



REVITALIZING DRYLAND FOOD SECURITY THROUGH POLICY RE-ORIENTATION IN KENYA

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Abstract

The drylands of Kenya that comprise of Arid and Semi-Arid Lands (ASALs) make up about 80% of the total land area and are largely inhabited by agro and nomadic pastoralists. Despite the large area, their contribution to Gross Domestic Product is about 5%, mainly through livestock husbandry and dryland farming. These areas are characterized by among others; thermal stress, soil moisture deficiency, insecurity, competition over natural wherewithal and other low development indices. In addition, their physical infrastructure including roads, housing, health, education and telecommunication is wanting. The result is basically unimpressive development indicators for example poor social service provisioning. Despite the foregoing challenges, the productivity of drylands is far below its potential and resource exploitation especially by the local population is largely done from a pedestal of ignorance, leading to untold environmental degradation. One reason for the foregoing state of affairs is inappropriate planning and poor policy execution. Flowing from the foregoing, this study analyses the past dryland food policies and related blueprints, their achievements and pitfalls and finally argues for a paradigm shift in policy development and execution as part of the panacea for revitalizing dryland food security.

Keywords: revitalizing dryland, food security, policy re-orientation, Kenya

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1. Introduction

Food security is a function of food availability, the easy access to it, subsequent utilization and the ability of the three to be sustained in the long-run (World Food Summit, 1996). Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (World Food Summit, 1996; Gitu, 2004). It is also described as the ability to meet the daily average per capita consumption of food per person per day or a person's minimum daily energy requirements of 2,350 kcal of energy per person per day (FAO, 2003). It is therefore the ability of a country, regions or households within the country to meet target consumption levels on a year to year basis and encompasses availability through production, storage or import and the access to people through their purchasing power in markets or distribution (Kilonzi, 2013). The main elements of food security hence are supply (availability), demand (access) and continued utilization, which are affected by farm production and non-farm factors (Republic of Republic, 2008).

On its part, food insecurity is a temporary decline or shortage of food in a country, regions or households and it may the persistence of inadequate diet caused by lack of resources to produce or acquire food. A household is considered to be food insecure when its occupants continue to live in hunger with real threats of starving to death (Kilonzi, 2013). The lack of food affects the population that is mostly poor or living under extreme poverty level and hence at a higher risk of starvation (KIPPRA, 2011). The food insecurity may be largely due to inadequate investments, environmental changes and ineffective policy implementation among others. Indeed, inaccessibility to food is also linked to the high poverty rates which lead to increased number of people depending on food aid with the Arid and Semi-Arid areas being the most vulnerable in Kenya (Kilonzi, 2013). Food insecurity in Kenya is also a result of inadequate access due to instability in food production, food supplies (Gitu, 2004) and to some extent poor distribution.

The food insecurity affects the people living in both the urban and rural areas as well as those in high potential areas just as those in the ASAL areas (Gitu, 2006). People in the drylands continue to grapple with the challenge of food insecurity and the problem continues to worsen as the population increases against diminishing natural resources and the changing environmental factors (Kilonzi, 2013). Indeed, about 51 percent and 38 percent of the rural and urban population respectively are food insecure (Gitu, 2006) with about 10 million people at risk of starvation in Kenya (KFSSG, 2011). Over half of the population lack access to adequate food, the majority living in high

poverty levels while about 40 percent of the population live below the poverty line and are permanently food insecure; another 40 percent are normally self-food sufficient but are vulnerable to shocks and the rest are food secure (KIPPRA, 2011; KNBS, 2009). The food insecurity in the drylands areas of Kenya is a critical challenge and hence, posing questions on the food policies' orientation. Therefore, there is need to examine the insights on how food policy re-orientation can revitalize food security in the drylands of the country.

1.1 Dryland Food Security in Kenya

The drylands of Kenya that comprise of both Arid and Semi-Arid Lands (ASALs) make up about 80% of the total land area and are home to pastoralists and agro-pastoralists. These areas contribute close to 5% of the country's Gross Domestic Product (GDP) mainly through livestock production in addition to other activities (Republic of Kenya, 2003; 2007; 2009; 2009a). The main defining attributes of the drylands of Kenya are aridity, thermal stress, poverty and conflict among others that together conspire to diminish livelihood options greatly. Consequently, livestock production is dominant even as it remains constantly challenged by poorly developed bazaar, drought, conflict and diminishing natural resources particularly water and pasture.

The diminishing natural resources against the local need to accumulate livestock imply that conflict over the few resources is inevitable. This exacerbates the already sorry situation by diminishing livelihood activities to just a few options. As a result, the perennial food insecurity in the ASALs of Kenya is thus partly explained. Indeed a review of official documents reveal high absolute poverty and even worse so for food poverty in the drylands. For example, in Turkana County, while absolute poverty is recorded at 74%, food poverty is registered at 81% (Republic of Kenya, 2002). With average annual rainfall registered at between 300-400mm and temperatures ranging from 24-38^oc in the same area, agriculture and livestock activities to produce food remain challenged, leading to food insecurity.

