

# Nyama Choma Culture: Implications of Increased Red Meat and Alcohol Consumption in East Africa

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## Abstract

Nyama Choma Culture (NCC) reflects a way of life in East Africa based on the increased consumption of red meat and alcohol which seemingly projects a higher social status. The rising emergence of these cultural practices has positive as well as negative implications on individuals, their families, and larger socio-economic systems. This article draws from a variety of sources to provide an objective description of the implications of NCC on the people adopting it as well as society at large. These concerns are categorized into four primary areas: public health, the food industry, climate change, and community microeconomics. As the dynamics and impacts of NCC are already being felt in developing countries, this cultural phenomenon calls for careful monitoring and consideration in the design of policies and practices to champion the economic, social, and environmental sustainability of community nutrition systems and regional food value chains.

**Keywords:** nutrition, health, food security, climate change, East Africa, meat, alcohol

## 1. Introduction

In sub-Saharan Africa, the percent of calories supplied by red meat has gone up by an average rate of one percent per decade (Chauvin, Mulangu, & Porto, 2012). In many East African countries, the most popular red meat dish is “nyama choma”, which translates as “roasted meat”. The dish has lent its name to the cultural phenomenon, Nyama Choma Culture (NCC), which revolves around consuming more red meat (mostly beef and goat) as well as alcohol to show a higher social status. NCC first took root in Kenya and has now spread to neighboring East African countries.

The traditional Nyama Choma dish has been eaten in East Africa for generations, but it has only recently transitioned from a cuisine delicacy into a popular cultural statement. Traditionally, red meat was primarily reserved for weddings, holidays, and other special occasions due to its high price. Individuals who can afford to consume red meat regularly thus were and still are perceived as wealthier by their peers. However, this perception has not kept pace with recent widespread increases in societal wealth. The GDP per capita calculated across all countries in the East African Community in 2005 equated to \$405; and by 2015, this number had jumped to \$904 (current USD, omitting South Sudan) (World Bank, 2016). This economic growth is also reflected in the size of the African middle class, which has grown from 27% of the population in 2000 to 34% in 2010 (African Development Bank, 2011). Many people thus have more disposable income and can afford red meat and alcohol more often, which has led to the emergence of NCC as a popular lifestyle (East African Community Statistics, 2013).

Effects of NCC are manifesting in a number of ways as more East Africans are beginning to embrace leveraging red meat and alcohol consumption as status symbols. The Food and Agriculture Organization of the United Nations calculated that the supply and demand for beef in East Africa has been on the rise since 2000 and is projected to continue to rise until at least 2030 (Food and Agriculture Organization, 2014). Part of this rise in red meat consumption is due to the social trend of eating more street foods, which are ready-to-consume meals often including processed meat sold by vendors in public places. Street foods are consumed by many individuals on a daily basis because they are busy with work, school, and/or caring for family (Food and Agriculture Organization, 2011).

The most visible demonstrations of NCC occur at Nyama Choma Festivals, which began in Tanzania in 2011.

Such festivals have since expanded into various locations throughout Kenya, Uganda, Rwanda, and the Democratic Republic of the Congo. At each location, festivals draw thousands of people to a celebration of open-air barbecuing of large amounts of red meat and drinking copious amounts of alcohol.

NCC has major implications for sustainable development, both positive and negative, that are already evident in some countries in East Africa. It is important to examine these implications now, as they are likely to increase in complexity and severity along with the spread of NCC. This article undertakes an analysis of NCC across four areas of development: public health, the food industry, climate change, and community microeconomics. The implications explored here can guide organizations and individuals involved in improving health, economics, and the food industry in East Africa, as well as those involved in curbing climate change globally.

## 2. Implications of Nyama Choma Culture

Increased consumption of red meat and alcohol in East Africa will have direct implications in four primary areas: public health, the food industry, climate change, and community microeconomics (Figure 1). This section reviews the positive and negative impacts and interconnections of these areas.

