



**REGIONAL OFFICE FOR THE WESTERN PACIFIC
BUREAU REGIONAL DU PACIFIQUE OCCIDENTAL**

REGIONAL COMMITTEE

WPR/RC52/6

**Fifty-second session
Brunei Darussalam
10-14 September 2001**

7 August 2001

ORIGINAL: ENGLISH

Provisional agenda item 12

FOOD SAFETY

In the Western Pacific Region, most countries have yet to recognize the true health, social and economic costs of foodborne disease. As a result of the general lack of understanding of the burden imposed by these diseases, inadequate attention has been paid to developing effective national food safety programmes.

Food safety is one of WHO's global priorities and, in response to World Health Assembly resolution WHA53.15 and requests from Member States at the fifty-first session of the Regional Committee, the Regional Office has prepared a draft regional strategy for food safety.

The Regional Committee is requested to discuss and to endorse the regional strategy.

1. CURRENT SITUATION

Public concern about food safety has increased significantly in recent years following a series of contamination concerns and outbreaks, including dioxin contamination of European food products, bovine spongiform encephalopathy (BSE) and associated cases of variant Creutzfeldt Jacob disease (vCJD), the emergence of listeriosis as a foodborne disease of some significance in developed countries, the re-emergence of *E. coli* infections and the developing antimicrobial resistance of Salmonella and other bacterial pathogens.

The Centers for Disease Control and Prevention, Atlanta, United States of America, estimates that tens of millions of foodborne illness cases, including 9000 deaths, occur each year in the United States of America. This picture is repeated in many countries in the Western Pacific. In Australia, for example, three of the ten leading causes of morbidity are foodborne diseases. In Japan, bacterial food poisoning is the fifth largest cause of morbidity.¹ In the Philippines, diarrhoeal diseases are the largest cause of morbidity.²

Australia has estimated the health care and industry cost of foodborne diseases to be about US\$ 1.3 billion per annum.³ Other countries in the Region undoubtedly suffer costs of a similar magnitude, although most lack data on the more than 40 foodborne pathogens, innumerable chemical hazards and physical hazards that cause foodborne illness.

In addition to health care costs and productivity losses associated with foodborne illness, the increased globalization of trade in food means that food contamination may have considerable implications for international trade. Tourism too is significantly affected by outbreak-associated diseases such as cholera and typhoid.

While governments should give due consideration to the economic impacts of foodborne illnesses, the human misery and death associated with foodborne illness outbreaks are the main reason why governments need to strengthen efforts to ensure the right of every individual to nutritious and safe food.

¹ *Country Health Information Profiles*. Manila, WHO, 2000.

² *Ibid.*

³ Australia New Zealand Food Authority (1999). *Food Safety Standards – Costs and Benefits*. (ANZFA).

2. ISSUES

In the Western Pacific Region, most countries have yet to recognize the health, social and economic costs of foodborne disease. As a result, inadequate attention is paid to developing effective national food safety programmes. Most countries have not yet developed national food safety plans of action and those that exist were often not developed in a coordinated manner with a clearly articulated goal within the context of government policy. Only a few countries have an active foodborne illness surveillance system capable of tracking and reporting on even the most common foodborne pathogens.

A further limitation for many food safety programmes is the low level of coordination and cooperation among the different government departments involved in developing and enforcing legislation. This has resulted in some countries having an excessively complex web of laws and regulations addressing food control. Enforcement is often incomplete or of variable quality and several areas of the food chain often remain inadequately protected. Only a few countries attempt to provide production to consumption protection in relation to high-risk foods such as meat, seafood and poultry.

National food analytical capability is also varied across the Region, with some governments unable to isolate and identify common foodborne pathogens and chemical hazards from food. However, several countries provide data on contamination with pesticides, heavy metals and mycotoxins to WHO's Global Environment Monitoring System/Food Contamination Monitoring and Assessment Programme (GEMS/Food).

In only a few countries and areas of the Region are industry and consumers invited to participate fully in food safety efforts.

3. ACTIONS PROPOSED

The draft regional strategy for food safety that is presented in the Annex of this document attempts to approach the issue of food safety in the Western Pacific in a logical and comprehensive way. Four key objectives are identified and 10 key strategies are put forward with accompanying actions by both countries and WHO.

The Regional Committee is asked to discuss and endorse the regional strategy for food safety as a framework for the development of national food safety programmes and the enhancement of food safety in the Region.

**DRAFT REGIONAL STRATEGY FOR FOOD SAFETY
IN THE WESTERN PACIFIC**

Table of contents

1.	BACKGROUND	7
1.1	Foodborne illnesses in the Western Pacific Region	7
1.2	Understanding the factors leading to foodborne illness	8
2.	NATIONAL FOOD SAFETY PROGRAMMES IN THE REGION	11
2.1	Key features of effective national food safety programmes	11
2.2	Current situation in the Western Pacific Region	12
2.2.1	Policies, plans of action and partnerships	12
2.2.2	Inspection from production to consumption	12
2.2.3	Providing a sound scientific foundation for the food safety programme	13
2.2.4	Partnership with consumers and industry	14
2.2.5	Monitoring and evaluating the national food safety programme	14
3.	THE REGIONAL STRATEGY – CHARTING THE PATH TO FOOD SAFETY .	15
3.1	Advocate for food safety to be accepted as an issue of importance	16
3.2	Strengthen policies, multisectoral national plans of action and government agency partnerships	17
3.3	Encourage the integration of food safety with other policy areas by targeting national development policies, poverty alleviation, women's empowerment and healthy settings and environment	18
3.4	Advocate for the adoption of comprehensive and modern food laws, regulations and standards and strengthen participation in the work of Codex	19
3.5	Promote effective multisectoral national food safety programmes with a strong scientific foundation	20

Annex

3.6	Prioritize the implementation of multisectoral food safety inspection by competent authorities from production to consumption	22
3.7	Support industry and trade to meet their food safety obligations	22
3.8	Identify mechanisms for effective consumer participation and education in food safety	23
3.9	Respond more effectively to food safety concerns during disasters and emergencies and encourage the development of effective communications systems within and between countries	23
3.10	Monitor and evaluate national food safety programmes more effectively	23
4.	INTERNATIONAL COLLABORATION.....	25

APPENDICES

Appendix 1 – Actions and outcomes for WHO and countries	27
Appendix 2 – Implementation of the regional strategy, 2001-2005	41

DRAFT REGIONAL STRATEGY FOR FOOD SAFETY IN THE WESTERN PACIFIC

1. BACKGROUND

1.1 Foodborne illnesses in the Western Pacific Region

Foodborne illnesses are prevalent in all parts of the world and cause millions of deaths every year. The ingestion of biological hazards such as bacteria, bacterial toxins, viruses and helminths; physical hazards such as glass, wood and metal; and diverse toxic chemicals including mycotoxins, marine toxins, environmental pollutants, pesticides, illegal additives and toxic substances, result in numerous episodes of illness.

