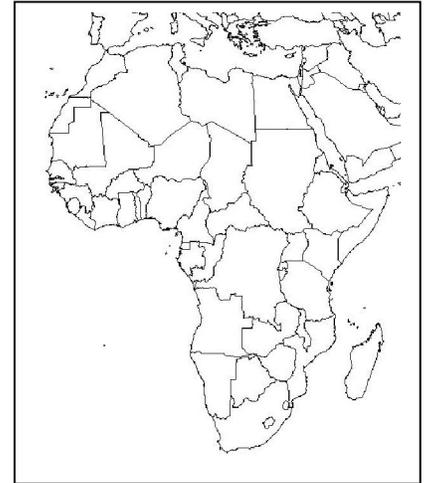


4. AFRICAN REGION

The high incidence of diarrheal diseases among newborns and young children are indications of the food hygiene situation in the African Region. Although outbreaks of acute poisoning are frequent in the African Region, individual countries have done little to implement surveillance systems for foodborne diseases. Surveillance is inadequate or nonexistent, which hinders governments' ability to accurately assess the impact of food contamination problems on public health.



While poverty is the underlying cause of consumption of unsafe food in the African Region, other factors, such as lack of access to clean water, weak government structures, population growth, the rise of Acquired Immunodeficiency Syndrome (AIDS) and other communicable diseases, trade pressure, and poor environmental conditions exacerbate the situation. The abundance of national legislation and limited resources to control the quality of imported foodstuffs further compound the challenges faced by the states of the African Region.

4.1 Foodborne diseases in the African Region

Even if data regarding foodborne diseases in the African Region are extremely scarce,¹ studies have shown that the following pathogens are prevalent: *Campylobacter*, *Salmonella*, *Shigella*, Hepatitis, *Brucella*, *Staphylococcus aureus*, *Bacillus cereus*, *Escherichia coli*, and rotavirus.²

Foodborne bacterial infections are particularly common: children in the African Region may experience five episodes of diarrhea per year and 800,000 children die each year from diarrhea and dehydration.^{3,4} In Zimbabwe, for example, the proportion of recorded diarrhea episodes among young children that lasted longer than 14 days was reported to be as high as 6.05 percent.⁵ In addition, children's exposure to pesticides in the African

The African Region contains the following countries:

Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Republic of the Congo, Côte d'Ivoire, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, United Republic of Tanzania, Togo, Uganda, Zambia, and Zimbabwe.

Region is suspected of causing immunological and endocrine defects, neurotoxic disorders, and sometimes cancer.⁶

The number of consumers who are highly vulnerable to foodborne illness is growing in this region. In sub-Saharan Africa, where approximately 25 million adults and children live with HIV/AIDS, bacterial infections such as *Salmonella* can cause particularly serious complications, including death.⁷ Among the elderly, infections such as enterohemorrhagic *Escherichia coli* can be particularly fatal. Also, with the rise in consumption of foods like refrigerated processed meat products, *Listeria monocytogenes* is an increasing concern for pregnant women in the region. Cholera traditionally associated with water has been shown to be foodborne as well, and is endemic to the African Region.

4.2 Food safety concerns in the African Region

4.2.1 Poverty

While a number of related problems keep foodborne diseases at high levels within the African Region, the root cause is poverty, which disproportionately affects women and children. Poverty exacerbates food safety problems in many ways and contributes to:

- unsanitary conditions in rapidly growing urban centers
- lack of access to clean water
- unhygienic transportation and storage of foods
- low education levels among consumers and food-handlers, leading to reduced information on food safety

Moreover, national governments lack the financial resources to:

- enhance foodborne disease surveillance and monitoring capacities
- implement food safety regulations through an efficient inspection system
- invest in modern facilities and utilities
- develop food safety education programs
- conduct disaster planning and relief

As a result, WHO has developed an integrated approach to combine food safety concepts with poverty reduction activities at the national level.

4.2.2 *Street foods*

Street vendors are an important source of affordable food. But street foods often do not meet proper hygiene standards, in large part because of weak regulatory systems, inadequate food safety laws, lack of financial resources to invest in safer equipment, and lack of education for food-handlers.

