) adopted the Farmer Input Support programme (FISP), initially known as the Fertilizer support programme (FSP), which subsidizes inputs to the small-scale farmer³. At its inception, FISP was inspired by two goals; the first being the shifting of a select group of farmers to commercial farming while the second was to provide a form of social protection to the poorest farmers. FISP aims to improve access of smallholders to inputs, promote private delivery of inputs, to ensure timely, effective, and adequate supply of agricultural inputs, increase maize production and improve farm incomes and food security⁴.

1.2 Status of Hunger and Malnutrition in Zambia

¹ United Nations Development Programme (2021). Zambia's Country Profile. Available at:

https://www.zm.undp.org/content/zambia/en/home/countryinfo/

² Gwladys Esteve, Maëlle Herve, Simon Giuliano. (2019) Peasant farming: Definition. Dictionnaire

d'Agroecologie, https://dicoagroecologie.fr/en/encyclopedia/peasant- farming/

³ Nicole M. Mason, T. S. Jayne, and Rhoda Mukuka. (2013). A Review of Zambia's Agricultural Input Subsidy Programs: Targeting, Impacts, and the Way Forward.

⁴ idem



Hunger in Zambia is extreme, as most families do not have the capacity to afford food. Rural communities are even more deprived and vulnerable to the hunger situation in the country. Zambia's malnutrition rates remain among the highest in the world. World Food Programme found that the country ranked 146 of 189 in the 2019 Human Development Index, with 48 percent of the population unable to meet their minimum calories requirements, more than one-third of children under five years stunted and more than half suffering from iron deficiency⁵.

Despite the introduction of the FISP, levels of malnutrition in the form of stunting, underweight and wasting have barely changed in the population. According to a study conducted by Hivos and International Institute for Environment and Development (IIED) in 2017, most Zambian government agricultural funding is still spent on promoting maize production despite repeated findings that this does not reduce food insecurity in the most vulnerable farming households⁶. Maize makes up the major part of the national diet, while nutrient-rich foods such as legumes, animal-source foods, fruit and vegetables are eaten in small quantities, particularly amongst the poorest families. Therefore, Many Zambians live with food insecurity and malnutrition as a result of poor diets.

The FISP has contributed to the hunger and malnutrition status in the country in various ways. The FISP has massively promoted selected hybrid seeds of maize, sugar beans, soyabeans,

⁵ World Food Programme. (2021) Zambia Country Brief. Available at: https://www.wfp.org/countries/zambia

⁶ Mwanamwenge, M. & Harris, J. (2017) Agriculture, Food Systems, Diets and Nutrition in Zambia, Discussion Paper, IIED/Hivos.

groundnuts, and sunflower, hence encouraging monocropping. Therefore, malnutrition has intensified due to lack of diversity of crops grown on a piece of land to supplement the nutrient intake. In the case study of Chiawa in Kafue district⁷, the FISP may have led to national food security in terms of tonnes of maize produced, however, the FISP has not resulted into household food security among the FISP beneficiaries as they still lack basic nutritional requirements.



The synthetic fertilizers accessed through the FISP contain only three elements namely Nitrogen, Phosphorus and Potassium (NPK) of the 16 required elements for crops to grow and be nutritious, thus the mineral contents of many crops are considerably lower. This is mostly related to the decline in soil quality, specifically decline in the diversity of microbes present in the soil which increase the supply of minerals to plants such as copper, iron, nitrogen, phosphorus, Zinc and many more⁸. This entails that nutritious foods are not guaranteed in conventional farming systems as compared to agroecological practices (manure, compost, intercropping, bio fertilizers and bio pesticides) which aim at growing healthy and nutritious crops while improving soil and environmental conditions.

