

MAIZE AS A STAPLE CARBOHYDRATE IN GHANA:
ENCOMPASSING POLITICAL, ECONOMIC, SOCIAL,
TECHNOLOGICAL, ENVIRONMENTAL (PESTE) AND
GASTRONOMIC CONTEXT OF FOOD AND DRINK

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Abstract

This paper will highlight the historical, current and future developmental roles maize plays as food to Ghanaians and how the food chain is affected by political, economical, social, technological and environmental factors. It also analyses the value of maize as food in Ghanaian culture in a gastronomic context. The author concludes that food serves to bind people linked by blood, religion or citizenship; and consumed in accordance with existing trends in keeping our food choices not only healthy, but natural, and sustainable.

Keywords: Gastronomic, Maize, Political, Economical, Social, Technological and Environmental

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INTRODUCTION

A Yoruba saying states that “*There is no god like one’s stomach: we must sacrifice to it every day*”. (From ‘Hunger’ a Yoruba song). This highlights the continuity of feeding as well as nutrition.

Maize is a cereal widely consumed in Africa and most parts of the world. In Ghana, it is consumed in various forms (Obiri-Danso et al., 1997). It provides significant amounts of the daily intake of calories and protein as well as other nutrients (Bressani, 1991). The forms consumed in Ghana vary, ranging from immature grain eaten off the cob after cooking to products processed from ripened shelled kernels by indigenous technologies such as fermentation for products such as ‘kenkey’, ‘banku’, ‘agidi’, ‘koko’ etc (Nyako, 1977).

History of Maize

The evolution, dispersal, and consumption of maize span the better part of the past eight thousand years of human cultural development. Until European exploration in the Americas began in 1492, maize was a New World domesticate with an exclusively American distribution and consumption. In fact, by 1498 cultivation of maize had begun in Seville, Spain. With its subsequent adoption in Africa for the purpose of feeding the growing numbers of African slaves destined for southwest Asia and the Americas, consumers throughout Africa, Europe, and Asia began to use maize as food and fodder (Coe, 1994; Katz, 2006).

According to Bartle (2007), written records so far have not revealed what starch food was being eaten along the coast, but oral tradition indicates that sorghum and guinea corn were grown on the Accra Plains, and were fermented to make *dokonu* (kenkey). Later, maize was brought by the Europeans to West Africa from America. In the sixteenth century, maize rapidly diffused across the African continent as a result of the slave trade (Johnson, 1997 cited in Katz, 2006: 236–237).

Nutritional Facts

Maize is relatively low in protein content and has limited amounts of one or two essential amino acids such as lysine and tryptophan (Bressani et al., 1968).

Table 1: Common nutrients found in maize and their functions to the body

NUTRIENT	FUNCTION
Vitamin B1	Improves memory and support for energy production, even under stress
Vitamin B3	for absorption into the body
Folate	Promotes cardiovascular health, support lung and prevent the risk of congenital defects
Vitamin B5	Helps turn carbohydrates into energy, processing food into fuel
Carbohydrates (sugar, starch, cellulose)	Digested and absorbed as glucose used for short-term energy needs or stored
Others: Dietary fibre,	Regulates digestion, maintains a healthy blood glucose level and absorbs excess cholesterol lowering your risk of cardiovascular disease
Phosphorus	Helps the body use energy efficiently.
Vitamin C	Necessary for collagen formation and wound healing, and helps to block dangerous free radicals.
Manganese	Needed for enzyme structure
Vitamin A	Essential for maintenance of good vision and skin.

Source: Liu, 2004 (Modified by MacCarthy, 2011)

Uses of Maize to Man

Maize is not just for dinner. The crop is generally used in livestock feed, and it is also processed into many food and industrial products, including starch, sweeteners, corn oil, beverage and industrial alcohols. Corn's starch is also converted to sugar and then fermented into fuel ethanol by brewer's yeast (Core, 2002). Other uses include products such as, coatings for paper cups, soda bottle cap linings, clothing fabric, buttons, adhesives, coatings and binders (all made from Zein) (Lawton, 2002).

