



Standards related foods and food products

Desalegn Amenu Delesa

Jimma University, College of Natural science; biology Department, Jimma, Ethiopia

*Corresponding author: wadadesalegn@gmail.com

Abstract

Food quality and safety standards that are critically important both for developed and developing economies, where the consumers' safety is among the primary issues to be considered in food supply chain management. After the rapid development of many economies, quality standards have focused on consumers' demand for safe food and beverage. So, therefore, food quality and safety protection was emerged with the objectives of safeguarding consumers from both economic and health risks and to ensure the functioning of food markets in an orderly manner by prohibiting the production and sale of unsafe food products and fraudulent acts committed on foods. Ensuring the food quality and safety of domestically produced, exported and imported food and food products constitutes one of the areas of food quality and safety protection. This is with an assumption that maintaining the quality of these foods is essential to protect public health, to satisfy the expectation of consumers, and to enhance foreign earnings and to maintain the confidence of food trading partners. Hence, governments assure the quality and safety of domestically produced, imported and exported food and food products. It has been noted that foods related laws in Ethiopia also do not meet what the supplying of safe and of good quality food so demands. Everyone involved in food quality assurance system from farmer to the consumer is expected to shares in the responsibilities of ensuring the supply of good quality and safe food to the domestic consumers and foreign markets. According to the law, farmers and processing companies have the greatest responsibility for food safety assurance. In addition, they need to prove that they have applied diligence and traceability practices. The aim of this paper is to review the general concepts of standards related to foods and foods products by compare Ethiopian standards with international standards.

Keywords: standards; international food standards, Ethiopian standards; foods safety and quality,

Introduction

Developing standards is part of the process of controlling food safety and quality. The usefulness of control information can be increased by establishing standards for each revenue center within the Food and Beverage operation. Standards are used to ensure the products that are processed and manufactured in a safe and hygienic condition and improve quality and safety of food products and beverages. Compliance to standards through certification can be used as a marketing tool to enhance customers' confidence on the products and assure the consumer that the products are of quality, safe and free from hazards. Food standards are "rules of measurement established by

regulation or authority" (Reardon et al., 2001) and are enforced by governments, food companies and retailers. Their aim is to assure the confidence of consumers in the food systems (from farm to table), but also increase the information available to the final consumer, enabling them to make informed decisions concerning the food they purchase. On the other hand, food standard is a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose. Standardization is a process of ensuring uniformity in products and services by use of

appropriate standards (Farina., et al., 2000). Briefly stated, process standards specify how the product should be produced, a product standard requires that the final product should have specific features, and last, information standards are concerned with labelling and other communications that go with the product. The process ensures efficient utilization of resources through reduction of wastes. In any country, food standards are established by regulatory authorities and enforced by governments, food companies and retailers (Donovan, J. et.al. 2001).

In general, to respond to the international requirements of food quality and safety in the global market and to meet the expectations of domestic consumers as well as to safe guardthe public health, there must be strong and up to date regulatory framework and well organized institutions and cooperation among all stakeholders involved in food quality regulation, production, supply and distribution. However, in Ethiopia while food processing industries are rapidly increasing, the country's food quality and safety regulatory system is very little developed and is notable to effectively support the production, supply, and distribution of safe and quality food to the domestic consumers and to the export market. Not only this, but also, the food control activities are scattered among various regulatory bodies such as ministry of health, ministry of agriculture and rural development and quality and standard Authority of Ethiopia. Similarly, the responsibilities and mandates given to these regulatory bodies are not adequately defined, demarcated to avoid overlap and duplication of functions(FMHACA, 2009). As a result, giving attention to ensure quality and safety does not plays a significant role in the national economic development by enhancing tourism, national and international trade for production, supply and distribution of quality and safe food and beverage, preventing avoidable losses. The aim of this paper is attempt to discuss the general overview international standards related to food and food products, to ascertain constraint of Ethiopian standards related to foods and food products.

Food Safety Standards

A **standard** is a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose. Product standards and code of practice assist manufacturers to produce commodities that meet minimum specifications for quality and safety.

Standardization is a process of ensuring uniformity in products and services by use of appropriate standards. The process ensures efficient utilization of resources through reduction of wastes. Food and beverages standards are documents containing requirements, specifications, guidelines or characteristics that can be used consistently to ensure that food materials, products, processes and services produced are fit for human consumption. In any country, food and beverages standards are established by regulatory authorities and enforced by governments, food companies and retailers.