The foregoing is compounded by the poor targeting and distribution of food from other parts of the country, where apparently political expediency and capital come before human welfare. Although there is a ten year period since the foregoing figures were recorded, it is not expected to have improved substantially given both governance and natural weather conditions that have always been adverse in the ASALs of Kenya including Turkana. Indeed, poverty indices in selected ASAL counties are illustrative of the foregoing assertion. For example, in the arid counties of Mandera, Marsabit, Tana River, Samburu and Isiolo, most of the land is non-arable and poverty indices are unfathomable. The foregoing is largely consequence of natural weather conditions

although anthropogenic activities are also to blame. For example, in Tana River County, 99 % of its total land area of 25,605km² is non-arable. This is so against the fact that the Tana River snakes its way through the county on its way to empty large volumes of water daily into the Indian Ocean.

Although Kenya has the potential to produce adequate food to meet her food needs, it is classified as a food-deficient country. This is partly due to the fact that about 80% of its land mass remains unviable for rain-fed farming and hence leaving less than 20% to feed its population of approximately 45 million people. Other factors responsible for such food deficit include poor distribution and poverty that makes farmers unable to access inputs, impacts of climatic change, land hoarding, poor soil and water conservation practices, poor water harvesting and utilization practices and governance issues.

Flowing from the foregoing, food deficiency remains high especially in the drylands of Kenya where weather patterns remain largely unpredictable and hence unreliable, thus compromising food production (Mwenzwa, 2011). While the main livelihood activity in the drylands is livestock production, cultural practices and beliefs in large herds defeat the purpose of the endeavor especially so since onset of drought leaves devastating impacts on livestock and food security. This is looked at from the pedestal that access to social services such as health, education, security and housing are not consistent with number of livestock, the supposedly local wealth. Indeed, the large livestock herds hardly go beyond payment of bride price and availing the owner with prestige in his locality. Kona (1999) has captured the attitude of nomads in the Turkana drylands regarding livestock thus,

"The cow is an institution, an ideology, lived for and coveted by every man and for which every man is prepared to defend and die for...if a Turkana man mollifies at the mention of his children, he melts when he speaks about cattle...livestock raiding constitutes an important facet of socio-economic structure of the Turkana and is better thought of as a mere fact of life, a reality and at worst a dangerous sport!"

(Kona, 1999:48-49)

With the foregoing attitude and the intrinsic socio-economic value livestock holds, the pastoral-nomads who largely inhabit the drylands are not expected to look at livestock as an economic, but largely as a social investment. To expect them to use the same to access food and other social services is thus expecting too much at least in the short-run. It is no wonder then that dependency on government and NGO relief

supplies is seen as given by these people amid substantial wealth in the form of livestock.

2. Kenya's Response to the Food Problems and Associated Bottlenecks

2.1 1963-1980s

Food security has been at the centre of development planning in Kenya and every official document including policies, national and district-specific development plans have emphasized the need to adequately feed the population as a precursor to overall development. For example, the *Sessional Paper No. 10 of 1965 on African Socialism and its Application to Kenya* (Republic of Kenya, 1965) emphasized on combating illiteracy, ignorance and disease in the country, whose basis was first and foremost, the provision of adequate food for the population. Likewise, subsequent development plans have emphasized the role of the agricultural sector in revitalizing the development of the country. However, it was not until 1981 that the government came up with a specific policy aimed at improving food security.

The foregoing was contained in the *Sessional Paper No. 4 of 1981 on National Food Policy* (Republic of Kenya, 1981; 1994) whose main objective was to intervene in the food sector and ensure a broad-based access especially to main foodstuffs such as maize and rice. Given the political climate at the time, very little was achieved in the meantime necessitating a re-organization of the envisaged approaches. In particular, it was realized that to assuage food insecurity, it was prudent to look at the issue from a multi-sectoral approach encompassing the policy, economy and related sector leading to the development of the *Sessional Paper No. 1 of 1986 on Economic Management and Renewed Growth* (Republic of Kenya, 1986).

The foregoing policy paper specifically gave agricultural sector the role of ensuring food security for the increasing population, creating employment for the rising labor force and at the same time boosting export earnings. The specific objectives of this paper were among others to devise strategies of enhancing incentives to farmers in order to produce more and feed the rapidly growing population. Such would be through subsidies to agriculture and particularly farm input, which ostensibly gave little regard for dryland livelihood activities such as livestock rearing and the protection of the environment. This apparent official neglect of the drylands has persisted since independence not only in terms of agricultural development but also other social services particularly education, water, health and security.

In addition, the foregoing Sessional Paper had the objective of agricultural research, extension, credit provision and input supply to small-holders. However, this

was also the time when the IMF/World Bank engineered Structural Adjustment Programmes (SAPs) were being implemented in much of the Global South including Kenya. In particular, the extension policy was changed from a situation where extension officers would visit farmers to the demand-driven approach, where farmers were required to visit the officers instead and at the same time shoulder part of the expense for extension services. This was also the time when corruption in the sector and the general economy was at its peak. For example, parastatal bodies in the sector such as National Cereals and Produce Board (NCPB), Kenya Cooperative Creameries (KCC), Agricultural Finance Corporation (AFC) and National Irrigation Board (NIB) were almost milked dry.

