Changing Dietary Practices: The New Food Insecurity among The Pastoralists in Mabwegere Village Kilosa District

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ABSTRACT

While global and national efforts are increasingly aiming at ending all forms of malnutrition by 2030, food insecurity levels are increasingly high among the pastoralist communities in the sub-Saharan Africa. This scenario is attributed to by the existing efforts and strategies, which are predominantly preoccupied with the narrative that, people are food secured when everyone has access to sufficient, safe, nutritious food to maintain a healthy and active life at all the time. This perspective overlooks the presence of heterogeneous communities with different cultural beliefs about health, livelihoods, and sustainability of food supply. This article argues that, food security does not only concern with food availability but also traditional dietary preferences. This study used a qualitative case-oriented design and data were collected through key informant interviews and focus group discussions. Food production among the Maasai is increasingly inadequate, and traditional dietary practices among the Maasai pastoralists is increasingly changing as a result of agrarian transformation in the Kilosa District in Tanzania. This is where large chunks of land are transformed for agricultural activities as a way of increasing food availability in terms of the number of meals intake and the type of meals consumed. Conventional dietary meals such as cereals and green leaves are increasingly consumed with a decreasing number of meals consumed per day and the changing of the type of meals consumed. Therefore, the analysis of food and nutrition security should understand that, cultural food preferences are important because they are interconnected with beliefs about health, livelihoods and sustainability of food supply. This study suggests that policies that address food and nutrition insecurity need to take on board the close relationship between food, nutrition security, and culture. It is important for communities to embrace other alternatives for livelihood, including farming and government support in irrigation to improve food access and availability.

Key Words: *Food insecurity, Pastoral Maasai, Changing dietary*

1. BACKGROUND

Over the past few decades, discussions on food insecurity in the academia and policy 'think tanks' worldwide have generated a number of viewpoints on the state of food security and insecurity. Dominating these arguments are issues relating to narrow conception of food security/ insecurity. Literature best summarizes the varieties of definitions of food security/insecurity in three dominant paradigms namely The Malthusian theory perspective, the economic theory perspective, and the political theory perspective (Holben and Marshall, 2017; Burchi and De Muro, 2016; Thomas et al., 2013; Rena, 2005; Vlassenroot et al., 2003). The Malthusian and neo-Malthusian conception [1970s] that views food insecurity from food availability perspective is different from economic conception that views food insecurity from food ability perspective. According to Devereux and Maxwell, (2001), food security is regarded as access by all people at all times to enough food for an active and healthy life (Reutlinger, 1986; Hindle, 1990; Capone, et al., 2014). These conceptions are predominantly preoccupied with the narrative that, people are food secured when everyone has access to sufficient, safe, nutritious food to maintain a healthy and active life at all times. The political theory perspective [1990s] focuses on the larger "structures of inequality or power structures" (See Seddon and Adhikari, 2003 for more details), which explain why some people have easier access to food than others do. According to this perspective, food insecurity is not caused by lack of food production or market deregulations as previous perspectives assumed, but rather by political powerlessness emanating from lack of lobbying power within national and international institutions (Thomas et al, 2013). Thus, it is the wider political and institutional context that explains why those hit hardest by famine are those that are the most politically vulnerable (Vlassenroot et al., 2003). This therefore implies that, interventions to improve food security should focus on state reconstruction, good governance, and accountability.

Food security is necessary but not sufficient to achieve individual nutrition security (Hendriks, 2016). Similarly, individual diet diversity, defined as the number of different foods or food groups consumed over a given reference period, is strongly associated with the adequacy of preferred nutrient intakes, and it is often used as an indicator of diet quality and nutrition security, as is perceived in this study (Jones *et al*., 2013; Ruel, 2003). Household diet diversity, on the other hand, measures the consumption of different food groups by any member of a given household over a reference period. it is often used as an indicator of food security and household diet quality but it does not extend to approximate individual household members'