If a company wants to maintain its good quality standards and market image, appropriate specification schemes should be developed for all its products. Most companies need product specifications, which define the standard quality of their products and production procedures, such as picking, storage, delivery, supply and transportation. Companies that have not introduced control criteria may score sporadic success on the market. Moreover, they would not be able to produce more valuable services, if insisting on acceptance of all production, without assessment of its quality and availability on the market. The Global Food Safety Initiative(GFSI) is an industry-driven initiative which provides guidance on food safety management systems necessary for safety along the supply chain (GFSI, 2015) and its need collaboration between the world's leading food safety experts from retail, manufacturing and food service companies, as well as international organizations, governments, academia and service providers to the global food industry. The main reason for establishing GFSI was to ensure confidence in safe food deliveries while continuing to improve food safety along the supply chain network. Standards are being verified through third-party certification and they are growing trend in the food industry. In increasingly adopting food standards and are subjected to food safety audits on aregular basis to maintain this certification (Beulens *et. al.*, 2005).

Gawron and Theuvsen (2006) noticed that one of the most often mentioned complaints about food safety standards are huge bureaucratic efforts and work and therefore there is an open discussion if the certification according to one of the abovementioned standards is increasing competitiveness together with increasing safety in food supply chain or not. Henson (2008) in is work looked upon food standards that are currently present in the world food production and food supply chain and he divided standards into two main groups: public and private food standards. Majority of these

private standards are created by different commercial and non-commercial entities. Extent, to which private standards are voluntary, significantly depends on level of power wielded by companies that are adopting standards (Brunsson and Jacobsson, 2000). Henson and Humphrey (2009) in their work found that in every group of standards (public and private) there are the ones that are mandatory and the ones that are voluntary for companies.

Food quality regulation as a form of social regulation is provided to control, restrain or correct the producers of good and services so that they can act in a responsible manner. Both at international and domestic consumers need food that satisfy their expectation that do not pose risk to their health and safety. Importing countries also require imported food to conform to the technical regulation and standards that they apply to domestically produced food products for healthy, safety and consumer protection (CAC, 2008b). When come to Ethiopia, food processing industries are playing a significant role in terms of establishment, employment, and market share. But still there is a great challenges with food quality and safety, thus why it needs further efforts and investigation to reduce the challenges and meet customer's satisfaction.

International food standard

International food standard (IFS) is a food safety standard which has uniform safety system that is used to qualify and select suppliers (DNV, 2015). It can be explained as one common audit standard, globally accepted by the food industry in order to continuously improve food safety for consumers. Standard helps super market chains in ensuring food safety of the product they are selling to their buyers and to monitor quality level of suppliers of their private labels. International Food Standard has been developed for the purposes of auditing suppliers who cooperate with networks of so called private label manufacturers. Growing concerns among biggest retailers and supermarket chains regarding food safety of the products they are selling was the main reason why was IFS developed by German and French food trade associations. Standard is intended for all suppliers during food supply chain network from agricultural stage to supermarket chains. The main aim of the IFS standard is to confirm whether the supplier is capable of delivering a safe product compliant with valid law regulations and norms. Standard helps in ensuring that the companies comply with quality and safety demands, and legal requirements. Smeciuch et

al(2009) stated that lowering of the costs related to the behavior transparency of the supply chain is one of the essential aspects of IFS.

Furthermore, the IFS introduced uniform requirements and transparency in the supply chain (of raw materials and the final product). The IFS standard is based on the principles of a quality management system as well as the HACCP system and is supported by the expectations for prerequisite programs, which is the set of Good Manufacturing Practices (GMP), Good Hygienic Practices (GMP) and Good Laboratory Practices (GLP). The IFS also follows the guidelines of the Global Food Safety Initiative and meets criteria set by GFSI organization that includes senior management of more than 400 retailers and supermarket chains operating on close to 200.000 store and manufacturers of all sizes (Bliska and Kowalski, 2014).