Although the foregoing parastatal bodies were remotely involved in dryland agriculture except NIB, their downward performance affected the whole sector substantially. Indeed, it was in the 1980s that Bura Irrigation Scheme among others collapsed under the weight of politic-economic elite and unscrupulous officials. Compounding the whole problem was drought especially in 1984, declining world commodity prices and the influx of refugees from conflict-endemic neighboring countries, considerably leading to further decline of the performance of the sector. As a result, very little was realized consequent of this paper, which led to the formulation of the *Household Food Security and Nutrition Policy Paper* (HFS &NPP) in 1990 (Republic of Kenya, 1990).

2.2 The 1990s

The SAPs introduced by the IMF/World bank required public staff downsizing, which targeted mainly lower cadre staff, many of them from already disadvantaged communities including those living in the drylands such as nomadic pastoralists and agro-pastoralists owing to their relatively low literacy levels (Mwenzwa & Masese, 2011). Given the small amount of financial benefits given to retrenches, who had no concrete grounding in business; most of them shortly became paupers. This led to destitution of families as a result of heightened food insecurity particularly in the drylands that were already disadvantaged in more ways than one.

It is notable that food distribution in the country was unimpressive and as such, the HFS & NPP of 1990 sought to ensure a more equitable allocation and delivery of food especially in areas in distress such as the drylands. The paper had projects such as public infrastructure work to generate employment and income for rural populations and interventions regarding nutrition services in needy areas to reduce malnutrition. Most important, the paper stressed the need for more coordination in food security issues between the government and the NGOs. Nevertheless, this resulted into short-

term relief operations that were not only unsustainable, but also curative as opposed to preventive in nature. Unfortunately, food security is yet to be improved, not necessarily due to lack of resources, but partly because corruption had entered the nerve centre of Kenya politics and every undertaking was apparently done from a pedestal of political capital as opposed to human welfare.

Apparently, ASALs were given low priority because of their presumed fragile resource base and low production potential (Republic of Kenya, 1990; 2003; 2007; 2008; 20009a). However, as a result of the increasing population and the need for more food, harnessing ASALs for cropland became inevitable. The foregoing though led to deterioration of the already fragile environment compounded by overstocking and hence stretching the land carrying capacity to the limit. Consequently, natural resource conflicts between farmers and pastoralists and escalation of human-wildlife conflict have almost be taken as the governance archetype in the ASALs of Kenya. A possible environmental scenario in such a case would be the manifestation of the Tragedy of Commons hypothesis. This is expected to be exacerbated by climatic shifts that are likely to be more severe in the drylands, substantially compromising local livelihood activities and making this worse for local inhabitants.

Given that the HFS & NPP (Republic of Kenya, 1990) did not achieve much, the government formulated the *Sessional Paper No. 2 of 1994 on National Food Policy* (Republic of Kenya, 1994). This policy paper recognized food security as being basic to the survival of the nation and therefore had various objectives. Among them was the need for food self-sufficiency, employment creation, generation of raw materials, foreign exchange earnings and a balanced rural-urban development. Many factors stood in the way of decisive implementation of this policy and this led to other blueprints such as the *National Poverty Eradication Plan to the Year 2015* (Republic of Kenya, 1999) which culminated in *Poverty Reduction Strategy Papers* (PRSP) and consultations. It is important to point out that the foregoing was the precursor to both national and district specific poverty analysis and consultation reports, which were highly ambitious donor-driven plans. One would be compelled to ask how poverty could be eradicated in the midst of substantial financial impropriety, wastage and a dim political climate as the one Kenya experienced prior to and in the 1990s.

2.3 Year 2000 and after

Nonetheless, the formulation of the poverty blueprint whose implementation is understandably on-going has little to show in way of poverty reduction in the drylands of Kenya. Hence, for a more comprehensive approach given that the 1990s marked a downturn in the agricultural sector, the government formulated the *Economic Recovery*

Strategy for Wealth and Employment (ERSWEC), 2003-2007 and its *Investment Programme* (Republic of Kenya, 2003; 2004). Although comprehensive in nature, the ERSWEC gave agriculture and food security prominence and recognized the challenges farmers were facing in acquisition of farm inputs and the poorly developed bazaar for farm produce. These among others were factors that de-motivated farmers and were therefore responsible for low food production, hence food insecurity in the country, which affects drylands most adversely.