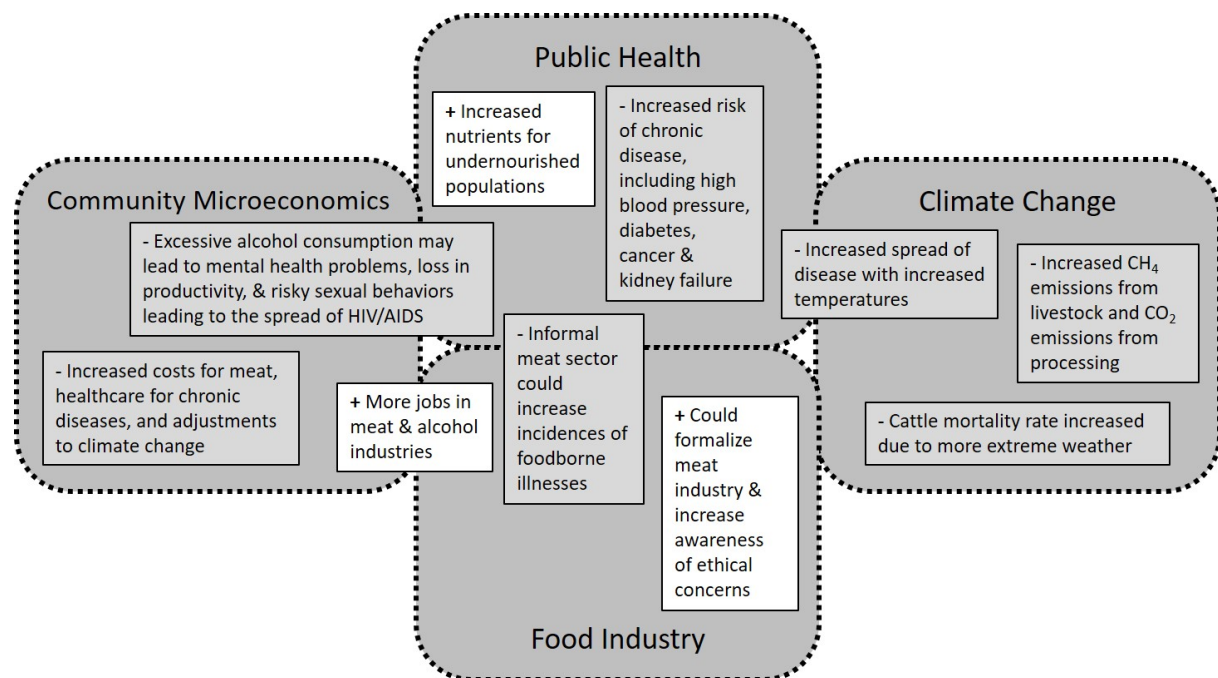


Figure 1. Summary of Nyama Choma Culture Implications

### 2.1 Public Health Implications

As we have seen in higher-income countries, a level of red meat consumption that exceeds nutritional needs contributes to high rates of chronic diseases including cardiovascular disease and diabetes mellitus (McAfee, et al., 2010). As East Africans increasingly adopt diets high in red meat, it is expected that they will experience increased rates of these same chronic diseases due to their increased consumption of saturated fat, trans fat, and LDL cholesterol (World Cancer Research Fund International, NCD Alliance, 2014). In fact, chronic diseases are projected to become the leading cause of death by 2030 in Sub-Saharan Africa (Naik & Kaneda, 2015). However, the continent still endures the challenge of reducing maternal and child deaths caused by infectious diseases and thus is facing a double burden of chronic and infectious diseases (United Nations News Service, 2011).

Processed meats have been shown to cause cancer (a 50-gram portion of processed meat eaten daily increases the long term risk of colorectal cancer by 18%); in addition, there is strong evidence suggesting that red meat has a carcinogenic effect (International Agency for Research on Cancer, 2015). Increased red meat consumption could also displace fruit and vegetable consumption, thereby further increasing the risk for chronic disease. Fruits and vegetables contain phytosterols and unsaturated fats that lower harmful blood cholesterol concentrations, as well as antioxidants that may reduce the risk of heart disease and cancer (Boeing, et al., 2012).