Conventional farming systems promoted through The FISP have increased the level of vulnerability among small scale farmers as input prices of hybrid seed, synthetic fertilizers and pesticides are too expensive for small scale farmers to afford. For example, in the 2020/21 farming season, a 50 Kilogram bag of Basal fertilizer was trading at an estimation of K600.00 on the Zambian market. This is expensive because to produce one hector of maize a farmer requires 8 bags of fertiliser costing approximately ZMW 4,800 as compared to use of animal and plant compost manure to provide nutrition to crops which do not cost anything as most

⁷ Allan Magasu. (2016) The Effectiveness of Farmer Input Support Programme in Promoting Household Food Security: The Case of Chiawa, Kafue District, The university of Zambia.

⁸ Audain K. (2020). Poor Soil Quality Reduces the Nutrient Content of Many Crops. Here's Why. Provelopment. Available at <u>https://provelopment.wordpress.com/2020/03/01/soil-quality-affects-the-nutrient-content-of-the-foods-we-eat/</u>

since these resources are freely available. The increase in prices of the certified seed and chemicals has also led to the increase in prices of food. Therefore, majority of Zambia's population living below the poverty line cannot afford to buy food, thus causing hunger and malnutrition in homes.

Synthetic fertilizers promoted through the FISP, supply nutrients to crops for only one particular farming season. They are effective only at a particular point of application, in a long term this leads to loss of biodiversity and cause various detrimental effects to the environment by the destruction of the soil's microorganisms, killing of valuable insects and leaving the soil degraded, barren and unproductive⁹. The FISP permits farmers access to only hybrid seed which cannot be recycled for the next farming season. Farmers therefore purely depend on seed and chemical production companies each and every year, thus increasing their vulnerability and causing an increase in fertilizer and seed prices. Most farmers who cannot afford expensive inputs thus remain poorer and cannot provide food for home consumption and for sell.

The promotion of hybrid seed varieties through the FISP has also led to erosion of Zambia beneficial farmers seed. Unlike most conventional seed varieties, Zambian local seed such as Munali, Buusumili, Gaangata, Kapya bwangu and Kafwamba among other farmers varieties are very nutritious, taste better, have medicinal purposes, are adaptable to local climates, are not chemical hungry, perform very well with organic manure, can be recycled yet give tremendous yields and are Zambian very own treasured cultural heritage¹⁰.

Despite the FISP and government policies aiming at improving food and seed sovereignty, the FISP provides neither food and seed sovereignty, nor adequate nutrition for all. Seasonal hunger still affects many families; a significant proportion of children still suffer from stunted growth, and overweight and attendant diseases are increasing in adults. What connects the issues of hunger, malnutrition and chronic disease is the lack of availability and accessibility of diverse foods all year round for healthy and nutritious diets. For most of the foods grown on Zambian soils, small scale farmers are increasingly adopting massive chemical use because they are victims of the brainwashing game through the FISP.

1.3 Seed Systems in Zambia

⁹ Benton, T., Bieg, C., Harwatt, H., Pudassaini, R., & Wellesley, L. (2021). Food system impacts on biodiversity loss Three levers for food. In Chatham House: Energy, Environment and Resources Programme (Issue February).

¹⁰ Baidu-Forson, J.J., Phir, N., Ngúni, D., Mulele, S., Simainga, S., Situmo, J., Ndiyoi, M., Wahl, C., Gambone, F., Mulanda, A., Syatwinda, G. (2014). Assessment of agrobiodiversity resources in the Borotse flood plain, Zambia. https://core.ac.uk/download/pdf/33719339.pdf



Seed systems are crucial as they determine sustainability of food production. Effective seed systems have the potential to quickly and economically increase food production. Farmers, particularly small scale, are involved in multiple kinds of seed systems which help them produce and obtain the seed they need. Seed systems are the vehicle through which farmers get good quality seed of the crop varieties they want and need. These systems can be broadly divided into two types: a formal seed system and a farmer managed seed system.

The formal seed system is easier to characterize as it is a deliberately constructed system involving a chain of activities leading to clear products, which are certified seed of verified varieties. The guiding principal is to maintain varietal identity and purity and to promote seed of optimal physical, physiological and sanitary quality. The central premise of a formal seed system is that there is a clear distinction between seed and grain. This system is governed by rules and regulations of the law.

