

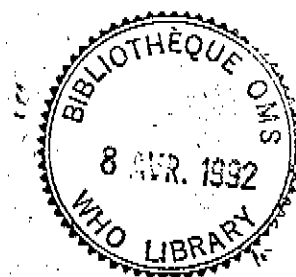
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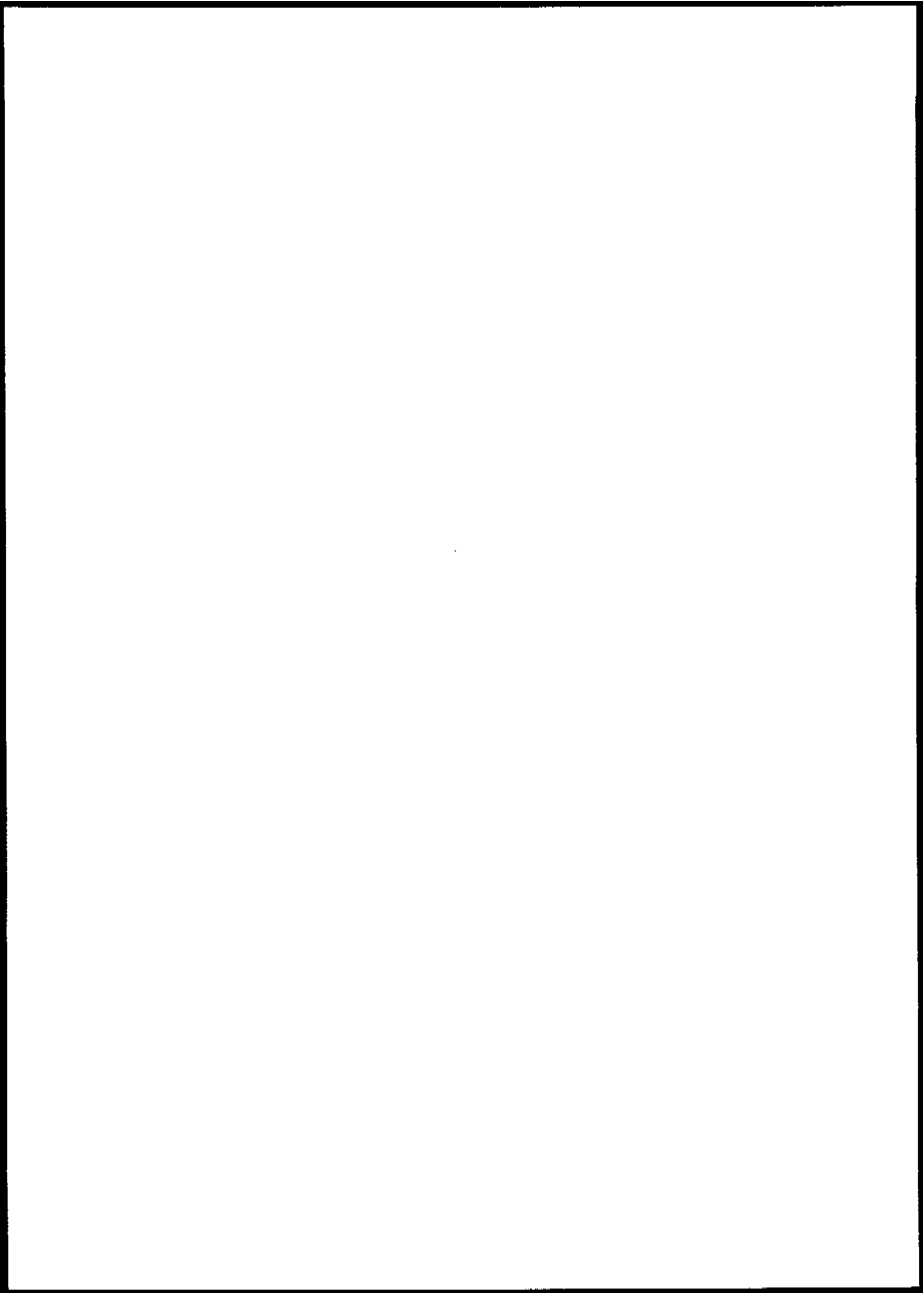
# ESSENTIAL SAFETY REQUIREMENTS FOR STREET-VENDED FOODS

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WORLD HEALTH ORGANIZATION  
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# ESSENTIAL SAFETY REQUIREMENTS FOR STREET-VENDED FOODS

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ESSENTIAL SAFETY REQUIREMENTS FOR STREET-VENDED FOODS

1. Introduction

1.1 Street-vended foods have a long tradition in most countries of the world. Because of socio-economic changes, many countries have also experienced the rapid growth of this sector. While street foods are often attractive for their own unique taste and convenience, street-vended foods are essential to some communities, especially in developing countries, as they provide ready-to-eat meals which are accessible and affordable for even the poorest.