Political, Economical, Social, Technological and Environmental Aspects of Food

Politics can impact on every industry and organisation. Because many of the PESTE factors are linked together (Scholes et al 2008), the political aspect can alter the economic, legal, social, and environmental factors. The sky is the limit in the development of new technologies which can deeply impact on new food products. Food and politics are connected in various ways, both great and small. Food is a political as well as a social, economic, technological and environmental issue (see table 2). Overabundant food and its consequences occur in the context of increasing centralisation and globalisation of the food industry (Nestle, 2002). All these impacts from the macro-environment affect not only maize in Ghana, but globally.

PESTE Aspect of Maize in Ghana

Political Aspects

Politically, if government is looking for money, it looks at the avenue of tax deductions (Nestle, 2002). Also, in order to have impact on consumption, significant increase in tax has to be levied on the maize products (e.g. Beer, snacks, and soft drinks). Other factors that may affect the production, manufacturing and consumption of maize and maize products in Ghana may include:

- i. Change in laws that have to do with agriculture, from African Union or the Economic Committee of West Africa States (ECOWAS).
- ii. The reduction of grants by the government to farmers may make the financial crisis bigger in the global world. Also, WTO rules are designed to prevent nations from instituting farm policies that might unfairly favour their ability to compete in world markets (Nestle, 2002).
- iii. Dietary recommendations and trade disputes, illustrate the breadth of ways politics connect to food (U.S.D.A, 1992).
- iv. Range of policies to manipulate the sector (investment in irrigation systems, roads, marketing facilities, agriculture research, taxation), this is normally associated with the European Union and the United States of America. Also, import restrictions, and marketing and promotion programs for major food commodities may affect Maize consumption (Nestle, 2002; Frazão, 1999 and U.S.D.A, 1992).
- v. Food companies also use the political system to convince Congress, government agency officials, food and nutrition experts, the media, and the public that their products promote health (or at least do no harm) and should not be subject to restrictive regulations (Nestle, 2002).

Social Aspects

Growing importance of 'value for money' destinations and places among the society; Continuing trends in world unemployment, increasing age differentials, and cultural changes; Globalisation has brought about a great change in the consumption of maize product in Ghana due to its mode of preparation and consumption (Bodjawah, 2003). Due to the inflow of fast foods, "McDonaldisation" (Ritzer, 1993) in Ghana, people feel shy in eating maize main meal out unless it is a snack or drink made from maize as most of these items are finger foods. Other social aspects include:

- i. The movement of people from the countryside to big cities (urban-rural migration) which is affecting production.
- ii. Social-economic status (rich people in Ghana do not consume maize product because they are of the opinion that it food for the poor) Bodjawah, 2003
- iii. Cook at home/ Globalisation
- iv. Social Function (maize products are used in most social events like, funeral, naming ceremonies and other celebrations)
- v. Stigmatisation/ Obesity (Research shows that overweight youths are aware of weight stigmatization, (Neumark-Sztainer et al., 2002; Staffieri, 1967) and a corollary of these prejudiced attitudes is that overweight individuals may modify their food selection in front of others to avoid incurring the stigmas attributed to overweight individuals (e.g., Maykovich, 1978; Vartanian et al., 2007) and also because they believe that doing so will increase social approval.
- vi. Culture, beliefs, Superstitions and Taboos: Ghanaians have strong cultural beliefs, superstitions, and taboos, which can affect the consumption of the maize products within the different groups in the country. For example, the Ga's , an ethnic group who are natives of Accra, the capital of Ghana, and surrounding areas, have a festival called 'Homowo,' which means 'Hooting at Hunger' which they celebrate every year. And the main staple food for this festival, known as 'kpoikpoi,' prepared from grinded maize is eaten with palm nut soup and fish and meat (MacCarthy, 2006). It is the favourite food of almost all Ga natives. This, coupled with a lot of Ga's belief that maize makes a man very strong, rightly or wrongly, makes corn or maize products, a favourite of most Ga's.

Example of such maize products are: Fante kenkey, Ga Kenkey, abooloo, koko (Corn dog porridge) Ebro gari, aprapransa, abodo ngu, peewa etc (MacCarthy, 2011).