International System of Standards

The growing quality requirements regarding food quality and the rapidly increasing trade in food products and safety problems connected with it stimulated and stimulate the programs of international harmonization of food standards. Of the organizations and programs active worldwide in this field, first at all the International Standardization Organization (ISO) and the Joint FAO/WHO Food Standards Programme should be mentioned. In 1946, ISO delegates from twenty-five countries met in London and decided to create a new international organization, the object of which would be "to facilitate the international co-ordination and unification of industrial standards." The new organization, ISO, officially began operating in 1947. At present, ISO has 133 member organizations from countries large and small, industrialized and developing, in all regions of the world, on the basis of one member per country. The object of ISO is to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and service, and developing cooperation in the spheres of intellectual, scientific, technological, and economic activity.

From the point of view of food standards, the activity of ISO Technical Committee No. 34 (Agricultural and Food Products) is of main interest. ISO TC 34 was established in the same year as ISO, i.e. in 1947. Considering the present number of its member bodies (the membership is seventy-six in all) ISO/TC 34 is

still the second greatest technical committee of the ISO.

The Joint FAO/WHO Food Standards Programme started in 1961. In the framework of this program in 1961 the Codex Alimentarius Commission (Codex) was established. Codex is responsible for making proposals to on all matters pertaining to the implementation of the Joint FAO/WHO Food Standards Programme (FSP). The main purposes of the FSP were summarized in Statutes and Rules of Codex as follows:

- ☐ Protecting the health of the consumers and ensuring fair practices in the food trade.
- ☐ Promoting co-ordination of all food standards work undertaken by international governmental and non-governmental organizations.
- ☐ Determining priorities and initiating and guiding the preparation of draft standards through and with the aid of appropriate organizations.
- ☐ Finalizing standards elaborated under (c) above and, after acceptance by governments, publishing them in a Codex Alimentarius as either regional or worldwide standards, together with international standards already finalized by other bodies under (b) above, wherever this is practicable.
- ☐ Amending published standards, after appropriate survey in the light of developments.

Membership of the Commission is open to all Member nations and Associate members of FAO and WHO that are interested in international food standards. In January 2000, 165 countries from all continents were members of Codex. The standards elaborated and adopted by the Codex Alimentarius Commission are collected and published in the Codex Alimentarius. Among other international and regional organizations, the International Plant Protection Convention (IPPC) may be mentioned. This is a multilateral treaty deposited with the Director-General of the Food and Agriculture Organization of the United Nations (FAO).

The World Trade Organization (WTO) is the only international body dealing with the rules of trade between nations. At its heart are the WTO agreements, the legal ground rules for international commerce and for trade policy. The agreements have three main objectives: to help trade flow as freely as possible, to achieve further liberalization gradually through negotiation, and to act as an impartial means of settling disputes. The United Nations Economic Commission for Europe (UNECE) is the forum at

which the countries of North America, Western, Central, and Eastern Europe and Central Asia come together to forge the tools of their economic co-operation.

Ethiopian standards related to food and food products

Ethiopian Authority for standardization establishment proclamation No. 328/1987, which repealed Proc. No. 64/1970 was enacted. The objective of this proclamation was promoting standardization and quality control with a view to ensuring the quality and safety of products (Ethiopian Standards, 2009). Ethiopian Standards Regulations No. 12/1990 was promulgated to provide for the compulsory Ethiopian standards and 389 standards are developed and made compulsory, from which about 180 of them deal with food and food products. A new public health proclamation No. 200/2000 was also enacted by incorporating provisions which deal with the issues of food quality. Ethiopian standards are prepared by technical committees made up of Experts from government, industry, user groups and other sectors of the economy. To date there are 92 (ninety two) technical committees who are entrusted with the responsibility for technical work of preparing Ethiopian standards (Ethiopian standard, 2007). From among these committee about 22 (24%) of them are working on food related standards. Currently there are about 7414 Ethiopian standards in some 32 fields, of which agriculture and food technology and textile and leather technology are prominent in number (comprising about 70%). Out of the existing 7414 Ethiopian standards about 850 of them deal with food and food products.

Once standard is set for food products, anyone who wants to produce or trade in such food should hold quality mark for mandatory food standards. For voluntary food standards also having quality mark is essential to attract market for the users and to maintain confidence by the consumer in the food they buy from a person who uses the quality mark. As standards developed with regard to food and food products have direct impact on health, safety, and fair trade activity, most food standard, therefore, can be put under those standards whose application is compulsory.

