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**FOOD SAFETY AND HEALTH: A STRATEGY FOR THE WHO AFRICAN REGION**

**Report of the Regional Director**

**Executive Summary**

1. The burden of foodborne diseases in the African Region is difficult to surmise, but available data for diarrhoea due to contaminated food and water estimate mortality to be around 700 000 persons per year in all ages. African children suffer an estimated five episodes of diarrhoea per child per year, mostly due to contaminated infant food. Microbial and chemical contaminants are of concern. Unless these issues are addressed, countries will have difficulty in achieving the health-related Millennium Development Goals.
2. Despite efforts by governments and both multilateral and bilateral agencies, weaknesses remain in national food control systems. Absence of enforceable policies, regulatory mechanisms, resources and coordination in addressing challenges may be the cause. Assuring food safety is a shared responsibility that requires the common vision of all stakeholders.
3. This strategy will assist countries to define their food safety challenges and design national action plans with specific interventions for effective outcomes. The guiding principles of the strategy include country ownership and leadership; holistic and risk-based actions; intersectoral cooperation and collaboration; community participation; strengthened health systems; individual responsibility; and participation of women and communities. Priority interventions include formulation and implementation of policies and regulations; capacity building in foodborne disease surveillance and inspection; and health education. Particular attention must be given to ensure food safety in school feeding programmes.
4. The Regional Committee is invited to review and adopt the proposed strategy.

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## DRAFT RESOLUTION

AFR/RC57/WP/2 Food safety and health: A strategy for the WHO African Region

## INTRODUCTION

1. Food security is defined as physical and economic access to sufficient, safe and nutritious food to meet dietary needs.<sup>1</sup> Food safety is an integral part of food security and is defined as protecting the food supply from microbial, chemical and physical hazards that may occur during all stages of food production, including growing, harvesting, processing, transporting, retailing, distributing, preparing, storing and consumption, in order to prevent foodborne illnesses. Because of insufficient food to meet demand on the African continent, the majority of people are only concerned with satisfying hunger and do not give due attention to the safety of food.

2. Bacteria, parasites and viruses are the major causative agents of foodborne diseases in the African Region. Outbreaks of cholera, which occurs due to contaminated water, are common in the Region and available data show an upward trend.<sup>2,3</sup> Foodborne zoonotic diseases and chemical contamination of food from pesticides and veterinary drug residues are also of concern. There are multiple sources of contamination from the environment, and contaminants could enter food during production, harvest, storage, retailing and preparation for consumption.

3. It is imperative that food safety remain a concern in all situations in order to derive maximum benefit from even the little available food. Strong political will and relevant food safety systems are essential from production to consumption. Resolution AFR/RC53/R5 of the WHO Regional Committee for Africa, urging countries to strengthen food safety programmes, was endorsed in 2003; since then, many countries have initiated activities to improve food safety.

4. This strategy on food safety consolidates past gains and provides a framework for protecting public health and economic development through reduction of the burden of foodborne diseases.

## SITUATION ANALYSIS AND JUSTIFICATION

### Situation analysis

5. The incidence of foodborne and waterborne diarrhoea is estimated at five episodes of diarrhoea per child per year.<sup>4</sup> Due to microbial contamination, introduction of complementary foods is associated with increased diarrhoea.<sup>5</sup> The estimated annual mortality rate for diarrhoea in all ages is around 700 000. Massive displacement of people and unhygienic environmental factors compound the situation during emergencies.

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<sup>1</sup> FAO, Report of the World Food Summit, Rome, 13–17 November 1996, Food and Agriculture Organization, 1996, <http://www.fao.org/dorep/003/w3548e/w3548e000.htm>, accessed 17 November 2006.

<sup>2</sup> Brankett RE, Incidence, contributing factors and control of bacterial pathogens in produce, *Postharvest Biology and Technology* 15: 305–311, 1999.

<sup>3</sup> WHO, Annual summary report on major outbreaks/epidemics in the African Region, Brazzaville, World Health Organization, Regional Office for Africa, Division of Communicable Diseases Prevention and Control, 2005, unpublished.

<sup>4</sup> Koesk M et al, The global burden of diarrhoeal disease, as estimated from studies published between 1992 and 2000, *Bulletin of the World Health Organization* 81: 197–204, 2003.

<sup>5</sup> Mensah P et al, Microbial quality of infant foods from peri-urban Ghana, *African Journal of Health Sciences* 2: 282–286, 1995.