The famer managed seed system is also sometimes called the informal, traditional, or local. It is called informal because it operates under non-law regulated. Activities tend to be integrated and locally organized and the system embraces most of the other ways in which farmers themselves produce, disseminate, and access seed: directly from their own harvest, through exchange and barter among friends, neighbors, and relatives, and through local grain markets. Much of the world's biological diversity like in Zambia is in the custody of farmers who follow age-old farming and land use practices. These ecologically complex agricultural systems associated with centers of crop genetic diversity include not only the traditional cultivars or 'landraces' that constitute an essential part of our world crop genetic heritage, but also wild plant and animal species that serve humanity as biological resources. Taking the time and effort to record the indigenous agricultural knowledge for a given ethnic group can provide important guidance for the research agenda for both national and international agricultural research centers¹¹.

Sustainable consideration of a farmer managed seed system takes into account the wider principles of ecologically, economically and socially sound approaches which further interpret sustainability. These principles address the challenges of meeting basic food needs, generating income for the rural poor, and providing a foundation for protecting the environment. A sustainable seed system will ensure that high quality seeds of a wide range of varieties and crops are produced and fully available in time and affordable to farmers and others.

In Zambia the FISP (formal seed system) has not been able to provide a diversity of seed varieties to meet human nutritional needs. Zambia's agriculture production system has lost its biodiversity due to the promotion of monoculture (Maize) and as a result, food varieties which are locally produced have reduced. For instance, if only maize is promoted, there is lack of alternatives that farmers can grow to supplement their nutritional demands. This situation has resulted in the need to import food, which is expensive for an average person/family. The FISP promotes seed industry.

The seed industry is now a business mainly distributed by multinational seed companies concerned about profit maximization, leaving thousands of local nutritional indigenous varieties out of the food supply system. Multinational companies have taken advantage of the climate change effects to push forward their agenda of maximizing profits through developed varieties of hybrid seed, but also agro-chemicals that work hand in hand with their engineered varieties all in the name of adapting to the damaging effects of climate change. Even when such occurrences are notable, industrial seed systems such as the FISP are part of the ecological problem today leading to climate change, degradation of soils, environment and contamination of water resources. The FISP cannot turn the fortunes because it is implemented to favor the agenda of these perceived powerful multination seed industries by promoting their seeds, fertilizers and chemicals.

Food plays many roles: food is a social glue, a cultural expression, an economic commodity, and a source of nutrition. The amount of variety and nutritional quality and safety of foods in diets are largely affected by the availability and accessibility of different foods, both on the market and from farmers' own production. The seed system in Zambia that promote the FISP and neglect farmer managed seed system has failed to provide the foods that would allow for diverse, nutritious, affordable, sustainable diets for all.

1.4 Seed Sovereignty in Zambia

Seed sovereignty is integral in a country like Zambia where most of the country's population still wallows in poverty. Seed gives everyone hope because it is a great resource for every

¹¹ Warren, D. M. 1992. Indigenous knowledge, biodiversity conservation and development. Keynote address at the International Conference on Conservation of Biodiversity in Africa: Local Initiatives and Institutional Roles, Nairobi, Kenya.

nation and its manipulation means a compromised food system. A farmer managed seed system enables farmers' seed sovereignty this allowing farmers to be independent from the financial burden of purchasing seeds each time they want to plant. In addition, a famer managed seed system provides farmers freedom to choose which seed varieties to grow.

A farmer managed seed system is readily accessible by rural communities , in adequate quantities of qualities and it is adaptable to local agro-ecological zones and conditions. Unfortunately the government of Zambia does not support farmer managed seed system rather it supports industrial seed system through the FISP. Hence, seed has become a business in Zambia for the reason that larger corporations have taken over the seed system. Local varieties are marginalized as most national programmes promote new varieties of commercial nature. The International Union for the Protection of New Varieties of Plants (UPOV) is one of the mechanisms being championed to suppress farmers' rights. This international union will only support the introduction of Genetically Modified Organisms (GMOs), will infringe on farmers' rights¹², and will only monopolize the seed system further making small scale farmers more vulnerable because they would only have to depend on the seed produced by multinational corporations. It is key to mention that the objective of most of the multinational companies in the industry is profit maximization, neglecting the levels of safety, health and nutrition needed in our seed and food systems.