Increased red meat consumption will also have positive health outcomes for certain populations due to red

meat's high level of protein, iron, selenium, zinc, and vitamin B12. Nearly one third of the population in most East African countries is undernourished and will therefore benefit from increased intake of these nutrients (Delgado, 2003; Food and Agriculture Organization, 2015). More specifically, vulnerable groups in East Africa that could benefit from increased red meat consumption include children, pregnant women, the elderly, and those living with HIV/AIDS, although these groups are generally not part of NCC. In Kenya, 46% of children aged 6 months to 5 years, a crucial stage of childhood development, and 36% of pregnant women are anemic (iron-deficient), which can be alleviated by eating more red meat (Index Mundi, 2014). The elderly, as well as people living with HIV/AIDS, suffer from muscle mass loss, which can also be prevented by an increased intake of red meat (European Food Information Council, 2016; UNICEF, 2014). In addition, there are several months of the year when food is particularly scarce in East Africa, and the extended shelf life of processed meat might be able to help bridge these hunger months. However, all of these potential benefits rely on the target groups being able to access and afford the meat.

Excessive consumption of alcohol also has its own negative short-term and long-term health consequences. During a single episode, excessive alcohol consumption can lead to injuries, violence, and alcohol poisoning (Devries, et al., 2014; Rehm, Shield, Joharchi, & Shuper, 2012). Over the long term, excessive alcohol consumption can lead to the development of chronic diseases including high blood pressure, heart disease, stroke, and liver disease, and cancer of the breast, mouth, throat, esophagus, liver, and colon (National Institute on Alcohol Abuse and Alcoholism, 2000). These dangers can be further exacerbated by the purchase of cheap illicit alcohol in East Africa, which can have higher alcohol content and include other toxic substances.

### *2.2 Food Industry Implications*

For many farmers in Eastern Africa, livestock management is the only viable option because most of the land is arid. The Eastern Africa Farmers' Federation (EAFF) declared in 2015 that it intends to fully exploit the region's livestock potential, ensuring the livestock contribution to the agricultural GDP surpasses 50% (International Cooperative Alliance, 2015). The growth in the production of red meat provides an opportunity for livestock-related industries to expand to meet the demand for processing, storing, marketing, and selling the meat. Such expansion could provide jobs for thousands of people and could provide the pressure needed to formalize the meat industry. If policies are put into place to regulate the safety and efficiency of the supply chain, the incidence of food-borne illness from red meat could decrease. There is also potential for increased recognition of ethical considerations surrounding red meat production and consumption, e.g. concern for animal welfare.

The informal meat industry could instead swell to meet demand without obtaining full government oversight. Even if the industry does formalize to some extent, countries can expect many new businesses to initially enter the market via the informal sector. Such facilities in the informal sector can be as simple as a shack, a hook, and a knife. Red meat is highly perishable and can become contaminated and lead to food-borne illness in the absence of proper storage and regulated inspection. In order to halt the growth of harmful bacteria, raw beef should be stored in a refrigerated area at 4.4°C (United States Department of Agriculture, 2015). However, currently in many rural areas where the informal sector thrives, there is no way to adequately refrigerate red meat or to determine whether or not livestock is infected by disease prior to butchering. Without a safe value chain, the informal sector could cause the spread of life-threatening foodborne illnesses such as *E. coli*, salmonella, listeria monocytogenes, and clostridia perfringens (National Institute of Diabetes and Digestive and Kidney Diseases, 2014). To reduce the risk of foodborne illnesses, the livestock industries' various sectors need improved quality control.

### *2.3 Climate Change Implications*

Climate change has an impact on meat production while meat production in return has an impact on climate change. In most of East Africa, increased prevalence of extreme droughts is predicted, which is likely to cause increased livestock mortality as seen during previous droughts (International Cooperative Alliance, 2015). However, East Africa is also the only African region predicted to have an increase in annual mean rainfall (African Ministerial Conference on the Environment Secretariat, 2007). An increase in rainfall generally leads to increased crop and grassland productivity, but also decreased livestock net income (Mendelsohn & Seo, 2008). The decrease in livestock income is because wetter years frequently see large-scale outbreaks of existing vector-borne diseases and macro parasites among cattle such as Rift Valley fever in East Africa (International Fund for Agricultural Development, 2009). Cattle that are not vaccinated, which is often the case in the informal sector, are at an even higher risk of being infected. Rift Valley Fever can also be transmitted from animals to humans during the butchering and slaughtering process (World Health Organization, 2010). The predicted rise in

temperatures in East Africa could also accelerate the spread of existing disease and induce heat stress among cattle. As a result, cattle are likely to experience weight loss and reduced health (Thornton, van de Steeg, Notenbaert, & Herrero, 2009), which can be financially devastating to most farmers in East Africa where purchasing a cow is a large investment. Additionally, even an increased average rainfall is unlikely to alleviate the scarcity of fresh water in East Africa, and this water could be more efficiently used to grow crops directly for people (Pimentel & Pimentel, 2003). In fact, this inefficiency also applies to other ecosystem resources such as farmland and industrial products, which could be more efficiently utilized to grow food for people than feed for livestock.