As information obtained from QSAE reveals there are still food and food products such as meat, baby foods, bottled mineral water, whose compliance with the standards are not still made compulsory. This indicates that there is the need to revise the existing compulsory

Ethiopian standards to prepare compulsory standards for those foods the absence of which may have an impact on health and safety of the public. This indicates that in the areas of food standards much is expected to be done from the standard setting bodies on the one hand to revise the existing mandatory food standards to keep pace with current advances in food production and distribution system, on the other hand to set compulsory standards (technical regulations) for foodstuffs which should have been made mandatory but still implemented through voluntary standards. However in preparing national standards one thing should not be ignored. International harmonization of food standards are encouraged by international community both for protection of consumers and for the facilitation of global trade. It means that while preparing national food standards pursuing to international standards, guidelines, and recommendations is crucial. Hence in revising the existing one and in developing new food standards in Ethiopia the standards setting body need to observe international food standards and requirements.

Limitation of Ethiopian standards related to food and food products safety and quality

☞ There is no comprehensive national food law and sufficient number of updated food quality and safety regulation

☞ In Ethiopia the food control activities are scattered among various regulatory bodies such as ministry of health, ministry of agriculture and rural development and quality and standard Authority of Ethiopia. However the responsibilities and mandates given to these regulatory bodies are not adequately defined, demarcated to avoid overlap and duplication of functions.

☞ Low level of integration, collaboration and cooperation among regulatory bodies, food producers, and consumers.

☞ Lack of social awareness on food quality and safety issues.

☞ Absence of central and responsible food quality and safety authority

☞ Absence of Codes of practice which can serve as reference for all parties involved in food quality and safety affairs

☞ lack of enforcement mechanism for existing regulation due to inadequately defined, demarcated and streamlined responsibilities and mandate given to regulatory bodies and inspection authorities,

☞ under equipped and understaffed public health laboratories to respond to current international food regulation demands, Lack of a single central and

accredited food safety analytical and microbiological laboratories to Support regulatory activities,

☞ weak coordination among lead government agencies, the private sector and the consumer at large,

☞ Low level of integration, collaboration and cooperation among inspection authorities/regulatory bodies, support institutes, regional offices, etc.,

☞ low management capacity and knowledge of regulatory bodies to cope with fast growing science of food regulation

☞ Low level awareness of food regulation in most processing plants on HACCP, GHP, GMP, GAP, GLP and Lack of social awareness on food safety issues. The basic food hygiene education is not well addressed by the education system starting at an early age to higher teaching institutes.

☞ Food regulation issue being taken as secondary to economic benefit

☞ Insufficient fund allocated by the government for food inspection and control activities. The participation of donor agencies and countries, to food safety issue is not satisfactory

☞ Low level of hygiene awareness of the public to the basic food hygiene practices

☞ Insufficient number of inspection and satellite laboratories at regional and zonal level, inspection tools and mini laboratories and transportation both in the Health and Agriculture Sectors,

☞ Lack of technical competence in terms of trained manpower, facilities, and infrastructure, at the federal level and regional level.

Conclusion

Since it's the time of globalization its need effort and attention to goes with the utilization and application of modern technology in different sectors including food and industrial factory. So, ensuring the quality and safety of national and international produced, exported and imported food and food products establishes one of the areas of food quality and safety protection. Because maintaining the quality and safety of these foods is essential to protect public health, to satisfy the expectation of consumers, and to enhance foreign earnings and to maintain the confidence of food trading associates. As far as the regulation, safety and control of food is concerned, it is axiomatic that importing countries do not allow food and food products to enter their territory unless it satisfies their food quality and safety regulatory requirements. However, the current practice in Ethiopia regarding to food quality and safety enlightens that the food quality control system is unable to live up to the requirements laid down by importing countries, especially by the

developed ones. But in Ethiopia, there is no well-established and internationally acceptable food quality and safety certification system that guarantees the food exported to the importing country is in compliance with their quality and safety regulatory requirements. Although most food standards can be categorized in mandatory standards because of the aforementioned reason, in Ethiopia, there are still food and food products for which compulsory standards are not yet established. Stated otherwise, there are still foods and food products which are not yet made compulsory although it has an impact on health and safety of the public.

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