It is evident that through the FISP, local seed varieties are neither provided, promoted nor protected. However, expensive hybrid seed, synthetic fertilizer and pesticide supplements to realize good yield are promoted. The beauty with local varieties is that they can be recycled and guarantee sustainability of the seed but also the environment because they are chemical free. Local seeds do not need any form of chemicals to grow but rather maximizes organic fertilizer, pesticides and other eco-friendly practices that embrace nature.

Farmers' rights to save, exchange, sell seed as outlined in the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)¹³, are infringed in the FISP. Farmers have been pushed out of seed breeding and forced to become consumers of non-renewable, patented seeds sold by industries which are increasingly monopolizing the seed supply. As much as technology is key, it should not be a recipe for creating new unsafe varieties that will affect marginalized communities even more. These are the main reasons for which farmers have lost most of their precious traditional seeds. Hence, seed sovereignty in Zambia is very critical.

1.5 Food sovereignty and pandemics in Zambia

¹² Christinck, Anja & Tvedt, Morten. (2015). The UPOV Convention, Farmers' Rights and Human Rights. An Integrated Assessment of Potentially Conflicting Legal Frameworks.

¹³ ITPGRFA Secretariat (2011). Introduction to the International Treaty on Plant Genetic Resources for Food and Agriculture: Module 1. ITPGRFA Secretariat, FAO, Rome, Italy.



Food sovereignty encompasses the right of people to determine their own policies relative to food and agriculture as opposed to having their food supply subject to market forces. As long as the FISP is being implemented with its core goals, small scale farmers will entirely have to remain dependent on the government of Zambia and seed industries to provide them with seed and chemicals to facilitate their farming activities in the face of pandemics.

Pandemics such as the COVID 19 have exposed flaws in the FISP and encouraged the significance of food sovereignty in Zambia. Zambia experienced lockdown which affected food systems, causing a substantial increase in food prices. The pandemic provided an indication for the need to adopt a paradigm shift from the current conventional farming path Zambia is in to a more sustainable path that ensures that citizens have enough food to sustain themselves. This could be achieved if farmers maximize their natural systems through agroecology and various sustainable farming systems as they can grow their own food naturally without using imported fertilizers and other agro-chemicals. Additionally, farmers would always have seed in store and would grow their food without depending on seed production companies for seed.

Restoring food sovereignty especially in light of pandemics such as COVID 19 will require the re-introduction of farmers' food production, distribution practices and infrastructure. Food sovereignty initiatives will empower farmers to grow their own healthy, nutritious produce, lower food insecurity, prevent emergence of diseases associated with intensive chemical use, preserve natural ecosystems, maximize farmers' seed and improve overall consumer health and encourage more importantly resilience.

The FISP has neglected food sovereignty for the reason that it has not considered communityled initiatives that involve controlling and managing all the factors that contribute to sustainable food systems. Such communities have the potential to ensure both food sovereignty and sustainability, thereby realizing access to healthy, culturally-appropriate and nutritious food.

It is therefore important that people in Zambia reclaim their food sovereignty by rebuilding relationships between them and their land which has been both directly and indirectly victimized by the constant use of chemicals with detrimental effects.

1.6 Farmers' Seed and Resilience



Farmers' seed is key for sustainable farming systems due to the benefits to the environment, society and the economy. Despite the increasing evidence of threats to Farmers' seed and food systems, communities in Zambia are conserving, innovating and promoting their traditional seed, offering very important lessons for rural development. Farmers' seeds are indeed nature's gift and cannot be produced using artificial methods. A general proposed intervention to seed security in Zambia should be a recognition and protection of local seed through devised policies for better, just and sustainable seed systems.