Technological

Universally, technological development has helped with the production, preservation and consumption of Ghanaian maize product. Such new technology includes;

- i. New machines to make the maize production, harvest and also the manufacturing of products easier
- ii. New ways to increase the mineral nutrients of maize.
- iii. Development of mutant seeds which are disease and insect-resistant varieties, though not entirely safe has brought about increased production .e.g.; the Crops Research Institute using local maize varieties in its breeding programmes has developed a high lysine maize called 'obatanpa' (Twumasi-Afriyie *et al.*, 1991).
- iv. Expanded and improved irrigation although causes environmental problems, increased yield is achieved. (Barker et al. 1985)

Environmental Aspect

The influence of Green issues has brought about many environmental concerns regarding maize production. However, most of these concerns are related to the agricultural inputs. According to Leahy (2008), Water pollution and water over –consumption; Pollution of the soil from the chemicals that are used in agriculture; Soil erosion because of the frequent cultivation may cause environmental problems such as calamitous shortfall in the world's grain supplies in the near future. Destruction/increasing encroachment of forests to make new fields for corn plantation which caused a large number of animals to disappear, including some rare wild animals (Pickering and Owen, (1997). Other environmental benefits that the production of the maize crop can fetch include; a new source of fuel more friendly to the environment (Frazão, 1999). Genetically Modify Organism is now the leading concern (Brain, 2001)

Economical

As maize response is much too political, so as to economic factors. Economically, the price is affected by many factors, including the weather fluctuations, Global sourcing of the distribution of farm equipments and the global price (Brain 2001). Due to the absence of complete imports

and exports data from the Government, there has been integration with other product that has affected the production and sale of the crop. Barker et al., (1985). ‘McDonaldisation’ has also affected the economy with the increase in foreign food product imported into the country.

Gastronomy

This studies various cultural components and has food as its central axis. Thus it is related to the fine arts and social sciences and even to the natural science in terms of the digestive system of the human body (Gastronomy, 2010.; Cracknell, and, Nobis, 1985).

The cultural role played by food is central to every society, and complex procedures for transforming raw food into cooked meals not only distinguish between individual cultural groups, but between humans and their primate relatives. Though the Fundamental role played by individual cuisines has long been recognised by both archaeologists and anthropologists a dichotomy between their concerns and approaches has developed. Whilst anthropologists have examined the religious and symbolic aspects of food production (Radcliffe-Brown 1922: cited in Maclean and Insoll, 1999), and rituals of distribution and consumption (Goody, 1982: cited in Maclean and Insoll, 1999), and the development of sophisticated analytical techniques (e.g. Bryant and Williams-Dean 1975; Rottliinder and Hartke 1982; Noe-Nygaard 1987: cited in Maclean and Insoll, 1999).

Ghanaian cuisine has diverse traditional dishes which differ from each ethnic group, tribe and clan from the north to the south and from the east to west. Generally, most Ghanaian food are made up of a starchy portion (kenkey, rice, fufu, banku, tuozafo, gigi, akplidzii, yekeyeke, etew, Oto, etc) and a sauce or soup saturated with fish, snails, meat or mushrooms (Bodjawah, 2003).

Ghanaian food is quite sophisticated with liberal and adventurous use of exotic ingredients and a wide variety of tastes, spices and textures. Herbs such as thyme, bay leaves, vegetables such as wild mushrooms, garden eggs (similar to eggplant), green berries, various types of pulses, ginger, garlic, smoked meat and fish, crab, trotters, shrimps octopus and duck all feature in Ghanaian cuisine (MacCarthy, 2011).

Conclusion

Food is a biocultural phenomenon. It is at once nutrition, needed by the body for its survival, and culture object, with various non-food uses and associations. Food functions as a sign or means of communication. It governs human relationships at all levels. Food serves to bind together people linked by blood, religion or citizenship; conversely, it is divisive, being distributed and consumed in accordance with existing hierarchies.

Food comes first, no food, no life. In myth, the satisfaction of this primary need was both a struggle and burden for Adam. The sin of Adam condemned humanity, the flower of creation, to getting food the hard way, through tilling the soil. According to a Greek myth, Agriculture was a punishment imposed upon mankind and a diet of cereals a drastic comedown from the divine menu of nectar and ambrosia, or from the free produce of the Garden of Eden. And that's why we should keep our food choices not only healthy, but natural, green and sustainable. Food is culture. Food is life. Food is nature, and so are we.

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