In industrialized countries, where many foodborne illnesses are monitored by surveillance systems, up to 30% of the population may suffer illnesses caused by biological hazards such as *Salmonella*, *Campylobacter*, *Clostridium* and hepatitis A virus every year. In Australia, for example, it is estimated that every day 11 500 people suffer foodborne illness. In contrast, surveillance is weak in developing countries. Nevertheless, the information that is available indicates that prevalence in developing countries is even higher than in developed countries.

In 1988, a major epidemic of hepatitis A in China affected some 292 000 people and killed nine people. Hepatitis A remains a significant public health issue in many other countries. Salmonellosis is a major cause of morbidity in Australia and Japan. Campylobacteriosis is particularly prevalent in Australia and New Zealand. Milk- and meat-associated brucellosis is endemic in Mongolia. Botulism is sporadically reported in the Region, particularly in association with fermented food and sausages. In recent years epidemics of cholera have occurred in a number of Pacific island countries, countries surrounding the Mekong Basin, China and Malaysia. Typhoid and paratyphoid fevers have been reported, particularly from Papua New Guinea and Viet Nam. Trematode infections such as opisthorchiasis in the Lao People's Democratic Republic and chlonorchiasis in Japan and the Republic of Korea are still prevalent in a number of countries of the Region. Even Pacific island countries with limited capacity to monitor foodborne illnesses continue to report high rates of diarrhoea and gastroenteritis every year. Pacific island countries reporting more than 100 cases/10 000 population during the period 1996-1999 include Cook Islands, French Polynesia, Kiribati, Marshall Islands, the

Annex

Federated States of Micronesia, Palau, Tonga and Tuvalu. In addition, the Philippines continues to report high rates of diarrhoea and gastroenteritis.

There is considerable evidence to show that foodborne illnesses due to biological hazards are on the increase in both developed and developing countries. Among the illnesses demonstrating a significantly increased incidence in the last few decades are campylobacteriosis, enterohaemorrhagic *E. coli* infections, *Cyclospora* infections and listeriosis. In Japan, in a cluster of cases in 1996, 11 826 individuals (mainly schoolchildren) suffered from enterohaemorrhagic *E. coli* infections. To these may be added infections due to new strains of *Vibrio cholerae* (O139) and drug resistant strains of several enteric pathogens, particularly *Salmonella*.

Foodborne illnesses associated with the consumption of toxic chemicals also remain prevalent. The recent dioxins crisis in Belgium¹ is one example of a public health concern about chemical hazards in food that had repercussions in the Western Pacific Region. Other concerns about chemical contamination of food centre on pesticide residues left on food by improper agricultural practices, the presence of BSE prions in meat products, the development of mycotoxins as a result of unsafe harvesting, storage and handling and environmental and industrial contamination with heavy metals such as lead, cadmium and mercury. Viet Nam reports a high burden of disease associated with pesticide residues. Malaysia has reported use of illegal additives such as boric acid and formaldehyde. Mycotoxins have led to the destruction of many crops in Australia, China and elsewhere. The Republic of Korea recently stopped importation of crabs tainted with lead. In addition, marine and plant toxins that are naturally present can lead to foodborne illness. In Cambodia, for example, in 2000, 66 people were ill due to possible consumption of toxic puffer fish. In many Pacific island countries, ciguatera poisoning is prevalent. Physical hazards continue to lead to illness and injury in all countries.

1.2 Understanding the factors leading to foodborne illness

The reasons for the increasing incidence of foodborne illness are not fully understood, although it is widely accepted that changes in ways of producing, processing and preparing of food; changes to lifestyles; and increasing environmental pollution are major contributing factors:

- Increased pressures on primary production to meet the demands of an increasing world population have led to intensive farming; use of both slaughter by-products and

¹ In the beginning of 1999 an accidental contamination of feed with transformer oil occurred in Belgium. The contamination resulted in meat and food that contained PCB and dioxin.

animal waste as feed; misuse of antibiotics, pesticides and growth hormones; genetic modification of food; and mass slaughtering processes.

- Increased global demand for fishery products has sometimes resulted in unsafe aquaculture practices, harvesting of fish from polluted water and illegal use of poisons and dynamite.
- Mass processing operations and extensive distribution systems may result in contaminated foods being widely distributed.
- New packaging and processing technologies may be improperly applied to extend the shelf-life of food.
- Consumers are demanding increased access to ready-to-eat and fast foods and this has resulted in the considerable growth in the food service sector and in partially processed foods.
- Consumers in many developed countries have demanded reductions in the use of food additives, including preservatives.
- Many Pacific island communities are aware of public health concerns associated with the harvesting of particular fish at certain times but have yet to address the epidemiology, prevention and control of the marine toxins involved.
- In conditions of extreme poverty, filth, over-crowding and poor sanitation may make basic hygienic practices difficult to apply.
- Rapid urbanization leads to the poorly educated urban poor becoming involved in the food service sector and in the food processing industry and may also lead to a lack of sustainable waste disposal, safe water and sanitation facilities.
- Rural poverty can contribute to foodborne illness because access to both infrastructure and knowledge that may facilitate hygienic practice is often inadequate. This is particularly so in communities where women, who are often food handlers, have limited access to education and limited decision-making power at the household level.

Annex

- Ageing populations have led to increasing numbers of consumers with reduced immunity to disease.
- Increasing international trade in food and feeds and large-scale movements of people across national borders as tourists, refugees, and workers are internationalizing food safety concerns.
- In parallel with the increasing incidence of foodborne illness, the proportion of public sector funding spent on health is declining in many countries.
- Many countries have not established adequate regulatory control mechanisms and fail to provide adequate resources for the infrastructure necessary to implement such control.

2. NATIONAL FOOD SAFETY PROGRAMMES IN THE REGION

2.1 Key features of effective national food safety programmes

National food safety programmes in the Western Pacific Region will have to take account of the following key features of effective national food safety programmes. A national food safety programme may be considered to be effective if:

- a. it is clear in its expressed mission or policy;
- b. it integrates food safety with other priority governmental policies;
- c. it has a modern, comprehensive risk-based legislative framework that reflects international Codex Alimentarius Commission standards and other international obligations;
- d. it is based upon sound scientific research;
- e. it incorporates a food inspection system that addresses and manages food safety from production to consumption;
- f. it encourages and assists industry and trade to meet food safety obligations;
- g. it involves consumers in decision-making processes and educates them about food safety issues;
- h. it is able to respond to disasters and emergencies;
- i. it establishes a system to monitor and evaluate progress; and
- j. it is resourced adequately.