Research shows that, indigenous and natural seed is more resilient to environmental shocks such as changing climates. The fact that it is glued to natural ecosystems and techniques, its resilience and adaptability capacity is high. Farmers' seed yield fervently using eco-friendly techniques and inputs such as compost, manure and bio-pesticides which have further benefits for enhancing soil fertility and quality. Farmers' seed has numerous gainful returns such as availability, affordability, health, safety, resilience, nutritious, used as both grain and seed among other positives¹⁴.

Farmers knowledge, particularly in the African context, has long been ignored and maligned by outsiders. Today, however, a growing number of actors (CSOs, social movements, etc...) are pushing for the recognition of local-level farmers' knowledge and protection of peasant seed systems, which are sustainable. Therefore, a number of actors either at individual or collaborative level are now advocating for sustainable, health, safe, and resilient food systems and this could be attained by using Farmers' seed and practicing agroecology.

A few multinational companies controlling the seed industry will deprive farmers of having and managing their own seed as most of the farmers' seed will be eroded. Thus, in countering this occurring trend, community development strategies emphasizing a link between biological and cultural heritage in farmers' food systems should be put in place. Such interventions would include hosting cultural seed festivals and fares, establishing and maintaining community based-seed banks and facilitating inter-community seed exchanges.

1.7 Challenges of the FISP to the Zambian Food System



¹⁴ Baidu-Forson, J.J., Phir, N., Ngúni, D., Mulele, S., Simainga, S., Situmo, J., Ndiyoi, M., Wahl, C., Gambone, F., Mulanda, A., Syatwinda, G. (2014). Assessment of agrobiodiversity resources in the Borotse flood plain, Zambia. 1–44. https://core.ac.uk/download/pdf/33719339.pdf

Implementation of the FISP has posed various challenges to the Zambian food system. The costs for managing and distributing farming inputs under the FISP have been escalating since its inception and many Civil Society Organisations have advised that the funds could be utilized for other agricultural projects with greater impact. In addition, under the FISP farmers are provided with little varieties of seeds, which cannot regenerate.

The programme, despite being perceived to benefit a considerable number of farmers, has increased complexities and has encouraged the continuation of the green revolution model¹⁵, which completely supports conventional farming and is a compromise on sustainable development. Furthermore, for farmers to benefit from the FISP, they need to belong to co-operatives through which their subscription fees under the FISP can be channeled to the central authority which is the Ministry of Agriculture. This is a challenge to some farmers who cannot afford to pay the required minimum annual amount of ZMW 400 to subscribe for the FISP inputs.

The FISP has continued to encourage the dominance of multinational companies through agro dealers to make available varieties of hybrid seeds and synthetic fertilizers and pesticides. These degrade soils, influence the emergence of new pests and plant diseases, erode indigenous crop varieties, encourage monocropping, neglect food diversity, and increase the levels of malnutrition and other health detriments.

The FISP infringes farmers' rights to own, save, exchange and sell seed due to the fact that it only provides seed produced and patented by registered plant breeders who forbid farmers from selling, exchanging and saving the seed for the next farming seasons. Small scale farmers thus remain vulnerable to shocks such as COVID 19 as they dependent on seed and chemical supply. In addition, farmers remain poor, while enriching the seed and chemical companies. The fact that the FISP promotes monocropping rather than multi-cropping, the food system in Zambia has almost the same agricultural produce and there is lack of diverse and nutritious foods available on the market. This is an infringement on human rights to food and nutrition as citizens have the right to diverse and nutritious foods.

¹⁵ Rosa Luxemburg Foundation, the alliance for green revolution in Africa, false promises, <u>https://www.rosalux.de/fileadmin/rls_uploads/pdfs/Studien/False_Promises_AGRA_en.pdf</u>

1.8 Conclusion

A sustainable farmer managed seed system is possible in Zambia. Hence, fighting for the transformation of the Farmer Input Support Programme towards the promotion and protection of farmers' seed is one of the key steps to reaching agroecology, food and seed sovereignty, and healthy environment. A farmer managed seed system is critical for poverty reduction, food security and nutrition for Zambia. However, this should be cautiously done in order to guarantee a just, resilient and sustainable food system as a whole.