nutrition security (Hoddinott and Yohannes, 2002). Therefore, food security is also a subjective element of food preferences (Diekmann *et al*., 2018). People can be food insecure because their local food preferences are no longer available as a result of the socio-economic and political processes and structures, whose effects are felt differently by different people. Traditional foods can be found in every culture, and the 120 plus ethnic groups found with different cultural preferences to food in Tanzania are no exception. Scholars also argue that, a close link exists between food security, dietary practices, and traditional food preferences of the communities (Pinstrup-Andersen, 2009; Colozza and Avendano, 2019; Galiè *et al*., 2019; Walch *et al*., 2018; Fieldhouse and Thompson, 2012; Ivers and Cullen, 2011). Therefore, food insecurity is also more common in populations ethnic minorities such as the pastoralists (Galiè *et al*., 2019; Coleman-Jensen *et al*., 2013), due to their distinctive and unique customs attached to livestock production; cattle in particular. In Maasai culture, cattle are highly valued (Rabinovich *et al*., 2019; Keane *et al*., 2016). The size of the herd indicates wealth and status in the community (Mwamfupe, 2015), and therefore accumulation of livestock rather than consumption is a common practice.

Food insecurity is therefore an intricate open-ended phenomenon, which includes a comprehension of key mechanisms that cause unequal food availability and unequal entitlements to food, people's coping strategies, and a range of constraints and opportunities affecting the livelihood strategies of households and individuals. Therefore, a clear understanding of such a complex phenomenon calls for a blended framework that combines the three complex issues and not a one-size fits all theory. In this context, we argue that, neither the political theory views of food insecurity alone nor the neo-Malthusian or the economist views of food insecurity best suffice to analyze food (in) security among the Maasai in Kilosa. In some cases, food insecurity might relate to the issues of food preferences as De Haen (2011) and Russo et al (2008) argue in their definition of food security, because dominant traditional practices are vital in communities and they influence dietary practices. Therefore, in this article, both paradigms are adapted to analyze food insecurity. In order to understand food security or insecurity among the Maasai pastoralists, it is important first to understand their dietary practices. Even though there are several different working definitions of food security, all of these have evolved over time and space. this section argues that, as the Food and Agriculture Organization (FAO) of the United Nations does: Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which

meets their dietary needs and food preferences for an active and healthy life (FAO, 2009).

This definition encompasses the four dimensions of food security namely, availability, access, stability, and utilization. This also suggests that, having food security, as a nation does not necessarily mean that all individuals living in that nation are food secure (Schmidhuber and Tubiello, 2007). This argument is supported by this article by arguing that even though Tanzania is food self-sufficient at the national level, pastoralists are food insecure due to dwindling access to traditional dietary needs and food preferences as a result of agrarian development policy efforts, strategies, and programs that are increasingly influencing cultural practices and dietary practices.

2. METHODOLOGY

The study was conducted in Mabwegere Village, Kilosa District, Tanzania. This is an ethnographic study inspired research that explores changing dietary practices of the Maasai in the context of food security (Redding-Jones, 2005). Data for this article were collected between 2012 and 2014 in a study area located in Kilosa District - south-eastern Tanzania, Morogoro. Tanzania is located in the East of Africa's great lakes north of Mozambique and south of Kenya. Kilosa District is located within latitudes 5°55' and 7°53' South and longitudes 36°30' and 37°30 East; (URT, 2010a; 2012). The district was purposively selected because of being predominantly occupied by the Maasai community with strong cultural beliefs, which they still uphold to date. The National Bureau of Statistics (NBS) 2016-2017 population projections show that there are 492,879 people in Kilosa District (NBS, 2016). Rainfall in the district varies substantially from year to year and generally falls in two seasons, the short rains in November and December, and the long rains from mid-February through April (Benjaminsen *et al*., 2009). The major farming systems include maize-rice, agro-pastoralism, and pastoralism (Wassena *et al*., 2015). In Kilosa, Mabwegere village was purposively selected on the grounds that, is it predominantly an area where pastoralist Maasai are largely found, at the same time it is an area where dietary practices are increasingly changing in terms of number of meals intake per day and the type of food (KDC, 2010; Massoi, 2015). Pastoral Maasai have a unique cultural feature, which distinguishes them from other pastoralists (Misafi, 2014). The Maasai unique culture includes keeping large herds of cattle as food source, and dependence on vast land for flexible nomadism, as a source of pasture (Massoi, 2016; Mushi, 2013; Spencer, 2012; Kipuri, 2008).