Annex

2.2 Current situation in the Western Pacific Region

2.2.1 Policies, plans of action and partnerships

Many governments in the Region have no specific written policy on food safety. Consequently, strategies and plans of action are often developed from a general health perspective and may address food safety only briefly, if at all. Thus food safety plans of action, if they exist, have often not been developed in a coordinated manner with a clearly articulated goal within the context of government policy. Integration with other areas of government such as economic development, poverty alleviation, food security and women and children is often inadequate.

A second limitation of many food safety programmes in the Western Pacific Region is the low level of coordination and cooperation among the different government departments involved in developing and enforcing legislation. There are often considerable overlaps, with different government agencies claiming the same jurisdiction in relation to food safety. As a consequence, laws are sometimes developed and used as leverage for one agency and a barrier to another agency. This has resulted in some countries having an excessively complex web of laws and regulations addressing food control. Despite such overlapping laws, these countries also often have many critical areas of the food chain unprotected by laws or regulations and standards.

In countries with food safety standards, the standards are generally adopted in accordance with the Codex Alimentarius Commission. However, several countries are not currently actively participating in the work of the Codex Alimentarius.

2.2.2 Inspection from production to consumption

The links between institutions such as agriculture, fisheries, veterinary services and animal quarantine, consumer affairs, commerce, standards organizations and health are often poor. Hence, coordination of inspection activities is limited, with industry either being forced to suffer multiple inspections or being free of any meaningful inspections altogether. Only a few countries currently attempt to provide production to consumption protection (based upon hazard analysis critical control point, HACCP, principles) in relation to the majority of high risk foods.

Varying standards of enforcement, education and training among different provincial and local authorities are another key limitation.

Generally, there are insufficient numbers of inspectors to implement the national programmes effectively. Inspectors are often insufficiently trained and the system of monitoring how inspection affects food safety is limited.

In import and export inspection, many countries have well developed programmes. However, links with authorities of importing and exporting partner countries need to be improved.

2.2.3 Providing a sound scientific foundation for the food safety programme

National capacity to analyse food also varies across the Region, with some governments unable to isolate or identify common foodborne pathogens and chemical hazards from food. Quality assurance in analytical procedures is also often overlooked, although it is an essential element of contaminant monitoring and foodborne illness surveillance. A limited number of countries within the Region support laboratory quality assurance, accreditation and certification.

Many governments are attempting to decentralize their laboratory systems, which is resulting in numerous state, provincial and municipal laboratories. If such decentralized programmes are to be successful, each laboratory must have the necessary technical and financial resources to permit both sustainability and quality assurance. The roles and functions of each laboratory level need to be defined so that available resources are utilized most effectively.

Contaminant monitoring programmes are undertaken in a minority of the Region's countries and usually cover only a limited range of contaminants. Data on contamination with bacteria and viral foodborne illness agents or marine toxins are collected and published in only a few countries. The most regularly collected data relate to contamination with pesticides, heavy metals and mycotoxins. Several countries provide data on these to WHO's Global Environmental Monitoring (GEMS/Food) programme. Exposure assessment data are limited. Studies of a range of priority hazardous agents are still needed as dietary intake varies from country to country.

For some countries, foodborne illnesses are notifiable by law but surveillance systems are inadequately developed. For others, foodborne illnesses do not have to be notified. Only a few countries have an active foodborne illness surveillance system capable of tracking and reporting on incidence and contributory factors for illnesses such as salmonellosis, vibriosis and campylobacteriosis.

Annex

2.2.4 Partnership with consumers and industry

If a food safety programme is to be effective, it must actively promote the participation of both industry and consumers. However, political and economic systems do not always encourage such partnerships. In only a few countries of the Region are both industry and consumers invited to participate fully.

In addition, not enough governments have training programmes for industry personnel aimed at introducing modern food safety concepts based upon HACCP principles. There is a perception that the introduction of HACCP needs to be delayed until basic hygiene and sanitation are implemented in many businesses. The usefulness of a systematic approach such as HACCP needs further promotion as it can enable businesses and health authorities to prioritize improvements based upon risk.

Consumers, while generally considered to be an audience for training and education, are often not considered to be a source of knowledge or to be effective change agents in relation to food safety.

2.2.5 Monitoring and evaluating the national food safety programme

Monitoring and evaluation of food safety programmes is limited. Few countries are able to judge their efforts against a disease reduction programme with specific targets.

3. THE REGIONAL STRATEGY – CHARTING THE PATH TO FOOD SAFETY

This regional strategy for food safety is designed to reduce the morbidity and mortality due to foodborne illnesses in the Western Pacific Region significantly.

WHO will work with countries and other partners to:

- raise awareness of the true public health, social and economic burden of foodborne illness;
- promote international standards with respect to food safety;
- strengthen the capacity of countries to monitor and reduce the prevalence of foodborne illnesses and their impact on the communities of the Region; and
- advocate for the right of each individual to have access to safe food.

The regional strategy comprises 10 strategies:

1. advocate for food safety to be accepted as an issue of importance;
2. strengthen policies, national plans of action and government agency partnerships;
3. encourage the integration of food safety with other policy areas by targeting national development policies, poverty alleviation, women's empowerment and healthy settings and environment;
4. advocate for the adoption of comprehensive and modern food laws, regulations and standards and strengthen participation in the work of Codex;
5. promote effective multisectoral national food safety programmes with a strong scientific foundation;
6. prioritize the implementation of multisectoral food safety inspection, by competent authorities from production to consumption;
7. support industry and trade to meet their food safety obligations;

Annex

8. identify mechanisms for effective consumer participation and education in food safety;
9. respond more effectively to food safety concerns during disasters and emergencies and encourage the development of effective communications systems within and between countries; and
10. monitor and evaluate national food safety programmes more effectively.

Countries are urged to adopt each of the strategies, although their different stages of national development may mean they prioritize them differently. For example, countries with poorly developed national food safety programmes might be expected to focus on strategies that improve planning, the legislative framework and coordination, while developed countries might be expected to focus on strengthening the scientific foundation of their programmes and the involvement of industry and consumers. The Appendix to this document contains a list of actions and outcomes for WHO and countries.

3.1 Advocate for food safety to be accepted as an issue of importance

In some parts of the world the management of food safety has been strengthened as a result of the attention given to recent chemical contamination of food; emerging and recurring microbial infections and intoxications; bovine spongiform encephalopathy; and the development of foods derived from biotechnology.