The FISP was inspired by two goals which are: 'the shifting of a select group of farmers to commercial farming and to provide a form of social protection to the poorest farmers'.¹⁶ Neither goals of the FISP have been achieved, as farmers are more vulnerable and poorer. The programme has since its inception promoted wide use of hybrid seed, pesticides, synthetic fertilizers, monocropping and neglects farmers healthy seed thus infringing the right to food and nutrition, affecting Zambia population health and economy, and leading to the loss of Zambia treasured biodiversity.

Farmer managed seed system is reliable for sustainable farming methods such as agroecology. In spite of multinational seed companies' effort to replace the farmer managed seed systems for systems in which farmers use commercial seed varieties, the major part of agricultural land in the world is still sown with seed that is informally produced by farmers. Rural social change and seed sovereignty is possible. However, this cannot be realized through the FISP as it goes against the principles of sustainable agricultural development.

It should therefore, be everyone's quest to ensure that farmers become independent and reverse the current FISP dependency trajectory on these farmers since it reflects enslavement. With farmers being over-reliant on receiving inputs, their vulnerabilities increase especially when unforeseen pandemics arise which call for farmers to secure enough seed and sustainably grow enough food. There is definite need for fighting against the FISP, and conducting research on developmental programmes with a direct sustainable impact for small scale farmers. There is also need for policy frameworks that embrace and protect local varieties and encourage agroecological practices.

It is indeed a challenge that farmers are not trained on the relationship between farming activities and the Right to Food and Nutrition (RtFN) in Zambia. This is a timely pointer that capacity building programmes on the RtFN are of great , taking into consideration agroecology, food sovereignty and healthy environment. In addition, skills and knowledge sharing would be sustained through farmer to farmer engagements.

¹⁶ IAPRI, Review of Zambia's Agricultural Input Subsidy Programs: Targeting, Impacts, and the Way Forward, by Nicole M. Mason, T. S. Jayne, and Rhoda Mofya-Mukuka, Working Paper 77, August 2013

1.9 Recommendations

With respect to the above concerns, below are some of the recommendations:

For the Zambian government

- i. Redefining Zambia's agricultural system for a sustainable, just and resilient seed systems by emphasizing on sustainable farming approaches such as agroecology which promotes the production of a diverse and healthy food basket.
- ii. Establishing of farmer seed banks at community level for purposes of multiplication, saving, use, exchange and sell with fellow farmers. This will sustainably support them as they will not rely on FISP for inputs but will in the long run become self-dependent.
- iii. Empowering small-scale farmers through capacity building trainings for sustainable agricultural practices. Once empowered, they enhance and or strengthen their knowledge to make their own organic fertilizers and herbicides, plant their own seed which they can access through established community seed banks.
- iv. Investing highly in agricultural research and skills development on prominent sustainable agricultural intervention thematic areas for a more targeted results-based approach. In addition, this would also include conducting baseline surveys to understand various parameters for more insightful policy advocacy.
- v. Make extension services more responsive to improved food diets and nutrition. This can be done through the formulation of deliberate strategies that support small scale farmers to focus on producing safe foods for both consumption and the market place for a healthy citizenry.

For constituencies (Civil society Organizations and social movements)

- vi. Advocating for policy changes while also lobbying for a "Bottom Up" approach owing to the fact that small scale farmers as citizens of the Republic of Zambia are a prominent actors in the development of national agricultural policies that not only affect them but the country as a whole. Small scale farmers should also be accorded an opportunity and platform where they can also render their perspectives on the decisions made by the government.
- vii. Advocating for agricultural policies that encompass farmers' seed and food diversity. These will enable farmers to have alternative options of what can be grown taking into consideration of the issues of mono-cropping of maize and will also enable households to have balanced and nutritious diets.
- viii. Undertaking advocacy campaigns that will sensitize consumers on nutritious and healthy food, proper agricultural practices and how they affect nutritional quality of food, human health and the economy.