As a result, the ERSWEC while recognizing the special needs of ASALs had special targeted projects for the drylands, which took a multi-sectoral approach. There was therefore the proposal to combine activities in infrastructure and productive sectors with human resource development, security enhancement and land tenure reforms (Republic of Kenya, 2003; 2004). In particular, there were concerted efforts at road rehabilitation, community mobilization to participate in development projects, implementation of a livestock development policy and ASALs eco-tourism projects among others (Republic of Kenya, 2004; 2009a). Indeed, the most integrated ASALs development was emphasized by the National Rainbow Coalition Government through the establishment of the *Arid Lands Resource Management Programme* (ALRMP) under the then *Ministry of State for the Development of Northern Kenya and other Arid Lands*. This was a community-targeted intervention in livestock marketing, small infrastructure development, sinking and rehabilitation of boreholes, dams, water pans, animal disease surveillance and promotion of beekeeping among others (Republic of Kenya, 2003; 2004). This programme was however phased out partly due to the fact that it was largely donor-funded.

The implementation of the ERSWEC up to 2007 paved way for the *Kenya Vision 2030*, a government-driven multi-sectoral approach to development with the goal of achieving a middle income nation by 2030 (Republic of Kenya, 2007; 2008). The vision has a special interest in agriculture and related development initiatives particularly for the drylands, taking over from the ERSWEC. In particular, the Vision has ASALs flagship projects in livestock development, dryland farming, environmental management, water, security, infrastructural development, poverty reduction and land reforms. Although the 2007/2008 post-election violence eroded substantial gains of the ERSWEC, it is expected that the implementation of the *Kenya Vision 2030* will see the country past some of the problems that have been lingering since independence (Mwenzwa & Misati, 2014). However, if care is not taken and prudent utilization of resources effected, it may end up being part of the problem in the drylands rather than the solution. Nonetheless, the 2010 Constitution of Kenya promises major changes in the way resources are distributed and utilized and therefore it is expected that food

security may be reduced substantially during and after the vision period. In particular the establishment of county governments has devolved more resources to the grassroots and it is expected that more year of devolution will see vibrancy in dryland farming and enhanced food security.

3. An Overview of Policy Re-Orientation

Policy re-orientation is based on the equilibrium and the adaptive theories (Kilonzi, 2013). The equilibrium theory suggests a radical, discontinuous change in most or all organizational activities to overcome inertia (Gordon, Stewart, Sweo & Luker, 2000). The adaptive theory provides that in policy orientation, policy makers should be able to alter present practices to adapt to the societal demands as well as the ability to alter the demands of the society (Chaganti & Hugh, 1998). Therefore, the concept refers to a fresh direction of methods and strategies to pursue the envisioned goals. It is the act of changing the original direction of something, a fresh route that involves the change of course of action. It may be understood to be a fresh orientation of the choice of methods or strategies in pursuing the envisioned goals and focuses on changes in policy implementation strategies to overcome inertia and respond to internal and external environment turbulence (Kilonzi, 2013).

The adaptive view provides that organizations can implement changes as dictated by environmental demands and can accomplish substantial change by systematic, formal analysis of the policy environment through comprehensive integrated strategies. The process of policy re-orientation involves organizing activities composed of strategic structure, control and power distribution which are central to organizational activities and are therefore crucial for firm survival (Kilonzi, 2013). It focuses on affordability and leveraging on the available resources; an increase in flexibility in policy implementation to take advantage of environmental factors based on will and commitment to change (Floeting, & Hollbach-Gromig, 2011).

For the foregoing to occur, environmental factors determine the re-orientation process in which policy makers should adapt to the diverse situations to ensure that a policy is self-regulating. Changes in strategy coupled with changes in at least two components of structure, control and power distribution must occur within two years to constitute strategic re-orientation. Thus, policy re-orientation is necessitated by environment factors and therefore lack of environmental awareness may result in persistence challenges with the current strategy orientation. Environmental changes occur during which time the organization strategies, structure, control and power distribution are significantly altered. The depth of change refers to the extent to which

the change involves a shift in strategic orientation of existing strategies and organizational practices (Kilonzi, 2013).

The strategic re-orientation shift includes three main characteristics; core processes of the organization such as management of decision making, changing the culture of the organization and change in the corporate strategy and mission. The second characteristic associated with change involves how pervasive or how elements change, that is, the change in strategic orientation should be pervasive. The third characteristic deals with timeliness of change. In today's competitive environment, time is one of the most important factors of performance. This concept captures the magnitude of changes that must be made to change organization's strategic direction.

The foregoing involves a shift in the strategic orientation of the organizational policies. In this regard, an organization will maintain a fit between its strategy, structure and systems through major changes in strategy accompanied by changes in other elements of the organization (Chaganti & Hugh, 1998) in relatively short periods of discontinuous change to fundamentally enhance incremental results to sustain envisioned transformation. Therefore, policy re-orientation requires continuous environmental scanning to identify factors that may act to stifle strategic changes for effective policy implementation. It must deal with challenges that limit policy effectiveness and efficiency (Kilonzi, 2013).

4. Materials and Methods

The study that is the result of this paper was carried out in Mbeere South Sub-County of Embu County, Kenya between the months of February and April 2015. The aim of the study was to identify and analyze food policies in Kenya, the challenges the country has faced in their implementation, their impacts on food security with special emphasis of the drylands. Most important, the study was to come up with best practices in food policy re-orientation in order to revitalize dryland food security in the country. The study utilized three methods of data collection including key informant interviews, focus group discussions and documentary review of development blueprints and food policies.