However, only a few countries in the Western Pacific Region have recognized the inability of current national food safety programmes adequately to protect consumers from foodborne illnesses. In those that have, this recognition has been brought about by an assessment of the economic and social burden of foodborne illnesses. Such an assessment helps policy-makers to evaluate the cost-effectiveness of national food control measures, but it can only be effectively undertaken when there is active foodborne disease surveillance. This allows policy-makers, scientists, producers, processors, consumers and media to act as a coordinated force for change. Without such an assessment, based on active disease surveillance, food safety programmes are unlikely to undergo critical examination and revision.

In many developing countries, awareness of food safety needs to be increased. Countries need to be encouraged to devote adequate resources to establish, review and strengthen food safety programmes. National seminars and associated advocacy programmes for policy-makers, regulators,

scientists, media and consumers, can draw attention to the importance of food safety. Such activities need to be undertaken in conjunction with efforts to strengthen the understanding of the extent of foodborne diseases and the cost of such diseases. Countries that have already recognized, or are in the process of recognizing, the need for change should be encouraged to share information on their experiences.

3.2 Strengthen policies, multisectoral national plans of action and government agency partnerships

Food safety is an issue that must be addressed from production to consumption. If food is protected from hazards during production but not during processing or retail, foodborne contamination with hazardous agents may result. If food is protected from contamination during food handling but not during production, hazards that are difficult to remove by standard food processing and preparation practices may contaminate food and lead to foodborne illness. Thus good agricultural practices and good fishing practices alone will not protect consumers. Nor will good manufacturing practices or safe food-handling. For consumers to have confidence in the food reaching them there must be attention to safety throughout the food chain. Recognizing this fact, a number of governments in Europe and North America have committed themselves to protecting public health through attention to food safety from production to consumption. Different mechanisms have been employed including: a presidential food safety initiative, a single agency to oversee the work of all other agencies in the area, and a single agency to coordinate all inspection activities. By contrast, in most countries in the Western Pacific Region, no one institution, organization or agency has the authority and capacity to address food throughout the food chain. Protection from production to consumption is achievable only if the government provides the necessary overarching vision and a multisectoral and collaborative approach to food safety is applied.

Governments can provide leadership through national food safety policies, vision statements and plans of action. These should adhere to five guiding principles: (1) the focus of attention should be public health protection; (2) emphasis should be on protection and should cover the food chain from production to consumption; (3) priorities need to be determined based on risk and scientific research; (4) responsible government oversight needs to be provided with attention to coordination and cooperation; and (5) everyone has a role to play.

To facilitate a multisectoral approach, either a national agency needs to be established or national food safety interagency coordinating committees need be created. Where they have been created but never convened, they need to be revived. Interagency coordinating committees need to

Annex

review the roles, responsibilities and capabilities of relevant agencies; clarify gaps and overlaps in regulatory roles; and examine how the plans can be implemented in a complementary, multisectoral way leading to optimal protection for consumers.

3.3 Encourage the integration of food safety with other policy areas by targeting national development policies, poverty alleviation, women's empowerment and healthy settings and environment

Given the multisectoral nature of food safety it is essential that food safety be considered in all relevant government policies, legislation and plans of action. For example, government policies relevant to promoting productivity improvements in production of food, fishing practices, food security programmes, nutrition, water quality and supply, control of the importation of chemicals, environmental protection, genetic engineering and national development will affect food safety both directly and indirectly. Food security and safety need to also be linked with development and infrastructure policies.

In addition, government policies on poverty alleviation, promotion and control of small-scale enterprises and street food and market food vending can have an impact on poverty, health and food safety. In a number of countries in the Region, street and market food vending is strictly controlled. In others, street and market vending is not closely regulated.

Street and market food vending is recognized as an important source of income and livelihood for the poorer members of society and a source of empowerment for women, who often comprise a high proportion of the vendors. WHO has for many years recognized the importance of street and market food vending both as a source of employment and income and as a source of foodborne illnesses.

Countries are urged to take local action in relation to healthy settings and the environment. For marketplaces, there is a need to identify criteria to define and describe a healthy marketplace; to establish healthy marketplaces, review and evaluate ongoing efforts; and to build the capacity of key stakeholders to transfer effective approaches to a broader range of marketplaces. For street food vendors, there is a need to recognize their important role in the community and to work with municipal authorities, police, vendor associations, vendors and consumers to enhance the safety of food for sale and sustainability of businesses selling safe food. Vendors selling to vulnerable populations such as the hospitalized and schoolchildren need to be trained, assisted and encouraged to show due diligence in the provision of safe and suitable food.

The linking of such healthy settings to poverty reduction and women's empowerment through training, consumer education and micro-credit livelihood loan systems is to be encouraged. To increase the sustainability of such an approach, collaboration between governments and nongovernmental organizations with experience in related fields needs to be promoted.

3.4 Advocate for the adoption of comprehensive and modern food laws, regulations and standards and strengthen participation in the work of Codex

Food safety law should have a preventive focus. It should communicate clearly expectations, processes of enforcement, offences and penalties; address food from production to consumption; enable a continuous and coordinated programme of inspection and enforcement; be established within the context of a network of relevant legislation; establish risk-based regulations that are responsive to emerging threats; and enable the promulgation of standards consistent with Codex.

Some countries still need to establish a basic food law while others need to adopt regulations and standards consistent with Codex. Many countries in the Region do not yet actively participate in the work of Codex and some have not yet established Codex contact points or national Codex committees. There are also a number of countries that have recently established national Codex committees but where the role and responsibilities of the committee are not yet widely understood. In a number of countries, the committee is not active on a regular basis. There is a need, therefore, for countries to:

- modernize and harmonize food legislation in the Region;
- increasingly involve industry and consumer representatives in legislative developments;
- adopt food hygiene regulations based upon Codex Principles of Good Hygienic Practice;
- adopt regulations controlling the use of antimicrobials in food, animal feed and aquaculture;
- develop and promote awareness of food labelling standards;
- develop standards in accordance with Codex; and

Annex

- establish active, multisectoral national Codex committees and participate in the work of Codex.