6. In 2004, an outbreak of acute aflatoxicosis from consumption of contaminated maize in Kenya resulted in 317 cases and 125 deaths.<sup>6</sup> Lead and other chemical contaminants have been detected in some foods in several countries.<sup>7, 8</sup>

7. Unsafe food not only results in ill-health but also has economic consequences due to absenteeism, hospital fees and international trade losses. In Nigeria, the Food and Drug Administration destroyed aflatoxin-contaminated food worth more than US\$ 200 000.<sup>9</sup> Available data show that a cholera outbreak in Tanzania in 1998 resulted in a loss of US\$ 36 million in fish exports to the European Union (EU);<sup>10</sup> likewise, in 1997 a ban on Ugandan fish exports to EU markets resulted in a similar loss.<sup>11</sup>

8. The estimated disability adjusted life years lost to foodborne and waterborne diarrhoeal diseases is 4.1% globally as compared to 5.7% to 7.1% in Africa.<sup>12</sup> However, food safety along with its health and economic benefits have received little attention in diarrhoeal disease control programmes in Africa.

9. Preparation, protection, sale and consumption of street foods in inappropriate places are on the increase. Street foods are sources of nourishment and income for the urban poor. Some street foods are microbiologically safe and provide alternative sources of safe food.<sup>13</sup> However, the hygiene of most street foods is substandard due to incorrect handling as well as lack of sanitation, running water, washing facilities, refrigeration and disinfection. Washing of hands is rare, and food is often exposed to flies and other insects.<sup>14</sup> The preparation of food well in advance of consumption and manual food preparation were additional risks factors. Certain cold foods, such as salads, meats and sauces, when sold at ambient temperature, have the greatest potential for disease transmission.

10. Few countries have foodborne disease surveillance systems. Only Cameroon, Ethiopia, Madagascar, Nigeria, Senegal and South Africa report data to Global Salm Surv, a global network of laboratories and individuals involved in surveillance, isolation, identification and antimicrobial resistance testing of *Salmonella* and other foodborne pathogens. Capacity building in surveillance, microbiological and chemical testing of foods is currently ongoing in 12 countries.

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<sup>6</sup> CDC, Outbreak of aflatoxin poisoning—Eastern and Central Provinces, Kenya, January–July 2004, Morbidity and Mortality Weekly Report 53(34): 790–793, 2004.

<sup>7</sup> Tomlins KI et al, Enhancing product quality: Street food in Ghana: A source of income, but not without its hazards. PhAction News 5–2002, <http://www.iita.org/info/phnews5/mr8.htm>, accessed 5 February 2007.

<sup>8</sup> Ngengerio-Ndossi JP, Cram G, Pesticide residues in table-ready foods in Tanzania, International Journal of Environmental Health Research and Public Health 15(2): 143–149, 2005.

<sup>9</sup> Anyanwu RC, Jukes DJ, Food safety control systems for developing countries, Food Control 1:1726–1736, 1990.

<sup>10</sup> [http://www.who.int/director-general/speeches/1999/english/19990323\\_wmo.html](http://www.who.int/director-general/speeches/1999/english/19990323_wmo.html), accessed 5 February 2007.

<sup>11</sup> <http://www.iso.org/iso/en/commcentre/presentations/wkshps-seminars/casco/casdev2003/casdev2003SamuelBalagadde-slides.pdf>, accessed 5 February 2007.

<sup>12</sup> WHO, The world health report 2003: Shaping the future, Annex Table 3, pp. 160, Geneva, World Health Organization, 2003.

<sup>13</sup> Mosupye FM, von Holy A, Microbiological quality and safety of ready-to-eat street-vended foods in Johannesburg, South Africa, Journal of Food Protection 62(11):1278–1284, 1999.

<sup>14</sup> Mensah P et al, Street foods from Accra, Ghana: How safe are they?, Bulletin of the World Health Organization 80(7): 549–554, 2002.

11. Data from all Member States in the WHO African Region indicated that 45 countries have proposed food control legislation, but only 13 countries have enacted any laws.<sup>15</sup> In a recent survey, data from 36 respondent countries showed that 29 had national standards authorities that establish food standards based on Codex Alimentarius guides.<sup>16</sup> A few countries had legislation on pesticide residues, food additives and contaminants, biotoxins, and genetically-modified foods. Of the 26 countries that provided data, 21 had import-export inspection and certification systems, but most of these control export products.