The spread of NCC is also likely to have direct effects on climate change. While world leaders have agreed on aiming to limit the global mean temperature rise to no more than 1.5°C above pre-industrial levels, this goal could be threatened by a widespread increase in red meat intake (UNFCCC, 2016). If global trends in red meat intake including NCC continue, it will become more likely for the mean global temperature to exceed 2°C (Kim, Neff, Santo, & Vigorito, 2015). This prediction is based on the knowledge that livestock production contributes an estimated 14.5 percent of global anthropogenic greenhouse gas (GHG) emissions – more than the entire transportation sector – and cattle are the largest contributor within the livestock sector (Gerber, et al., 2013). Livestock production also destroys biodiversity, degrades land, and contributes to increased water and air pollution, all of which indirectly exacerbate climate change pressures (International Fund for Agricultural Development, 2009).

#### *2.4 Socioeconomic Implications*

Some groups of East Africans will likely not adopt with NCC, including those with lower incomes who cannot afford red meat and alcohol as well as those with religious beliefs that prohibit red meat and/or alcohol consumption. For example, in Ethiopia, the Christian population (62.8%) refrains from eating meat products for an average of 250 days of the year because of their religious beliefs (Seleshe, Jo, & Lee, 2014). More generally, men are currently more likely to purchase red meat and alcohol in East Africa. However, as women increasingly join the workforce, they may have increased disposable income and could consume more, especially in the form of street food. There is also a prevalent cultural belief that “it’s not a meal if there isn’t meat” which could further push individuals toward consuming more red meat. Additionally, this extra money spent on red meat and alcohol can shift money from other aspects of families’ lives.

Increased alcohol consumption is also likely to increase the prevalence of many social issues. Individuals who consume excessive amounts of alcohol are more likely to engage in risky sexual behaviors that can result in the spread of sexually transmitted infections including HIV (Devries, et al., 2014). Excessive alcohol consumption can also lead to learning and memory problems, including dementia and poor school performance; mental health problems, including suicide, anxiety, and depression; and social problems, including lost productivity, family problems, and unemployment (National Institute on Alcohol Abuse and Alcoholism, 2000). For both alcohol and red meat, the health problems related to increased consumption are likely to burden more families with the social and economic challenges of dealing with increased healthcare costs. Looking at the potential positive impacts of NCC, however, the increased consumption could create more jobs within the food industry, ranging from animal husbandry to street vending.

### **3. Conclusion**

Nyama Choma Culture does have the potential to lead to positive outcomes for certain East African populations, but there is also a plethora of negative effects on public health, the food industry, climate change, and community microeconomics. Minimizing these negative impacts as the demand for red meat continues to grow will require sustainable and scalable improvements in the food and health sector policies, governance, interventions, and investments. Organizations interested in mitigating chronic diseases can promote and support fruit and vegetable consumption while providing awareness-raising and extension programs on the health and social implications of increased red meat and alcohol consumption. Health organizations could also focus on prevention and care of chronic diseases associated with NCC. Governments of East African countries can and should enforce stricter regulations to support formalization and broaden food safety. In particular, outbreaks of livestock diseases could spread very quickly without sufficient prevention.

The United Nation’s Global Agenda for Sustainable Livestock calls for the active engagement of governments, civil society, the private sector, donors, academia and research institutions, NGOs, and inter-governmental and multi-lateral organizations (Food and Agriculture Organization, 2015). Working from different perspectives, there may be potential to significantly reduce the emissions from red meat production in NCC countries and beyond. Part of this mitigation potential can be achieved through practices and technologies related to better

feeding, animal health, and manure management (Dourmad, Rigolot, & Hayo van der Werf, 2008; Gerber, et al., 2013). In order for these strategies to be adopted widely, awareness-raising efforts, supportive public policies, microfinance schemes to financially support small-scale farmers, and additional research to assess the costs and benefits of mitigation options in practice are all needed.

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