3.5 Promote effective multisectoral national food safety programmes with a strong scientific foundation

Surveillance of the burden of foodborne illness

The limited collection and collation of meaningful data on the prevalence of foodborne illness impedes progress towards increasing appreciation of its public health importance and therefore to initiating risk management solutions. In Cambodia, the Lao Peoples' Democratic Republic, Viet Nam and many Pacific island countries and areas, a strategy for monitoring foodborne diseases needs to be established and/or strengthened. Initially, governments need to establish pilot sentinel surveillance programmes for selected illnesses. Doing so will build a core group of skilled personnel with a commitment to active surveillance. Countries with significant experience in sentinel surveillance of selected diseases, such as salmonellosis, should be encouraged to undertake a programme of mentoring with other countries that are beginning to establish surveillance systems. To strengthen surveillance, countries need to increase resources for laboratories, train analysts, participate in international laboratory networks (e.g. Global Salmonella Surveillance, GSS), improve understanding of antimicrobial resistance in isolated pathogens, implement laboratory quality assurance and establish laboratory accreditation programmes.

In addition, many countries need to establish more effective systems for using foodborne disease surveillance data and for responding to outbreaks. This includes the need to strengthen both risk management and risk communication strategies.

Monitoring contaminants in food

Focused and scientifically valid contaminant monitoring programmes provide both a scientific foundation for risk assessment and a tool for consumer confidence. WHO works with countries at regional and global levels to collect, collate and evaluate data on chemicals in food. WHO maintains two key tools for estimating exposure to chemical hazards in food, the Global Environmental Monitoring System (GEMS/Food) database and the Operating Programs for Analytical Laboratories (OPAL) database, which are being strengthened by expert committees on contaminants, food additives and pesticide residues. Establishing quantitative risk assessment for microbiological hazards increases the need for information on the contamination of food with microbiological hazards. Information from these databases and from contaminant monitoring programmes in the Region needs

to be gathered and disseminated. Countries with experience in collecting data should be encouraged both to share the data obtained and provide technical guidance to other countries on the planning and conduct of contaminant monitoring, dietary studies and other aspects of exposure assessment.

Assessing chemical and microbiological risk

As most governments are unable to provide the enormous resources that would be required to provide absolute assurance of the safety of food, they must prioritize their efforts based upon a reliable assessment of the risks of foodborne disease. They must undertake risk assessments based upon the occurrence of disease and seek guidance from Codex on assessment of chemical and microbiological risk.

Countries are urged to undertake risk assessments of priority hazards and to disseminate information to other countries in the Region. In collaboration with countries and other international organizations and partner agencies, WHO will identify and apply mechanisms for microbiological risk assessment capability in developing countries. The feasibility of establishing a mentoring programme that will foster and extend partnerships between countries will be considered. In addition, the network of WHO collaborating centres capable of providing technical assistance to developing countries in relation to risk assessment will be strengthened. WHO will provide technical assistance to enable countries to improve scientific risk assessment. In collaboration with WHO Headquarters and FAO, the Regional Office will make the findings of expert consultations and the ad hoc expert advisory body on microbiological risk assessment readily available to all countries in the Region. It will also disseminate the chemical risk assessment work of the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Joint FAO/WHO Meeting on Pesticide Residues (JMPR).

Identifying human health considerations associated with the consumption of food derived from biotechnology

World Health Assembly resolution WHA53.15 recognized consumer concerns about the emergence of food derived from biotechnology and asked WHO to support countries by providing a scientific basis on which decisions regarding human health aspects of genetically modified foods can be taken.

Current safety assessments are focused on food safety and are based on the premise of substantial equivalence (in other words, if the food derived from biotechnology is substantially equivalent to “the conventional counterpart” then it may be accepted without a detailed risk assessment process). Such a premise requires comparisons between foods developed through

Annex

biotechnology and conventional counterparts. However, a scientific basis should employ a holistic approach addressing not only food safety but also issues related to areas such as nutrition, food security, environmental health and sustainability.

Several countries in the Region have numerous biotechnology companies developing and evaluating genetically modified food. At the global level, WHO is working to provide guidance on monitoring and assessment procedures based upon science. The Regional Office will disseminate this information in the Region and support countries to make health-related decisions based upon a strong scientific foundation.

3.6 Prioritize the implementation of multisectoral food safety inspection by competent authorities from production to consumption

Food safety is best achieved by addressing the whole food chain. The goal should be to develop sustainable, integrated food safety systems from the primary producer to the consumer. WHO will collaborate with countries and other partners to enable countries to protect food safety from production to consumption through a multisectoral programme of inspection and HACCP system auditing by well-trained regulatory officers.

Countries are urged to strengthen regional and national networks of food inspectors and to monitor, evaluate and revise the training of all inspectors. Each business (particularly those handling “high risk” foods) should be required to employ due diligence and to require suppliers to do likewise.

3.7 Support industry and trade to meet their food safety obligations

For more than a decade, WHO has promoted the concept that the safety of food is a “shared responsibility”. Those sharing this responsibility include primary producers, the processing industry, food service businesses and trade. Regulatory authorities cannot ensure safe food without the cooperation of these groups, which will require the training of industry in all matters related to food safety. To facilitate the introduction of good hygienic practice (GHP) and food safety plans based on HACCP principles, there is a need for training of producers, industry and trade in these specific elements. In many countries this will have to precede by training of trainers in the development of GHP and HACCP guidance documents and in the training of industry personnel.

3.8 Identify mechanisms for effective consumer participation and education in food safety

The active participation of consumers is another vital element for ensuring food is safe. Regulatory authorities can enforce legislation and reduce the risk of foodborne illness. However, consumers must also be aware of the importance of selecting food for its safety and must store, transport and prepare food safely.

Mechanisms are needed to ensure consumers and/or consumers' representatives are included as partners in the national food safety effort and in the work of the Codex Alimentarius Commission. WHO will strengthen its collaboration with consumer organizations such as Consumers International in order to increase awareness of food safety and the work of the Codex Alimentarius Commission. Greater collaboration with education authorities will also be needed to promote food safety education in primary and secondary schools.

3.9 Respond more effectively to food safety concerns during disasters and emergencies and encourage the development of effective communications systems within and between countries

During disasters and emergencies the number of people at risk from foodborne illnesses is likely to increase. Communications systems dealing with risk are also likely to come under pressure. Furthermore, because of the significant number of people crossing borders and the vast quantities of food moving in international trade, the health implications of outbreaks, disasters and emergencies can often cross international borders. The International Health Regulations, currently being revised by WHO, will be critical in this regard. However, WHO can play an important role in empowering countries to be better prepared to address food safety concerns during disasters and emergencies and to establish effective communications systems during such situations. WHO will work with governments to improve its response to contamination scares, poisonings and communicable disease outbreaks during emergencies and disasters. Countries are encouraged to review their current outbreak, disaster and emergency response procedures and consider whether they adequately address food safety and whether effective and reliable risk communication strategies are integral components.