1.2 Important as these foods are in the food supply, however, street-vended foods also are recognized as a possible hazard to health. In their report<sup>1</sup>, the Joint FAO/WHO Expert Committee on Food Safety, which was convened at WHO Headquarters in Geneva in 1983, identified both the importance and potential hazards of street-vended foods. Because of the possibility of chemical and microbiological contamination, which conceivably could occur under street conditions, the Committee concluded that efforts must be made (a) to educate the personnel involved; (b) to improve the environmental conditions in which the trade is practiced; and (c) to provide the essential services to assist street-food vendors in assuring the safety of their wares.

1.3 In 1986, a Joint FAO/WHO Expert Consultation on Food Protection for Urban Consumers<sup>2</sup>, in considering the problem of street-vended foods, recommended that - in addition to those efforts mentioned above - simple techniques for regulation of street foods be implemented and that the work of international organizations be extended to study street-food practices and develop adequate strategies to improve their safety. More recently, interest in the appropriate regulation of this important sector of the food system has been increasing in many countries, even in those which had previously ignored or attempted to suppress it.

1.4 FAO and WHO have sponsored a number of studies<sup>3,4,5,6,7,8,9</sup> in this field

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<sup>1</sup>The role of food safety in health and development. Report of the Joint FAO/WHO Expert Committee on Food Safety. TRS 705, WHO, Geneva, 1984.

<sup>2</sup>Food Protection for Urban Consumers. Report of a Joint FAO/WHO Expert Consultation, 1-5 December 1986, Rome, Italy. FAO, Rome, 1987.

<sup>3</sup>Taller Latinoamericano FAO/OPS sobre alimentos comercializados en la via publica (1986): final report of meeting held 21-25 October 1985 in Lima, Peru, AMRO/HPV/FOS/0311V/III/86.

<sup>4</sup>Report of the FAO Expert consultation on Street Foods, Jogjakarta, Indonesia, 5-9 December 1988, FAO, Rome.

<sup>5</sup>Bryan, F. *et al.* (1988) Critical control points of street-vended foods in the Dominican Republic, *J. Food Prot.*, 51:373.

<sup>6</sup>Dawson, R.J. and C. Canet (1991). International activities in street foods. *Food Control*, July 1991, pp. 135-139.

<sup>7</sup>Bryan, F., *et al.* (1992). Hazard analysis and critical control points of street vending operations in a mountain resort town in Pakistan. *J. Food Prot.* (in press).

and the Codex Alimentarius Commission and its subsidiary bodies have discussed the need for a code of hygienic practice for street foods. Both the Codex Coordinating Committees for Asia and for Latin America and the Caribbean have prepared draft codes. An African Working Group examined these codes and endorsed them with slight modifications.

1.5 At its 25th session in Washington, D.C. (1991), the Codex Committee on Food Hygiene reviewed the work done so far in this field and welcomed the proposal for WHO to prepare a uniform text taking into account existing draft codes as well as relevant Codex documents (Appendix to CX/FH 91/13). The text could be used by governments and other authorities in developing their own programmes concerning street foods. The present document has been prepared in order to meet this request.

## 2. Scope and application

2.1 Street foods have been defined<sup>10</sup> as "ready-to-eat foods and beverages prepared and/or sold by vendors especially in streets and other public places". This definition is used in the present text but machine-vended foods and beverages are not covered even though these machines are often installed in public places.

2.2 Many of the hygienic requirements of the street foods are the same as those for indoor foods. The present text is therefore restricted to essential safety requirements to cover special needs<sup>11</sup> resulting from preparation and/or sale of foods on streets or other public places, often by mobile hawkers or peddlers. The text takes into account the principles enunciated in the Codex document, "The Recommended International Code of Practice - General Principles of Food Hygiene", second revision (1985). Full notice has also been taken of the draft codes prepared by the Regional Coordinating Committees for Asia and for Latin America and the Caribbean. A draft "National Code of Practice for Hawker Food" prepared by Malaysian authorities, as well as legislation from other countries, were also considered.