There were four focus group discussions comprised of front line agricultural extension officers and women farmer groups. In addition, eight (8) key informant interviews were carried out with two women farmer group leaders, two senior agricultural extension officers, two youth farmer group leaders and two prominent farmers in the area. It needs to be emphasized that all the local people interviewed were engaged in pure dryland farming and that no farmer was using irrigation. The results of

the study are presented here under. Key among the findings is that women do not own land if ownership were to be defined to mean the ability to use and dispose off at will. Part of the reason is cultural dictate, which men, women and the youth supported unwaveringly.

In addition, while the area has faced perennial food insecurity since time immemorial, the entry of a *miraa* (khat) variant, (*muguka*) as an all-year round cash crop has substantially shifted the food security paradigm, despite other undesirable social consequences on the local population. Moreover, it was also found out that women ownership of property is largely based on its value and in particular, women in the area do not own permanent assets such as land and commercial buildings. Above all, women did not own large and high valued livestock such as cattle and goats, but could own chicken, which they had the liberty to dispose off at will.

5. Findings

The findings in this work are divided into three main sections namely change of extension strategy, land ownership and gender dynamics and the implication of these on food production and security especially at the household level. These are discussed in length and in line with the information provided by key informants and focus group discussion participants. By and large, there is a general consensus that extension services have been adversely affected by change in strategy, land ownership as well as gender dynamics. In turn, the foregoing has negatively affected the amount of food produced by a household and generally the community and thus food insecurity. As a result, policy reforms that are expected to enhance food production and assuage food security have been suggested as part of the panacea.

5.1 On Agricultural Extension Strategy Change

Since the introduction and implementation of the IMF/World Bank engineered Structural Adjustment Programmes in the early 1980s, there have been substantial changes across all sectors including agriculture. This was attested by some farmers as well as extension officers who have witnessed the transition first hand. The IMF/World bank programmes introduced a paradigm shift that did not go down well with farmers and extension officers alike. For example, there was change of agricultural extension approach in which services would be demand-driven as opposed to being supply-driven, the latter case where extension officers would visit farmers routinely to listen to them and identify their challenges. The demand-driven scheme meant that farmers were required to visit the extension field staff in their offices. As a senior agricultural

officer opined during a key informant interview, this was the beginning of the end of these services. While pointing out the challenges that came with such development, the officer put it,

“On the surface, this scheme looked good particularly on the cost-cutting aspect but in reality, it meant less contact between us and the farmers, which implied poor information flow both ways and the possibility of reduced food production. Indeed, farmers felt neglected and abandoned, we had very little to do given that funding was also reduced as a cost-cutting measure. The scheme was done without consulting the extension field staff and therefore its failure.”

(Agricultural Extension Officer, Gachoka Division, Embu County, Kenya)

The foregoing was not only echoed by other agricultural extension officers, but also some farmers who questioned the importance of the Ministry of Agriculture as whole if it was unable to help farmers at their critical need and place. Moreover, there was a general concern among agricultural extension officers to the effect that reduced funding was part of the problem that led to the near total collapse of agricultural extension services in the country. Worse, and as pointed by another agricultural extension officer in Kiritiri Division,

“It was a worse mistake to devolve agriculture to the counties that seem not only poorly funded but also largely ill-prepared to provide extension services. Part of the problem is that due to recruitment that largely borders on tribalism, some of the most experienced extension officers have been demoralized as they are by-passed during promotions while others have left to their respective areas of origin. It is unfortunate that politics take precedence over training and experience and these are compounded by poor funding. In my view, agriculture and health are critical services that should not have been devolved in the first place. Before devolution, there was order in the sector, now it is chaotic.”

(Agricultural Extension Officer, Kiritiri Division, Embu County, Kenya)

On their part, farmers were not particularly contended with the idea of going to offices of the extension field staff to seek services. Part of the problem was that they were required to facilitate the extension field staff financially to the field in addition to shouldering any other costs. During a focus group discussion with a group of women farmers, one of them who was 63 years old dismissed the demand driven scheme as just another initiative by the government to breed corruption. She put it thus,

"In the 1980s when I had just married, these officers used to visit us and I do not remember giving them any money for transport on to fuel their motorbikes. Indeed that time they were very humble, some used bicycles whereas others walked. Nowadays they do not have fuel and can give up to 3 appointments that never materialize. It is like nowadays they don't work for the government they used to. Tell me, have extension services been privatized or what? These seem not to be the same people we dealt with then (1980s). They are just out to take the little we have, it seem like the government found a way for them to steal from us."

(63 year-old Woman Farmer, Kititiri Division, Embu County, Kenya)

The foregoing three cases that present a concurrence between farmers and extension officers point to the fact that the demand-driven scheme was planned and implemented from above without local consultation. It is apparent that poor and exclusive planning is partly to blame as demonstrated in the foregoing cases. It is such cases that point to the need for policy shift to accommodate the concerns raised by the field staff who have the training and the experience to know what the farmers need.