Purposive sampling techniques were used to select pastoral Maasai settlements and 30 respondents. In order to capture "the social meanings and ordinary activities of the informants in its naturally occurring settings" (Brewer, 2000), intellectual effort was made to make an elaborate and thick description (Geertz, 1973), participant observation, interviews, and focus group discussions methods to obtain primary data. This was aimed at facilitating a relationship, which would permit more personal and in-depth description from the informants. Key informants were purposively selected based on their knowledge on food systems and changing dietary patterns among the Maasai pastoralists, mainly old men and women aged 35 years and above. A total of 30 men and 25 women were interviewed. Other data collection methods employed included focus group discussion (FGD) whereby three focus groups discussion were conducted based on age and gender with men, women. Based on the Maasai pastoralists' traditional system, women find it difficult to give their views in front of men. Thus, FGDs involved a group of women, men and youth particularly the *morans* aged between 20-25 years old. Categorisation of the participants in two groups each with a similar characteristic gave them freedom to express their views on charging dietary patterns among the pastoralists Maasai in Kilosa District. Participants for the FGDs ranged from 6 to 12 people. Secondary data were also used, for they offer, "an appropriate basic source of evidence" (Skocpol, 1984), particularly food patterns and changes (Arhem, 1989). Furthermore, domain and event-structure analysis were used to analyze ethnographic data from focus groups discussions and interviews.

3. FINDINGS AND DISCUSSIONS

Food as a diet and the Maasai pastoralists

From the observations, interviews, and FGDs, livestock, in particular cattle, goats, and sheep provide the main source of food in the form of milk, meat, and blood. A woman illustrates:

> *"…In our tradition, a diet of milk, meat and blood is considered as the ideal kind of food. Our traditional foods used to distinguish us as Maasai from the waswahili who eat cultivated crops as their staple foods. However, increasingly, due to loss of our staple foods as a result of loss of cattle, loss of land, droughts and many forces, we are eating large quantity of food from cereals, like maize meal, chapatti and rice which we used to perceive as unhealthy and unworthy food. However, very strong and strict taboos are still attached to fish, pork, and chickens ".*[1]

1 Interview with the Maasai elder at Mabwegere, November 10th, 2012

Traditional and changing dietary practices of the Maasai are discussed further in the forthcoming sub-sections.

Milk as staple food

Milk plays a significant role within the traditional dietary practices of the Maasai. Milk is food to the soul and the body (consumption and body smearing). It is traditionally the main staple food. Drinking raw (or soured), drinking in tea, or turning it into butter as ghee or cheese and is especially important for young children although it is not the main food. Ghee is usually used for cooking and body smearing especially for the health of the skin. Fat is considered important for children, especially infants, who are given liquid fat from sheep to promote health and strength.[2] Homewood *et al* (2009) explain that milk still forms by far the most important single contribution to dietary energy among the Maasai.

> *"…Usually every Maasai regardless of age or sex category consumes fresh milk and we do not boil the milk because boiling takes away the nutrients. Children and younger children particularly uncircumcised boys drink more milk in order to get more nutrients for their growth. Uncircumcised boys mostly consume sour milk usually in the morning as breakfast before herding cattle. Yoghurt is consumed by people of all ages for; it is a meal for everyone including women."*[3]

Increasingly, this is not the case. Traditional practice of milk consumption is changing. A woman explains:

> *"...Milk production is increasingly becoming low when compared to the past due to limited number of cattle we are able to keep in our homesteads. As a result, the daily consumption of milk is becoming very low especially now when the cattle have moved far away for pastures and water. We are sometimes forced to make tea by mixing the little milk with water, lemongrass or sometimes tea leaves and sugar before we feed the needy like the children."*[4]

This implies that, the availability and consumption of milk varies seasonally being heavily dependent on rainfall and of course, on the number of cattle owned in the households. However, milk is increasingly scarce and, in such situation, smaller quantities may be taken in the form of tea, and sometimes not taken at all, and relies on conventional foods for a meal such as legumes and cereals such as maize

2 FGD with an middle aged women at Mabwegere village January 16th, 2013

3 Interviews with woman in Mabwegere, November 2th, 2012

4 Interview with a woman in Mabwegere, 2th, 2012

meal and rice but on rare occasion. Children's needs are prioritized. According to Lawson *et al.* (2014), food security among the Maasai is reflected in lower dietary intake of carbohydrates-rich staple foods, fruits and vegetable. However, their nutritional status has remained the same despite numerous changes to the socio-ecological systems including livelihood diversification, sedentarisation, human population and growth and decreased access to vegetation heterogeneity (Galvin *et al.* 2015; Rufino *et al*., 2013). Recent and earlier studies (Little and Johnson, 1987; Galvin, 1992; Hadley and Crooks, 2012) have shown the benefit of milk to linear growth. Nonetheless, milk consumption may not offset highly prevalent food insecurity and exposure to illness (Rufino, 2013).