3.10 Monitor and evaluate national food safety programmes more effectively

Monitoring and evaluation is an essential component of any national food safety programme. Monitoring and evaluation ensures that activities are relevant, are achieving substantial improvements and meet the goals and objectives set. Nevertheless, many governments and other authorities do not

Annex

currently implement such monitoring and evaluation processes, making it difficult to determine the effectiveness of national food safety efforts. Systems need to be established which allow WHO to work with countries to monitor their capacity to protect the safety of their food.

4. INTERNATIONAL COLLABORATION

Historically, national and international resources allocated to food safety in the Region have been insufficient to achieve either an effective system of monitoring foodborne illnesses or a decrease in the incidence of foodborne illnesses. Furthermore, some international agencies have either replicated activities or had divergent goals in mind. To use limited resources more efficiently, greater partner agency coordination is required. The Food and Agriculture Organization of the United Nations (FAO) and WHO have committed themselves to work together to improve food safety in the Region. However, to make the partnership more effective, collaboration also needs to be strengthened with other international organizations, consumer representatives, national aid agencies, national authorities with regional interests, and development banks.

The Regional Office for the Western Pacific, in collaboration with WHO Headquarters, other WHO regional offices and FAO, will invite representatives of all partner agencies to participate in an Interagency Coordination Meeting on Food Safety (ICMFOS) to assess how each partner's inputs can be applied to improving food safety in Asia and the Pacific. In so doing, WHO, in collaboration with FAO, will be responding to the request by the sixth session of the Codex Committee for North America and South West Pacific for "WHO and FAO to convene a meeting of representatives of international organizations, development banks and/or potential partner agencies to develop a strategy to better coordinate food safety and food quality activities."

ACTIONS AND OUTCOMES FOR WHO AND COUNTRIES

1. Advocate for food safety to be accepted as an issue of importance

Actions required by countries and WHO

Countries are urged to:

- take measures to ensure that food safety is regarded as an essential public health and public nutrition function and to provide adequate resources to establish and strengthen their food safety programmes;
- promote and support national seminars for policy-makers, regulators, scientists, media and consumers.

WHO will:

- seek extrabudgetary funds to strengthen the capacity of the Regional Office to administer and coordinate the regional food safety strategy; to provide effective secretariat services to the proposed ICMFOS; and to advise on food safety activities at country level.

Outcomes for countries and WHO

- Countries will have conducted national food safety seminars in association with promotional campaigns. They will also have made significant efforts to establish food safety as an essential public health and public nutrition function. They will have provided adequate resources to establish and strengthen their food safety programmes.
- WHO and countries will be developing and using advocacy and education strategies and materials appropriate to the Region.

Appendix 1

2. Strengthen policies, national plans of action and government agency partnerships

Actions required by countries and WHO

Countries are urged to:

- ensure that national interagency coordinating meetings review the roles, responsibilities and capabilities of the agencies concerned with food safety, clarify gaps and overlaps in regulatory roles and prepare operational plans of action (which should also address greater participation in Codex).

Outcomes for countries and WHO

- Countries will have food safety policies and national plans of action in place and being implemented. These policies and plans of action will have benefited from national food safety interagency coordinating meetings which will have reviewed the roles, responsibilities and capabilities of the agencies, and clarified gaps and overlaps in regulatory roles.

3. Encourage the integration of food safety with other policy areas by targeting national development policies, poverty alleviation, women's empowerment and healthy settings and environment

Actions required by countries and WHO

Countries are urged to:

- identify criteria to define and describe a healthy marketplace; establish healthy marketplaces, review and evaluate ongoing efforts; and build the capacity of key stakeholders to transfer effective approaches to a broader range of marketplaces;
- link healthy marketplaces to poverty reduction and women's empowerment through training, consumer education and micro-credit livelihood loan systems. To increase the sustainability of such an approach, collaboration between governments and nongovernmental organizations will be promoted.

WHO will:

- provide guidance on establishing healthy marketplaces.

Outcomes for countries and WHO

- A model linking improvements in the safe handling of food with efforts to alleviate poverty among market and street food vendors and to empower women vendors will have been developed and evaluated.
- Guidelines on healthy marketplaces will have been produced and disseminated.
- Countries will have identified criteria by which to evaluate healthy marketplaces and will have initiated and expanded multisectoral healthy marketplace programmes.

4. Advocate for the adoption of comprehensive and modern food laws, regulations and standards and strengthen participation in the work of Codex

Actions required by countries and WHO

Countries are urged to:

- both modernize and harmonize food legislation;
- increasingly involve industry and consumer representatives in legislative developments;
- participate in the work of Codex;
- adopt regulations controlling the use of antimicrobials in food, animal feed and aquaculture;
- give consideration to the adoption of appropriate labelling standards and provide training in these standards for authorities, industry and consumer groups.

Appendix 1

WHO will:

- support meetings of authorities, industry and consumer groups to review draft laws, regulations and standards and provide technical advice to enable countries to strengthen their regulations and standards in line with Codex guidance;
- facilitate participation in the work of Codex, by conducting regional and subregional workshops in collaboration with relevant Codex Committee meetings and promoting membership of Codex among countries in the Region.

Outcomes for countries and WHO

- Countries will have been provided with guidance on modern science-based food law and on Codex guidelines for regulations and standards.
- All countries will be able to demonstrate improvements in their development of food law, regulations and standards.¹
- An increased number of countries will be actively participating in the work of the Codex Alimentarius Commission.
- There will be increased involvement of industry and consumers in national food safety programmes.
- The use of antimicrobials in food, animal feed and aquaculture will be more strongly regulated.
- Effective labelling standards will be established.

¹ By comparison with the findings of the food safety programme survey 2000, WHO, Manila (unpublished).

5. Promote effective multisectoral national food safety programmes with a strong scientific foundation

Actions required by countries and WHO

Surveillance of the burden of foodborne illness

Countries are urged to:

- establish active and effective foodborne disease surveillance programmes;
- identify appropriate foodborne disease response mechanisms addressing prevention, control and risk communication;
- increase participation in the WHO/CDC/Danish Veterinary Laboratory (DVL) Global Salmonella Surveillance system;
- strengthen the surveillance of antimicrobial resistance in causative agents of foodborne disease.

WHO will:

- support capacity building in epidemiological services;
- provide technical guidance on the enhancement of foodborne illness surveillance programmes and on surveillance of antimicrobial resistance;
- work with countries to enhance their capacity to participate in the WHO/CDC/DVL Global Salmonella Surveillance system.