5.2 On Land Ownership and Gender Dynamics

In Kenya, there are glaring gender inequalities as a result of unequal access to education and training, credit facilities, job opportunities and markets (Republic of Kenya, 2007; 2008; SID, 2010). In addition, these differences are largely a consequence of law, whether statutory, customary or common especially with regard to the ownership of land and other productive assets (SID, 2010; Karimbux, 200; Mneney, 2000; International Law Coalition, 2009). For example, women own approximately 1-5% of all titled land in Kenya although they constitute the majority of those actively engaged in farming in rural and urban areas (SID, 2010). This is despite the constitutional requirement at Articles 27(3) and 60(1a&f) (Republic of Kenya, 2010), which states that,

"Women and men have the right to equal treatment, including the right to equal opportunities in political, economic, cultural and social spheres (Article 27: 3) and Land in Kenya shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable, and in accordance with the following principles (a). equitable access to land; (f). Elimination of gender discrimination in law, customs and practices related to land and property in land."(Article 60 (1a & f))

Despite the foregoing provisions including the dictates of the 2009 Kenya Land Policy (Republic of Kenya, 2009c; Mwenzwa & Bunei, 2012), gender disparities in land

and property ownership and control are glaring, to the disadvantage of women not only in Mbeere but also in the rest of the country. This has direct implications on land conservation, utilization and by extension food production, which in turn affects household as well as community food security and national development. Indeed as data attests, women are relatively disadvantaged as compared to men in food production in the study area and elsewhere as field data and literature attests.

Land ownership gives an individual the confidence and dignity required to be active in society. Indeed, land ownership and rights are important for effective utilization of farmland for food production to alleviate food insecurity and revitalize household welfare and national development. While the foregoing is the ideal situation, the reality is that among the Ambeere ethnic group of Kenya, culture and gender dynamics dictate who owns land given that customary laws seem to override any legal and policy provisions regarding land ownership, access and control. In particular, women are largely land caretakers, with men owning most of the land, titled or otherwise.

As pointed out by both key informants and focus group discussion participants, a negligible number of women owned land, if ownership were to be defined to mean not just physical access but also the ability to appropriate and dispose of the same at will. Further, ownership also includes the authority to determine what is to be grown on the land including whether anything was to be grown at all. It was determined that, the women land owners owned the family land by virtue of having been widowed and the fact that their children (sons) were young to legally own land. One widow who was 35 years old explained that,

“Baada ya kifo cha mme wangu, nililazimika kushtaki kifo ndio hadi miliki ya ardhi ibadilishwe kutoka kwa jina lake hadi langu. Niliofia mashemeji wangeweza kuingilia kati na kuitwaa ile ardhi ambayo ni urithi wa watoto wangu. Umiliki wa ardhi hapa kwa wanawake ni nadra sana kama wewe si mjane. Hata hivyo wajane umiliki ardhi kama watoto wao ni wa umri mdogo kama hawa wangu. Nagonja tu wakue kiasi cha kupata kitambulisho cha taifa ndio niwagawie kila mmoja sehemu yake (After the death of my husband I had to quickly process and change the land title deed from his name to mine. I feared that in-laws could dispossess me of the land that is the inheritance of my children. Land ownership by women here is rare unless you are widow. Even the widows own land when their children are young like mine. I am just waiting for them to get national identity cards so that I can subdivide the land to each one of them)”

(35 year-old widow in Gachoka Division, Embu County)

What comes out of the foregoing quotation? It is clear from literature that ownership of assets including land gives an individual the confidence and authority to take care of the asset in a way that is productive and sustainable. From a number of focus group discussions among women farmers regarding whether they ought to own land, opinion was divided. While some of them were of the opinion that they ought to own family land, others believed that their husband's ownership of land was enough that they were comfortable *landless*. 51 years old female extension officer explained during a key informant interview that,

"My husband has demonstrated responsibility for the last 27 years that we have been married. His property is mine and therefore there should be no problem if the family land title deed is under his name. I know he would be surprised if I asked to possess part of the land now and I have not asked for it during the last 27 years. I would rather other issues break my marriage than my push to possess land which I own anyway. My work is basically to ensure family harmony but not to be the Biblical woman who breaks her family using her tongue."

(51 year old female Agricultural Extension Officer,
Kiritiri Division, Embu County)

Whereas it is not in doubt that there are responsible men who would appropriate land for the benefit of the family, there are also exceptional cases who may do so for selfish interests. In this regard, during a focus group discussion with a local women farmers' group, it was revealed that men were the sole determinants of how the land would be utilized and as such determined the acreage to be set aside for various uses. There was consensus that although women did not feel highly disadvantaged, the fact that men had the sole authority regarding land utilization hampered dryland farming. The foregoing was in the sense that women could not plant the crops that out of experience were better placed to ensure household food security.