Increasingly, milk consumption rate is decreasing:

> *Nowadays, we no longer drink milk as before… for it is no longer available in large quantity … adults are forced to eat also vegetables like amaranth and beans for a meal. Children and young boys even have to take tea for breakfast because the number of cattle is not enough to provide enough milk for everyone use …although women need the milk for their body, they are forced to drink less and serve the children.*[5]

Several women in Kilosa agreed this phenomenon.

> *Nowadays milk is not in plenty as before … we drink much less milk… We eat potatoes, rice chapatti, and banana stew. We do not have any other way to do… when we do not have enough food for the whole family, only the children and the older people eat first, and we eat later if it remains.*[6]

Maasai elders also confirmed that milk consumption arrangements have changed over time due to reduced herds. Milk and milk products were in the past, consumed at any time of the day by all age groups, although all the more so by young children.[7] An elder noted,

> *Milk is our food… our main meal. When we say we have food, it means milk, meat and blood is in plenty and we are able to drink and eat them all the time... You know, traditionally, Maasai do not drink water, not even soft drinks like soda or juice, for we never had those things. If you feel thirsty you drink milk, if you are hungry you drink milk. Only that increasingly milk is no longer plenty as before …*

5 Interviews with woman in Mabwegere, November 12th, 2012

6 FGD with women in Ngaiti sub-village, November 10th, 2012

7 FGD with Maasai elders at Mabwegere, December 22th, 2012

> *cattle are no longer in large numbers as before…A household has more mouths that need to be fed, at the same time livestock numbers increase at a very slower pace and in an unreliable manner. We end up making tea for the children instead of milk, we eat more Ugali with less milk… we also drink water and soda what can we do…*[8]

A study by Ally and Nlooto (2014) reported that according to the Maasai knowledge-holders, milk consumption patterns have changed only minimally overtime compared to blood consumption. Milk and milk products are consumed anytime of the day by all age groups, although these products were highly recommended for young children. However, there are four categories of milk products consumed among the Maasai (Kamaru, 2009) these include fresh milk known as *kule nairouwa,* sour milk (*kule naisamis),* yoghurt (*kule naoto*) and cow colostrum (*isikitok*). All these milk products are taken by all except cow colostrum, which is mostly drunk by children. The authors found that the cow colostrum is drunk when still thick and yellow in colour, as this was considered nutritious. It was mostly given to young children particularly boys. The cow colostrum is an important source of protein and vitamin A, especially for children. It was a common practice to add herbs to fresh milk for various reasons. These additions were generally considered nutritious and possessing medical functions; and it was widely believed that additions of herbs to milk helped children fight disease (Ally ad Nlooto, 2014). Among the Maasai, breastfeeding was the norm for children of up to two years of age. Young Maasai children were fed cream from cow's milk, commonly known as *'engorno'*.

Meat as staple food

Meat is a second staple food to Maasai, eaten raw, dried or cooked, although not every kind of meat is considered acceptable as indicated in the following quote.

> *We eat beef and mutton only. We do not eat chicken, pork and fish…it has been a taboo to eat and we are still afraid to try eating them even when a household is in hunger or dying of hunger. Most of us keep chickens, but we do not eat them, they are just for sale and income generation in times of need.*[9]

By its nature, meat cannot be consumed as often as milk; however, it is one of the staple foods of the Maasai. It is mostly taken during special occasions such as circumcision and marriage ceremonies. Meat is also used to prepare soup, the

8 Interview with the elder at Mabwegere, November 12th, 2012
9 Interview with woman at Mabwegere, November 10th, 2012

recipe varying according to the occasion.

> *On some occasions, specific herbs are used…when we make soup for a mother who has just delivered a baby, we use specific herbs as medicines and also as a stimulant in milk production for the baby… likewise, for the boys who are from circumcision, they also have their own herbs in use.*[10]

Although meat is considered as one of the staple foods among the Maasai, only young and healthy cattle are slaughtered (depending on the number of cattle available). Cattle that are deemed too old or likely to be infected with diseases are regarded as not ideal for slaughtering. Similarly, it is not permitted to slaughter cattle that are involved in ploughing activities because they are regarded as human beings.