Monitoring contaminants in food

WHO and countries will:

- undertake focused and scientifically valid contaminant monitoring programmes and initiate model programmes in priority countries and areas;

Appendix 1

- gather and disseminate information on contaminant monitoring programmes implemented in the Region;
- increase national capacity to detect and, where necessary, quantify priority hazards associated with food;
- encourage laboratories to participate in GEMS/Food;
- strengthen the surveillance of antimicrobial resistance of biological contaminants in food, animal feed and aquaculture.

Assessing chemical and microbiological risk

Countries are urged to:

- undertake risk assessments of priority hazards and disseminate the information to other countries in the Region.

WHO will:

- in collaboration with countries, other international organizations and partner agencies, identify and apply mechanisms for the development of microbiological risk assessment capability in developing countries. The feasibility of establishing a mentoring programme that will foster and extend partnerships between developed and developing countries will be considered. In addition, the network of WHO collaborating centres capable of providing technical assistance to developing countries in relation to risk assessment will be strengthened;
- provide technical assistance to enable countries to improve their scientific risk assessment. In collaboration with WHO Headquarters and FAO, the Regional Office will make the findings of expert consultations and the ad hoc expert advisory body on microbiological risk assessment available to all countries;
- disseminate the findings of JECFA and JMPR.

Appendix 1

Identifying human health considerations associated with the consumption of food derived from biotechnology

Countries are urged to:

- ensure that food safety issues associated with genetically modified food are scientifically addressed.

WHO will:

- provide technical support to enable countries to improve their scientific risk assessment of food derived from biotechnology. In collaboration with WHO Headquarters and FAO, the Regional Office will make the findings of expert consultations and the ad hoc expert advisory body on food derived from biotechnology available to countries.

Outcomes for countries and WHO

- Countries will have increased capacity to undertake foodborne disease surveillance, prevention, control and risk communication.
- Countries will be able to demonstrate² improvement in their foodborne disease surveillance programmes.
- The number of countries and agencies in the Region participating in the WHO/CDC/DVL Global Salmonella Surveillance programme will have increased.
- Countries will have data available on priority contaminants in food and have developed the capacity to maintain a sustainable, targeted contaminant-monitoring programme.
- Data will be available on antimicrobial resistance of foodborne disease agents and microbial agents in food, animal feed and aquaculture.

² By comparison with the findings of the food safety programme survey, 2000, WHO, Manila (unpublished).

Appendix 1

- WHO and countries will have considered and identified an approach to strengthening national risk assessment capabilities in the Region.
- Countries will have been informed by WHO of both human health issues associated with genetically modified food and recent advances in risk assessment.
- All countries will have made advances in strengthening the scientific foundation of their national food safety programmes.

6. Prioritize the implementation of multisectoral food safety inspection by competent authorities from production to consumption

Actions required by countries and WHO

Countries are urged to:

- monitor, evaluate and revise, if necessary, the training of all food inspectors;
- implement inspection processes addressing high-risk food and premises producing, harvesting, slaughtering, processing and selling such foods so that food regulations are effectively enforced from production to consumption;
- develop and employ food inspection procedural manuals and guidance documents for industry on how high-risk food will be monitored from production to consumption;
- promote the application of good hygienic principles and the HACCP concept in accordance with Codex guidance in all food businesses and particularly those handling high-risk food.

WHO will:

- involve key trainers active in the training of food inspectors (for health, agriculture, fisheries, etc) in a review of food safety curricula and training, share training resources and establish a network of institutions to promote the advancement of training in food safety and food inspection;

Appendix 1

- provide technical advice on food inspection procedures, guidance materials and HACCP;
- provide resources to developing countries to enable key health personnel to carry out effective food safety inspections and HACCP audits.

Outcomes for countries and WHO

- Countries will have a clear and harmonized view of the training requirements of food inspectors, including core curriculum elements.
- A network of food inspectors trainers will have been established to ensure sharing of information as training requirements evolve.
- Countries will have established a coordinated approach to the inspection of high-risk food from production to consumption.
- Countries will have developed food inspection procedural manuals.
- Countries will have developed guidance documents for industry on how high-risk food will be monitored from production to consumption.
- Countries will be providing inspectors with adequate resources to enable key health personnel to carry out effective food safety inspections and HACCP audits.

7. Support industry and trade to meet their food safety obligations

Actions required by countries and WHO

WHO and countries will:

- work together to promote the establishment of organizational models that promote the training of industry in all matters related to food safety.

Appendix 1

Countries are urged to:

- train trainers in how to produce HACCP guidance documents and train industry personnel on HACCP;
- establish and implement training programmes to assist industry to meet its broad food safety obligations and to facilitate the introduction of HACCP to small and less developed businesses;
- establish and implement training programmes to support primary producers to contain antimicrobial resistance in food, animal feed and aquaculture and to facilitate the introduction of HACCP-based systems for primary production.

WHO will:

- review efforts to introduce food safety programmes based upon HACCP to small and less developed businesses in the Region, and collaborate with authorities and industry sector associations to develop HACCP guidance documents for such businesses.

Outcomes for countries and WHO

- Trainers of food industry personnel will have been trained in how to help industry to meet its food safety obligations in selected countries.
- Advisory guidelines on how to introduce HACCP to small or less developed businesses will have been produced and disseminated.
- Countries will have a training programme in place to help industry to meet its food safety obligations.
- Countries will have a training programme in place to help primary producers to contain antimicrobial resistance in food, animal feed and aquaculture and to facilitate the introduction of HACCP-based systems.

8. Identify mechanisms for effective consumer participation and education in food safety

Actions required by countries and WHO

Countries are urged to:

- include consumers and/or consumers' representatives as partners in the national food safety effort and in the work of the Codex Alimentarius Commission;
- collaborate with Consumers International to increase awareness of food safety and the work of the Codex Alimentarius Commission among consumers and consumers' representatives;
- train trainers of community health care workers in community-based food safety education and awareness raising approaches.

WHO will:

- seek greater collaboration with education authorities to promote food safety education in primary and secondary schools;
- review the information and processes employed in food safety education in schools, collate the information and facilitate the dissemination of information and approaches currently available.

Outcomes for countries and WHO

- Consumers and consumer representatives will be better prepared to consider food safety issues and to collaborate with governments in national food safety programmes and in the work of the Codex Alimentarius Commission.
- Governments will include consumers and/or consumers' representatives in the national food safety effort and in the work of the Codex Alimentarius Commission.
- Food safety education in schools will have been strengthened.

Appendix 1

- Health care workers will have greater access to participatory tools to increase community awareness of food safety issues and to achieve community based action for improved food safety.