Street food is frequently cooked well in advance of consumption and is subject to contamination from exposure to dust and flies. In addition, food preparers may be sick with tuberculosis, typhoid, and other illnesses that can contaminate food.

Numerous programs have been developed by FAO and WHO to improve the quality and safety of street foods in African countries. For example, in South Africa, a project provides vendors and handlers with health education and training in acceptable food preparation and handling practices.⁸ Guinea Bissau has funded a project to identify practical actions to improve the quality and safety of street foods, to protect consumers, and to reorganize the street food sector.⁹

4.2.3 *Mycotoxins*¹⁰

Naturally occurring fungal toxins – mycotoxins – pose profound challenges to food safety. Aflatoxins are mycotoxins of public health importance within the African Region.

Mycotoxins contaminate various agricultural commodities either before harvest or under post-harvest conditions. Generally, tropical conditions such as high temperatures and moisture, monsoons, unseasonal rains during harvest, and flash floods lead to fungal growth and production of mycotoxins. Poor harvesting practices, improper storage, and less than optimal conditions during transport and marketing can also contribute to fungal growth and increase the risk of mycotoxin production.

The chronic incidence of aflatoxin in diets is evident from the presence of aflatoxin M1 in human breast milk in Ghana, Nigeria, Sierra Leone, and Sudan and in umbilical cord blood samples in Ghana, Kenya, Nigeria, and Sierra Leone.

Together with the hepatitis B virus, aflatoxins contribute to the high incidence of primary liver cancer in tropical Africa. Recent studies carried out in West African countries, such as Benin, Gambia, and Togo, indicate chronic

exposure of population groups and fetuses to dietary aflatoxins. Moreover, children exposed to aflatoxins may experience stunted growth or be chronically underweight and thus be more susceptible to infectious diseases in childhood and later life.

4.2.4 Food safety emergencies¹¹

The high frequency and magnitude of humanitarian emergencies in the African Region in recent decades have had huge effects on food safety.



In the wake of natural disasters such as floods, droughts, and earthquakes, or intense civil war or border conflicts, food supplies are often destroyed or seriously contaminated, which has grave consequences for the health of survivors.

In refugee camps, because of unsanitary conditions, environmental contaminants, and improper food handling, outbreaks of foodborne diseases are common. In 1994, a major outbreak of cholera devastated Rwandese refugee camps near Goma, Zaire (Democratic Republic of the Congo), where an estimated 70,000 cases of diarrheal disease (mostly cholera) occurred with a high fatality rate. During 1992, in the Lisungwi camp in Malawi that housed 60,000 refugees from Mozambique, 772 cases of abdominal cramps and bloody diarrhea were documented.¹²

4.2.5 Economic impact of foodborne diseases

Foodborne diseases have many adverse economic consequences within the African Region. For example, the 1998 outbreak of cholera in Tanzania cost US \$36 million. In Nigeria, the Food and Drug Administration destroyed aflatoxin-contaminated food worth more than US \$200,000.¹³

WHO has documented numerous food safety and quality problems that have affected food exports and imports in African countries. Those include:¹⁴

- spoilage
- substandard/fake products
- failure to provide production dates
- improper or deceitful labeling of food imports
- poor product quality and packaging of food exports
- expired food
- exceeding levels for preservatives/additives
- lack of harmonization of food safety regulations
- fraud

African nations often lack adequate inspection and laboratory capabilities, and their exports may be barred owing to non-compliance with microbiological and other standards.

Those problems often have resulted in the importation of substandard food items as well as trade rejections of food exports. Losses from export rejection not only rob countries of critical revenue but also of credibility as reliable trading partners. In 1997, for example, a ban was imposed on Ugandan fish exports to the European Union (EU) because the country's fish processors and exporters failed to meet the new EU Hygiene and Processing quality standards. Uganda lost US \$36.9 million in reduced returns during the ban, which ended in July of 1999. The fishing community also lost a total income of about US \$720,000 per month.¹⁵

4.3 Policies and plans of action in the African Region¹⁶

Many of the countries of the African Region lack adequate food access so having effective food control systems is given a lower priority. Often, minimal attention is given to promoting, administering, and enforcing food legislation.