12. Genetically-modified foods, defined as food products containing some quantity of genetically-modified organisms (GMOs) as an ingredient, were discussed extensively in the African Region during the southern African famine in 2002.<sup>17</sup> GMOs have certain potential benefits, including increased agricultural yield due to resistance to plant diseases and increased nutritional content as in vitamin A rice. There are a number of concerns about safety, environmental effects, displacement of traditional stocks and permanent loss of traditional genetic material. Genetically-modified varieties of maize, sorghum, soya beans, cotton, fruits and vegetables may be available in some countries. The lack of laboratory facilities for testing foods on the market makes it difficult to ascertain the level of GMOs being consumed in Africa, as well as to monitor food imports to avoid dumping of food that is not fit for human consumption.

13. The Codex Alimentarius Principles cover food safety and risk assessment while the Cartagena Protocol on Biosafety covers environmental safety.<sup>18</sup> Only a few countries have established regulatory frameworks on food derived from modern biotechnology, including genetically-modified foods. The issue of labelling had been before the Codex Committee for Food Labelling for more than ten years. Some Member States, such as Ethiopia and South Africa, have regulations for labelling GMOs while others do not accept genetically-modified food as aid.

14. In the African Region, some countries have several ministries or departments involved in food safety regulation. The result is overlap as mandates are often not clear. Lack of collaboration and coordination results in conflict; duplication of efforts; and inefficient use of human, material and financial resources.

15. The food safety challenges facing the African Region include unsafe water and poor environmental hygiene; weak foodborne disease surveillance; inability of small- and medium-scale producers to provide safe food; outdated food regulations and weak law enforcement; inadequate capacity for food safety; and inadequate cooperation among stakeholders.

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<sup>15</sup> FAO, National food control systems in Africa—A situation analysis, a paper presented at the FAO/WHO Regional Conference on Food Safety for Africa, Harare, Zimbabwe, 3-6 October 2005, Accra, Food and Agriculture Organization, Regional Office for Africa.

<sup>16</sup> WHO, Status of Food Safety Programmes in the WHO African Region, Brazzaville, World Health Organization, Regional Office for Africa, 2006, unpublished.

<sup>17</sup> WHO, *Modern food biotechnology, human health and development: An evidence-based study*, Geneva, World Health Organization, 2005.

<sup>18</sup> <http://www.biodiv.org/biosafety/signinglist.asp> (25 May 2005).

## **Justification**

16. Food is central to the prosperity, health and social well-being of individuals and societies. Strengthening food safety within the Region will help to decrease the burden of foodborne diseases, reduce poverty and achieve Millennium Development Goals 1, 4 and 8.

17. Member States have expressed their commitment to improving food safety at various forums. In May 2000, the Fifty-third World Health Assembly unanimously adopted Resolution WHA53.15 on food safety which confirmed food safety as a public health concern. The WHO Global Strategy for Food Safety was endorsed by the WHO Executive Board in January 2002. Further impetus was provided by the FAO/WHO Regional Conference on Food Safety for Africa which recommended a five-year strategic plan for adoption by the United Nations and the African Union in 2006. Additionally, the Regional Office *Strategic orientations for WHO action in the African Region* (2005) emphasized the importance of food safety in disease prevention. The following strategy consolidates existing guidelines to provide countries with a single document.

## **THE REGIONAL STRATEGY**

### **Aim**

18. The aim of the strategy is to contribute to the reduction of morbidity and mortality due to contaminated food.

### **Objectives**

19. The specific objectives are:

- (a) to provide a platform for advocacy for food safety;
- (b) to provide Member States with a framework for the development and implementation of national policies for food safety;
- (c) to strengthen food control systems, including foodborne disease surveillance and food monitoring for prevention, detection and control of emergencies;
- (d) to facilitate the development of intersectoral collaboration and partnerships for food safety.

### **Guiding principles**

20. The implementation of the strategy will be guided by *country ownership and leadership, equity* and *fairness*.

21. *Holistic, comprehensive and risk-based actions* apply the farm-to-fork paradigm and risk-based approaches such as the Hazard Analysis and Critical Control Points (HACCP) along the entire food chain. Countries should proactively ensure responsibility by producers, processors, retailers and consumers in order to facilitate voluntary compliance to food safety regulation rather than detection of faults for prosecution.

22. *Intersectoral coordination, cooperation and collaboration* involve all partners at various levels of government, in the private sector and in international partnerships for development,

planning and implementation of interventions. Such coordination should be based on clear definitions of roles, responsibilities and mandates.

23. **Individual responsibility, participation of women and community participation** involve communities, consumers, civil society and particularly women in decision-making. Initiatives, such as the Healthy Cities Initiative and the Healthy Food Market Projects, assure ownership and sustainability of interventions.

### **Priority interventions**

24. The proposed priority interventions are based on the farm-to-fork paradigm and also apply in emergencies. Important linkages require interventions based on a coordinated and collaborative approach.