Moreover, women were also disadvantaged and could not successfully challenge men decisions as to the acreage to be put under food crops. With regard to the foregoing, one of the focus group participants explained,

"My family has 12 acres out of which 7 are set aside for grazing and the rest is farmland. In March 2013, my husband unilaterally decided to put 3 acres of the farmland into mugukaⁱⁱ growing leaving the family to grow food crops on a 2 acre piece of land which

ⁱⁱ A variant of Khat (miraa), a local cash crop that has lately colonized farmlands in Mbeere drylands

can hardly feed the family. It was a surprise but since he is the head of the household, I had to execute his decision."

(41 year old woman, Gachoka Division, Embu County)

The foregoing as was revealed in other interviews was not unique to this particular household, but a reality that many other local households have had to learn to live with. The implication is that with the introduction of *muguka*, food crop land has decreased with obvious decrease in the amount of food produced. This is against unreliable and unpredictable weather patterns in the midst of poor farming technology and other anthropogenic activities that further degrade land. The result can partly explain the perennial food insecurity in the Mbeere drylands as the intersection of unreliable weather patterns, gender, land ownership and decision making power compound food production.

However, it was pointed out in key informant interviews and focus group discussions that the introduction of *muguka* may have improved food security for some households. That notwithstanding, the new cash crop was more of a curse than a blessing to other households given that its ownership was vested in men, some of who appropriated returns in ways that were counterproductive to household food security. Indeed, as the new crop took away part of the food crop farmland, climate change and its vagaries heightened challenges of food production even as income from the crop was utilized casually including in the taking of liquor. An extension officer who has worked in the area for close to 7 years opined that *increasing muguka acreage apparently came with increased drunkenness among many farmers to the detriment of family welfare*. Such is an affront to food production, security, family welfare and development at large.

Based on the foregoing, it is concluded that while many factors combine to determine food production and food security, inadequate access to and control of land and related resources by women in the Mbeere drylands is significant. Consequently and given the environmental and cultural milieu on which land is utilized, measures have been proposed to augment dryland farming and alleviate food insecurity not only in the Mbeere drylands, but also other areas with similar climatic and socio-cultural conditions.

5.3 Implications on Food Production and Security

From the foregoing data it is clear that women are at the receiving end when it comes to land ownership, control and appropriation and more so for the purposes of family welfare. It is widely acknowledged that in a situation of gender discrimination in matters of development as it is the case demonstrated in the findings, the society would

normally pay through having a lower level of development than otherwise would be. For this reason, discrimination against women in matters of land ownership means that women are unlikely to invest heavily in the land for which they do not own. As a result, they are unable to invest their full potentials in the production of food and hence partly explaining food production shortfalls and food insecurity at the household and community levels.

In addition, the change of extension strategy from supply-driven to demand-driven meant minimal access to information by both farmers and extension officers-the two-way information flow means problems are attended to as they emerge and food production is sustained. This ensures there is net food production as information on new techniques and inputs are incorporated as farmers take advantage to produce more food. However, in the absence of appropriate and timely information through extension services, it is expected that food production may come down as population grows leading to food insecurity. Indeed, when gender based discrimination and poor extension services combine and get compounded by climate change and other vagaries of weather witnessed in the Mbeere drylands of Embu County, it is expected that food insecurity will be experienced. Consequently, the lingering food insecurity in the study area may thus partly be explained.

6. Suggested Policy Re-Orientations Strategies

The agricultural sector has potential for high levels of employment, a more equitable distribution of income, optimal resource allocation and maintenance of a sound balance of payment position (Republic of Kenya, 1994, 2007; 2008). It has the capacity if well-organized to alleviate food insecurity not only in the drylands but also in the whole country. Given this potential, there is need for innovative strategies that spring from outside the box. In particular, there is need for the reform of the food policies and related approaches to food insecurity alleviation to include novel measures that are more focused and appropriately targeted.

On the onset of drought, food insecurity follows shortly, with the official reaction being rhetoric, foreign aid and provision of short-term relief food. Such action implies unpreparedness regarding the impacts of climatic shifts and associated problems. Apparently, we have not yet developed a comprehensive early warning and prediction system in this regard. For this reason, there is need to harness information and develop a viable food insecurity early warning systems that would ensure we do not have to react after the fact. Given, it is better to act before a crisis to avoid human suffering witnessed on the onset of drought especially in the drylands of the country.

A review of the food and related policies reveals rigidity and theoretical approaches without giving regard to the need for flexibility and change. Given the global village effect where events in one country affect policies in another, there is need for Kenya to have policies that are open to review occasionally to be in line with both national and international instruments such as UN Sustainable Development Goals (UNSDGs), climatic change and specific felt needs of the community. Otherwise, rigid approaches to dynamic issues like our food policies are unlikely to work well and assuage food insecurity in the drylands of the country.

Moreover, most food and related policies in Kenya are donor-driven, which partly explains their persistent failure to conclusively deal with food insecurity in the drylands. An analysis of the policies reveals that they are largely generic and hence fail the specificity test. This is looked at from the pedestal that Kenya is not a uniform agro-ecological zone and hence not homogenous regarding food needs and challenges. It is imperative to come up with policies that are relevant to the country needs across regions as opposed to donor-driven ones that may ignore the different needs of the country's agro-ecological zones. In particular, there is need for specific policy interventions that address the particular food production needs of the drylands.