Increasingly, the traditional meat intake practices were found to be decreasing as a result of a decrease in the number of cattle available per household (livestock production systems and coping strategies are increasingly individualized as opposed to communal system of livestock production), frequent incidences of droughts and unpredictable seasonal variations of rainfall. This has compelled some pastoralists to shift gradually from being strictly reliant on meat into maize meals. An elderly woman explains:

> "*Meat is no longer available as before. This situation is forcing us to sell them in the market and get money to buy beans, meat and for other food needs."*[11]

Other women lamented that meat is no longer easily available for their consumption as it used to be in the past, and instead it is being sold in the market, which is unaffordable for many, especially those with large families ranging from 8 to 15 members. Ally and Nlooto, (2014) found that among the Maasai, meat was usually consumed during special occasions such as circumcision and marriage ceremonies among others. Soup which was usually eaten with added herbs, was prepared whenever, a meat was available.

Blood as staple food

Blood is another component of the Maasai diet and is tapped directly from the jugular vein, which is found at the throat of the cow [Picture 15]. It may be consumed direct, without mixing, mixed with milk, or even consumed in its clotted (jelly-like)

10 Interview with woman at Mabwegere, November 10th, 2012
11 Interview with woman at Mabwegere, November 10th, 2012

form."[12] It may also be an ingredient of soups mixed with bark for therapeutic purposes. Its consumption is reserved for special occasions and in recent times is waning. Women noted that blood may be consumed when an animal is to be slaughtered or when a household member loses blood, particularly after childbirth or circumcision, with the belief that the blood is helpful for health and healing.[13] Blood was consumed more often in the past however; this respondent makes the following reservation,

> *I remember when were very young, together with my brothers we drank blood. Every other day a cow was restrained and we will put a rope around his neck to make its jugular vein bulge out. My brother will shoot the vein with an arrow for blood, then an elder sister of mine will bring a wooden bottle known as a gourd and collect certain amount of blood for us to drink, then the cow will be left to continue walking normally.*[14]

An elder noted the cultural importance of the traditional diet but also the increasingly changing dietary practice in relation to the traditional of consuming blood as food.

> *Apart from meat and milk, we are famously principally living on blood - but increasingly our cattle are too weak to provide us with blood , due to shortage of pasture, water sources , we are forced to eat what most of Swahili people in this area eats: Maize meal and porridge made from cereals.*

Again, another respondent had this to say in relation to changing food systems during the FGD:

> *We have witnessed several changes in relation to our food systems…There are very less chances of one being able to drink blood in many Maasai households. Our cattle are not on good condition to have a vein opened and drain blood as it was before. Normally, one healthy animal can be drained up to five litters of blood and the animal remains unharmed.* [15]

The above findings suggest that, the Maasai have their own traditional food systems, which they have been unable to maintain, due to some of the discussed earlier. They depended on raw foods such as sour milk. If the cattle are no longer available, it means changing their dietary system, which may entail food insecurity. According

12 FGD with women at Mabwegere, November 10th, 2012
13 FGD with women at Mabwegere, November 10th, 2012
14 Interview with woman at Mabwegere November 10th, 2012
15 FGD with women at Kiduhi, November 12th, 2012

to the Maasai elders, food security exists when 'the whole community is able have access to their traditional staple foods whenever they feel the need of having them' and 'when grazing land and inputs required for livestock production are also in enough supply.'[16] Women were of the opinion that food security depends on 'the presence of enough milk for everyone at all times and when milk can be consumed in a variety of traditionally acceptable forms (fresh and fermented milk) used as a meal and a thirst quencher.'[17] Women also felt that meat should be in sufficient supply for everyone to eat, both in dried and in cooked form and blood should be accessible from the cow whenever a need or an occasion required it. For this, sufficient land for grazing through different seasons and collection of water and firewood were necessary prerequisites.[18]This therefore reflects the Maasai dietary practices and the manner in which the traditional food preferences are increasingly compromised. Similar findings are reported by studies (e.g. Ally and Nlooto, 2014; Kamaru, 2009; Oiye *et al*, 2009; Nestel, 1989), which show that blood was an exceptionally good source of iron and calcium and contributes protein and vitamin A. Blood is consumed whenever an animal was slaughtered, or when a household member lost blood, principally in childbirth and during circumcision.