9. Respond more effectively to food safety concerns during disasters and emergencies and encourage the development of effective communications systems within and between countries

Actions required by countries and WHO

Countries are urged to:

- develop protocols to address food safety concerns during disasters and emergencies and to establish effective communications systems in preparation for such events.

WHO will:

- support governments to respond to food safety concerns (contamination scares, poisonings and communicable disease outbreaks) during emergencies and disasters;
- prepare a training package on food safety and risk communication during disasters and emergencies for health workers, including case studies from developing and developed countries.

Outcomes for countries and WHO

- Countries will be better able to address food safety concerns during disasters and emergencies and to establish effective communications systems.
- WHO will have improved its capacity to respond to governments in food safety emergencies (contamination scares, poisonings and communicable disease outbreaks) and disasters.
- Health workers will have been trained in maintaining food safety during disasters and emergencies.

10. Monitor and evaluate national food safety programmes more effectively

Actions required by countries and WHO

Countries are urged to:

- implement regular monitoring and evaluation of their national food safety programme using WHO documentation.

WHO will:

- strengthen its capacity to monitor progress in national food safety programmes and the impact of such programmes on foodborne illnesses.

Outcomes for countries and WHO

- Regular monitoring and evaluation of national food safety programmes will be undertaken.
- WHO will have established a system to monitor progress in evaluating national food safety programmes.

The implementation of the regional strategy for food safety is expected to achieve the following outcomes for both WHO and countries (outcomes are cumulative over the five-year period.)

Expected Results	End 2001	End 2003	End 2005
Coordination of agencies (international and bi-lateral) involved in international action in food safety			
* Interagency Coordination Meeting on Food Safety		WHO will have conducted an ICMFOS meeting in collaboration with appropriate partner agencies	International agencies involved in food safety strengthening in the Region will have a strengthened network and greater collaboration
1. Advocacy			
* National seminars and advocacy campaigns conducted. Advocacy materials prepared, published and distributed	3 countries/areas will have conducted seminars and campaigns, prepared, published and distributed advocacy materials.	6 countries/areas will have conducted seminars and campaigns, prepared, published and distributed advocacy materials	9 countries/areas will have conducted seminars and campaigns, prepared, published and distributed advocacy materials
* Countries will have integrated food safety as an essential public health and public nutrition function		16 countries/areas	18 countries/areas
2. Policy & plans of action			
* Food safety policies and plans of action in place through multisectoral, interagency coordinating meetings		4 countries/areas will have policies and plans of action in place	8 countries/areas will have policies and plans of action in place

Expected Results	2001	2003	2005
3. Integrating food safety with other national programmes			
* Model linking food safety improvement with poverty alleviation & women's empowerment developed and evaluated		Model developed and pilot project completed in two countries/areas	Guidance document developed and provided to all countries/areas
* Healthy marketplaces programme strengthened and expanded	2 countries/areas	4 countries/areas	6 countries/areas will have initiated or expanded healthy marketplace activities
4. Strengthen food legislation and Codex			
* Countries/areas demonstrate development of national food legislation	7 countries/areas	14 countries/areas	All countries/areas
* Involvement of industry and consumers in the national food safety effort	7 countries/areas will have included industry and consumer representatives in the national food safety effort	14 countries/areas will have included industry and consumer representatives in the national food safety effort	A majority of countries/areas will have included industry and consumer representatives in the national food safety effort
* Countries/areas participating in the work of Codex		4 additional countries/areas will be actively participating in the work of Codex	All eligible countries/areas will be actively participating in the work of the Codex Alimentarius Commission
5. Strong scientific foundation			
* Pacific islands have increased capacity to respond to foodborne disease outbreaks		2 countries/areas	4 countries/areas
* Countries/areas demonstrate improvement in foodborne disease surveillance		2 countries/areas	4 countries/areas

Expected Results	End 2001	End 2003	End 2005
* Laboratories participating in Global <i>Salmonella</i> Surveillance		Number of laboratories expanded by 30%	Number of laboratories expanded by 50%
* Planning and implementation of targeted contaminant monitoring programmes	Initiated in 2 countries/areas	Initiated in 4 countries/areas	Initiated in 8 countries/areas
* National capacity for surveillance and containment of antimicrobial resistance in food, animal feed and aquaculture strengthened		2 countries/areas	4 countries/areas
* Strengthening National Risk Assessment Capabilities in the Western Pacific Region	Appropriate mechanisms to strengthen capabilities in the Region identified	Risk assessment capability will be strengthened in 2 countries/areas	Risk assessment capability will be strengthened in 4 countries/areas
* Countries will have strengthened the scientific foundation of their national food safety programmes		3 countries/areas	11 countries/areas
6. Food safety inspection			
* Multisectoral programme of inspection of premises handling high-risk food		2 countries/areas	4 countries/areas
* Enhanced food inspector training		Regional workshop conducted and review undertaken	Training network established and maintained for information/resource sharing

Expected Results	End 2001	End 2003	End 2005
* Food inspection procedural manuals and guidance documents for industry	Developed, disseminated and applied in 2 countries/areas	Applied in 4 countries/areas	Applied in 6 countries/areas
7. Support industry and trade to meet their obligations			
Authorities trained in how to help industry meet obligations.		4 countries/areas	6 countries/areas
Guidance on the introduction of HACCP to small or less developed businesses	Meeting of experts to develop advisory guidelines on how to introduce HACCP to small or less developed businesses	Guidelines applied in 2 countries/areas	Guidance document prepared and disseminated
Countries will have a training programme in place to assist industry and trade			6 countries/areas
Countries will have a training programme in place to assist primary producers contain antimicrobial resistance in food, animal feed and aquaculture		2 countries/areas	4 countries/areas
8. Consumer participation and education			
*Consumers and consumer representatives better prepared and participating in national food safety efforts		Consumers and consumers' representatives informed about food safety and Codex in 3 countries/areas	Consumers and consumers' representatives informed regarding food safety and Codex in 6 countries/areas
*Strengthen regional efforts at food safety education in schools		Review of food safety education and stronger links initiated	All countries include food safety education in the curricula of primary and secondary schools

Expected Results	End 2001	End 2003	End 2005
9. Responsiveness to disasters and emergencies			
* Improve responsiveness to foodborne disease outbreaks, disasters and emergencies		WHO establishes response team and network of potential technical support	Responsiveness enhanced in 2 countries/areas
* Training of health workers in responsiveness to disasters and emergencies		Field epidemiological studies supported and training programme established	2 countries/areas have incorporated food safety considerations into the training of emergency response personnel
10. Monitor and evaluate			
* Regular monitoring and evaluation of national food safety programmes in countries/areas			Regular monitoring and evaluation of national food safety programmes in the majority of countries