25. **Food safety policies, programmes, legislation and regulation** will be developed to assure the safety of food from production to consumption. National action plans will be developed that offer mechanisms for intersectoral involvement in food safety interventions. This includes interaction with other sectors, in particular water and sanitation, and case management programmes in the planning of evidence-based policies and strategies that have a direct bearing on implementation of food safety plans.

26. Food legislation will be developed to provide the foundation for national food safety programmes and play its pivotal role in directing the food control efforts of inspectors. Government commitment is essential for comprehensive review of food laws, regulation, standards and harmonization of national and international standards.

27. **Capacity building** will be developed and improved to provide analytical skills for monitoring foods on the market. Monitoring of microbiological and chemical contaminants will be strengthened to reassure communities of safe food supply, identify potential risks and provide data to regulatory authorities. Capacity will also be built for foodborne disease surveillance and research to provide data for rapid detection and response to outbreaks, estimation of burden of diseases, programme evaluation, advocacy, decision-making and allocation of resources. As an essential public health objective, capacity will be built for public health laboratories to conduct both laboratory-based and epidemiological surveillance as part of national and regional integrated surveillance systems.

28. Food inspectorates will be strengthened as integral parts of food control systems. They will ensure that strong food safety legislation and policies are effectively enforced. In order to ensure effective participation, including harmonization of national standards, further capacity will be developed in the work and procedures of the Codex Alimentarius Commission.

29. Transparent **health promotion** systems and procedures will be established to ensure that producers, processors, retailers, consumers and other stakeholders are properly informed on safe food handling as well as food safety emergencies. Particular attention must be given to ensure food safety in school feeding programmes.

30. **National, regional and international cooperation, collaboration and coordination** are essential. Governments, the food industry, the private and public sectors, consumers and other

stakeholders will develop systems to enable them to work in a concerted manner. Countries will be guided to improve their participation in international standard setting to ensure that the process serves all parties rather than only those attending Codex meetings. The intrinsic link between food security, quality and safety requires close collaboration between WHO, the Food and Agriculture Organization of the United Nations and the World Food Programme; this will ensure articulation of health concerns in the implementation of interventions.

## **ROLES AND RESPONSIBILITIES**

### **Countries**

31. National governments are urged:

- (a) to include food safety in overall national development plans and health policies as well as provide the legal basis for national food safety assurance;
- (b) to strengthen national analytical capacity for foodborne disease surveillance and research through appropriate training; capacity-building; establishment of quality assurance protocol and procedures; as well as services for inspection and export and import certification;
- (c) to establish diverse approaches to enhance consumer awareness and participation in food safety activities, including promotion of food safety education;
- (d) to develop effective links and coordination among food safety agencies for reviewing responsibilities and capabilities as well as clarifying overlaps in regulatory roles.

### **World Health Organization and partners**

32. WHO and partners will support countries by:

- (a) carrying out advocacy among policy-makers, international partners and other key stakeholders for increased resources;
- (b) providing norms, standards and guidelines for adaptation and use;
- (c) providing evidence-based options for food safety;
- (d) providing technical and material support for planning implementation as well as monitoring and evaluation of priority interventions;
- (e) facilitating effective participation in relevant committees of the Codex Alimentarius Commission;
- (f) strengthening joint efforts in capacity-building; international standard setting; information sharing; food contamination monitoring, including establishment of regional reference laboratories;
- (g) facilitating effective linkage, cooperation, collaboration and coordination among food safety agencies.



## **RESOURCE IMPLICATIONS**

33. Financial, material and human resources will be required for the implementation of this strategy. Although countries have been allocating resources for food safety, these are generally insufficient. Member States may need to reallocate existing resources or mobilize additional funds to facilitate the implementation process.

## **MONITORING AND EVALUATION**

34. The core indicators for monitoring and evaluation will include trends in morbidity from foodborne diseases; reduction in mortality associated with foodborne diseases; availability and enforcement of food safety policy and legislation; and availability of food safety education programmes.

## **CONCLUSION**

35. The food safety challenges facing countries in the African Region include inadequate commitment; unsafe water and poor environmental hygiene; weak foodborne disease surveillance; inability of small- and medium-scale producers to produce safe food; outdated food regulations and weak law enforcement; inadequate capacity for food safety; and inadequate cooperation among stakeholders. A number of priority interventions have been proposed to improve food safety and thus contribute to improved public health, increased food trade, continued economic development and achievement of the health-related Millennium Development Goals.

36. The Regional Committee is invited to review and adopt the proposed strategy.