The drylands remain largely neglected in matters of food production given their aridity and assumed low potential. For instance, food policies have largely ignored the importance of livestock rearing for the production of food and hence given undue attention to food crop production. A paradigm shift is needed in resource expenditure and research to enhance the ability of pastoralists and agro-pastoralists to produce food for their own and national consumption through livestock production activities. Effecting the foregoing is expected to empower drylands inhabitants and move them towards food self-sufficiency.

In Kenya, the most agriculturally viable land is in the hands of a few members of the politico-economic elite and a large percentage of this land is left fallow in the midst of hunger, landlessness, Internally Displaced Persons (IDPs) and squatters who yearn to use it for food production. Hence, legislation in the spirit of the National Land Policy should be enacted to ensure that such land is utilized for the production of food as a measure towards dryland and national food security. However, this cannot be realized if large tracts of high agriculturally potential land remain fallow.

That dryland agriculture is partly challenged by poorly developed bazaar for both livestock and crop produce cannot be gainsaid. This discourages farmers from producing for the market which would not only ensure local food security but also development given that extra income will be invested in other critical social service sectors. Consequently, streamlining the marketing of dryland agricultural produce in

terms of offering competitive prices by both the National Cereals and Produce Board and the Kenya Meat Commission is highly recommended. The foregoing would ensure that food deficits are minimized and food price stabilization enhanced to forestall acute upward shifts.

During bumper harvest and drought in the drylands of Kenya, a lot of resources go to waste in form of crop produce and livestock respectively. Part of the problem is poor post-harvest grain handling and the failure to destock before onset of drought. While this may result from poor information and skills, cattle complex which stretches the carrying capacity of the environment is also to blame. In addition, local farmer capacity development regarding post-harvest grain handling/storage and destocking before drought, informed by early warning systems are vital here.

Policy instruments relating to food security have emphasized on equitable distribution of the same, without giving due regard to the food needs of particular areas and a formulae to operationalize this important endeavor. Without such, it is difficult to effect this important undertaking and food deficit areas will largely be left out especially so when distribution tends towards political expediency rather than felt needs. In this regard instituting and effecting viable food distribution guidelines informed by area-specific needs emanating from food security mapping are imperative.

Although Kenya is water-deficient given that 80% of its land mass is ASAL, the available water is far from being adequately utilized due to poor harvesting and conservation practices. For example, two rivers, the Tana and the Athi traverse dryland counties of Kitui, Makueni, Garissa, Tana River and Kilifi. Incidentally, these are also areas of high food insecurity even as large volumes of water are left to drain freely into the Indian Ocean daily. Strategies need to be devised to harvest and utilize more of this water in agricultural production through irrigation schemes, micro-fishing and provision of water for livestock at reasonable distances from pastureland. The foregoing should be done without compromising the aquatic ecology in these rivers and the ocean. Such intervention would ensure better use of water resources to assuage food security in these drylands.

Occasionally, reports show people affected by hunger especially in the drylands, which brings to question our food security information in terms of priority areas for intervention. While we have occasional food surveys, these may not adequately capture the real picture given that local communities are hardly incorporated. Flowing from the foregoing, there is need for a continuous research in food security in the country given the expected vagaries of climate change that are expected to be more devastating in the drylands. These should aim at food security mapping in order to identify food

insecurity black spots. Such information is therefore important for devising preventive as opposed curative measures on food insecurity.

Most dryland livelihood activities are environmentally-detrimental and are largely carried out from a position of ignorance on the part of local communities. Others result from limited livelihood options including charcoal burning, firewood and timber harvesting and causal destruction of wetlands. Although many resident communities have regimes that regulate the utilization of natural resources, these are already fading away and giving rise to Darwinism- survival for the fittest. Consequently, there is need for sustainable use of resources in the drylands, which may partly be achieved through improving pastoral practices, wildlife integration, dryland farming and drought management practices that enhance the integrity of the environment.

Best practices in dryland agriculture abound the world over and such success stories are what we need to implement in Kenya while putting in place systems to forestall resource wastage. For this reason, benchmarking in other countries would be prudent to *harvest* best practices for domestication in the drylands of Kenya. Indeed, Israel in the Middle East and Arizona in the USA are pure deserts as opposed to Kenya's ASALs that are seemingly easier to rehabilitate. Already, the revival of Bura Irrigation Scheme in the arid Tana River County in recent years has shown substantial results that can be scaled up.

Finally, it is pointed out that no meaningful development activities can take place when political maladministration and poor governance abound. In this regard, it is widely acknowledged that most of the drylands of the country face unprecedented insecurity manifested in the form of cattle theft, terrorism and human-wildlife conflict. These disallow meaningful investment in these areas and hence making local residents largely unable to take advantage of available opportunities to diversify livelihood options. Such diversification is expected to spread the risk of crop failure or livestock poor bazaar and hence ensure sustainable food security. As a result, we propose that governance structures and in particular combating of insecurity be stepped up using novel ways and in particular ensure direct involvement of the local community.

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