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16 FGDs with Maasai elders in Kiduhi, Mabwegere, November 10th and 11th, 2012
17 FGDs with Maasai women in Kiduhi, and Mabwegere, November 10th and 12th, November, 2012
18 FGD with women at Kiduhi, November 12th, 2012
19 FGDs with Maasai elders in Kiduhi, Mabwegere, November 10th and 11th, 2012
20 FGDs with Maasai women in Kiduhi, and Mabwegere, November 10th and 12th, November, 2012
21 FGD with women at Kiduhi, November 12th, 2012

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Picture: *A young Maasai boy draining blood from the cattle*

This observation supports the findings by Århem (1989), which revealed that, though milk, meat, and blood contribute to the Maasai diet; honey and honey mead are also traditional valued "foods," occasionally consumed in high qualities. Århem reported that though vegetable foods were traditionally consumed and still considered as inferior food, it probably always served to supplement the ideal food in times of scarcity particularly among women and children. According to Oiye *et al* (2009), traditional staple of the Maasai consists of the cow milk and maize meal.

Similar observation is made by Fenton *et al*. (2012) based on a study conducted in Ngorongoro, Nestel, which opined that enough food for the Maasai means enough milk....."*It is just to have a lot of cattle in order to get milk from them. Sometimes during rainy seasons, we depend on milk only and in dry season, we can buy potatoes and maize flour*." This implies first, the existence of food options other than their traditional food among the Maasai society means food insecurity. Second food security situation among the Maasai is highly depended on seasons, as plenty of milk is experience during rainy season and vice versa. The findings by Mayanja *et al* (2015) and Rukundo *et al* (2016) affirm that the Maasai land is strongly seasonal, as are the types and the amount of food available as well as workloads for different age/sex classes.

4. CONCLUSION AND RECOMMENDATIONS

This article set out to examine food patterns of the Kilosa pastoral Maasai and the way in which food insecurity is prevalent due to lack of food preferences. Food security according to the Maasai does not only refer to food availability but also to food preference. According to their own definitions, the Maasai are suffering from food insecurity due to a decline in cattle, which in turn relates to a decline in the available grazing land. The Maasai are forced to adjust their traditional diet to include new foods, which they perceive as having little benefit to them. This suggests that they are not necessarily starving. Food security in pastoral societies is subjective to preference. A diet of milk, meat and raw blood from domesticated livestock, cattle in particular is considered the ideal kind of food among the pastoral Maasai. This implies that, to pastoral Maasai, all other foods are unworthy and eating them may signify food insecurity.

However, as the researchers of this study noted earlier in this article, food security is not only limited to food availability but also extends to food preferences for a healthy and an active way of life. The fact that Maasai have made an adjustment in food consumption patterns from meat or milk to more cereals and vegetables may not be necessarily a bad thing from nutritional perspective. However, if certain foods are culturally unacceptable, people might go hungry rather than eat them, or conversely sustaining the supply of the new cereal based foods might be incompatible with current nomadic lifestyles and livelihoods. Furthermore, it is established that a diet high in carbohydrate and sugar (sodas being consumed instead of water) is detrimental to health, leading to an increased risk of modern

illnesses such as heart disease and stroke, and dental cavities.[22] Perhaps this will in the future become new food insecurity in the pastoralists will have to deal with, because overconsumption of dietary energy leads to overweight and obesity.

This paper argues that cultural food preferences are important because they are intertwined with beliefs about health, livelihoods, and sustainability of food supply. Moreover, when a change is forced upon a community it strains individuals and households involved and hurt certain vulnerable people, in this case, the pastoral Maasai women who are by default food producers, distributors, and managers including maintainers of food security. Scholars, I believe, should avoid looking at this kind of changes as necessarily positive, they should avoid making the kind of mistakes that the concept (civilization) had and still has in many parts of Africa where the alienation of specific cultural aspect will be called civilization. In the same vein, the Maasai lacking access to cattle facilities and start eating other food stuffs such as Amaranths, beans, and pork [in discreet] should be considered food insecurity for this group of people.

Long-term interventions and multifaceted initiatives and policies that address food and nutrition insecurity need to also taken on board for close relationship between food, nutrition security and culture, so as to prevent food insecurity across cultures. These solutions should include connecting food- insecure communities with adequate and nutritious food by understanding the influence of cultural practices on the dietary practices of different communities, pastoralists in particular, while addressing the underlying causes of food insecurity. It is important for the community to embrace other alternatives for livelihood, including farming and government support in irrigation to improve food access and availability.

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