4.3.1 Food Law Regulations and Administration of Food Safety Controls

In the African Region, basic food laws may not be incorporated into legislation, or they may be outdated, fragmented, or simply inadequate.

Often, the legal structure can be confusing for the enforcement agents, producers, and distributors. There are many ministries or departments involved in food safety activities, causing overlap, duplication of efforts, and gaps in enforcement. Sometimes, it is impossible to determine which department represents the countries on food control policy. But progress is being made in that area. In 2004, for example, a unified food safety agency was created in Madagascar, the “Unité de Contrôle de Qualité des Denrées Alimentaires.”¹⁷

Food regulation systems in Africa are often based on laws adopted during colonial times. Those systems were introduced on an ad hoc basis to deal with problems of particular interest to the colonial administrators and have not been updated in many countries.

Most African countries have made some attempts to revise outdated food laws. For instance, in Mauritius, a new Food Act was passed in June 1998 (to replace the former act of 1940) and became operational in January 2000. But

the act was criticized by the food industry for not meeting international norms.¹⁸

4.3.2 Surveillance, Laboratory and Food Inspection Services

In the African Region, improper coordination between surveillance, food laboratories, and food inspection services commonly leads to disorganized sampling. Furthermore, the emphasis is on sampling for enforcement purposes and often there is no systematic monitoring for food contaminants. Inadequate recordkeeping can create a vicious cycle that results in the absence of information on which to base local decision-making, regulations, and food standards.

Moreover, few countries have surveillance systems sensitive enough to identify common agents of foodborne diseases. Therefore, surveillance data are patchy and unreliable.¹⁹

In collaboration with the Pasteur Institute in France, WHO has been organizing courses on foodborne disease surveillance and microbiological monitoring of foods for the Francophone countries in the African Region. Training courses for the Anglophone and Portuguese-speaking countries are yet to begin.

Food safety control laboratories generally do not function well due, in part, to a lack of financial resources for the development and maintenance of equipment and manpower. Moreover, most of the public health laboratories in the African Region lack the capacity to test for chemical contaminants and naturally-occurring toxins.²⁰

Food inspectors must have a comprehensive knowledge of food safety and related subjects, but that appears not to be the case in most of the African Region. For example, most countries of the region lack specific mechanisms for the collection and dissemination of information on food exports rejected by foreign buyers. Lack of skilled inspectors (Comoros and Mauritania had only two food inspectors in 2002) and coordination among the relevant organizations are also problems affecting oversight of exported and imported foods.²¹

4.3.3 Education and training

Food safety education for industry and consumers is limited in most countries of the African Region.

Additionally, there is an overall shortage of trained personnel to support laboratory services and most countries of the African Region are not adequately equipped for capacity building at the local level.

4.3.4 Funding

Financial support for food safety programs is often meager, because many African governments believe they have more pressing priorities.

Due to the lack of resources at the local and national levels, actions are being taken at the regional level with the help of international organizations. For example, the Common Market for Eastern and Southern Africa (COMESA) in collaboration with FAO has developed programs to improve food safety and quality control systems and facilitate policy harmonization.²²

4.4 Consumer organizations in the African Region

Some consumer organizations in the African Region, such as those in Senegal, Nigeria, Cameroon, and Benin, are heavily involved in food safety programs, and often perform functions carried out by government organizations in other regions. Some groups run programs to ensure food control and inspection of markets and shops; conduct chemical, bacteriological, and physical analysis of food products; provide supervision to ensure that contaminated foods are withdrawn from the market; and ensure that the government or industry provides consumer notification. In other areas, the emphasis is on programs targeting the quality of street foods and consumer training and awareness.

One organization in Benin is developing what is described as a “Consumers House” to monitor foods imported into the country and give the consumer information about the quality of imported food products.