2.3 The text can be used for regulatory, educational and other purposes at regional, national or local levels. As examples, the text may be used as the basis for a formal code of practice, a training course for public health authorities and inspectors, a training course for street-food vendors, or an education campaign to promote awareness for street-food consumers. In all cases, the text needs to be adapted to the local situation, including consideration of the variety of street foods, their role in the food system, the nature and extent of the potential hazards, and the physical as well as socio-economic conditions. The factors on which the adaptation is to be based

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<sup>8</sup>(...continued)

<sup>8</sup>Bryan, F., *et al.* (1992). Hazard analysis and critical control points of vending operations at a railroad station and bus station in Pakistan. *J. Food Prot.* (in press).

<sup>9</sup>Desmarchelier, P., *et al.* (1992). Food safety - risk factors for foodborne disease in Malaysia. *Bulletin of the World Health Organization* (in press).

<sup>10</sup>FAO (1989). Street foods. Food and Nutrition Paper No. 46, Rome.

<sup>11</sup>These special needs have been brought out in the studies referenced in footnotes 3-9.

are best identified by preliminary studies of the street food system patterned on the studies mentioned above (page 3, footnotes 3-9). The Hazard Analysis Critical Control Point (HACCP) approach should be included in these studies to identify potential hazards and critical control points. Where epidemiological data on foodborne diseases are available, these should also be taken into consideration. Preliminary studies such as these are highly cost-effective in developing strategies, both voluntary and mandatory, for assuring the safety and quality of street-vended food.

### 3. Strategy considerations

3.1 Although the actual strategies for improving street food can only be developed after appropriate studies and other information on local conditions and practices are available, some of the following points may be helpful in this process.

3.2 Street-food vending assures food security for low-income urban populations and provides livelihood for a large number of workers (women in many instances) who would otherwise be unable to establish a business for want of capital. Every care should be taken to see that over-regulation and imposition of too many overhead costs does not eliminate this vital sector of food supply or substantially reduce its capacity to provide a variety of nutritious foods at affordable prices.

3.3 Street-food vendors should be categorized according to the type of food they sell and their mobility, for determining the type of requirements to be applied. Street foods can be broadly grouped as: meals, snacks (including single food items), and beverages. Many street vendors are stationary and may have a stall and even tables and chairs. Others are grouped in "vending centres" (Section 12). Ambulant vendors may use pushcarts, bicycles or other vehicles for carrying their wares. Others carry them about by hand, on their backs, heads or on shoulder poles. Some use animals such as donkeys as a means of transporting food. Stationary vendors with stalls who serve full meals on tables are like small restaurants and may need to be regulated almost like the latter. Mobile vendors selling only bottled beverages or single low-hazard items of food warrant much less control.

3.4 Street foods include a large variety of items with different degrees of potential for causing disease. For example, parched grains, dry bakery products, sufficiently sugared, salted or acidulated foods, and many fermented items have a much lower disease-producing potential than certain foods which readily support bacterial growth. Similarly, foods thoroughly fried or cooked and consumed on the spot are inherently safer than pre-cooked foods, such as rice, especially when they are held at ambient temperatures (15-40°C) for more than four to five hours. Highly coloured foods and beverages are more likely to have unauthorized additives than others. Fruits in their structural covers and many foods which are industrially processed and pre-packed are generally safe even when exposed for sale on streets. Consequently, consideration of the varying potential of different food items to cause disease can be used in classifying local street foods for application of appropriate control measures.

3.5 Availability of the means and resources to implement provisions of any mandatory requirements, e.g. potable water and energy supplies, cleaning and disinfecting facilities and waste disposal, should be kept in mind in

developing appropriate strategies. It should also be noted that street-food vendors are, in many countries, part of the social and cultural fabric of their communities and, therefore, an effort should be made to keep them as close to their current business sites as possible, even though some facilities may not be available.

3.6 Street-food vendors should be officially recognized as a part of the food supply system and, where possible, included in urban development programmes. For example, municipal building codes might require that large buildings incorporate street-food vending centres in their design. Among other benefits, this recognition may enable some vendors to obtain loans for improving their business.

3.7 Most street-food vendors are poor, disorganized and vulnerable. Therefore they are less able to defend themselves against corruption or exploitation. If a code or any mandatory requirement is imposed, it should not be another instrument to allow or encourage corrupt or exploitative practices.

#### 4. Raw materials and ingredients

4.1 In principle, the requirements for the harvest, selection, acquisition, transport and storage of raw materials and ingredients for preparing street foods are the same as for indoor foods. However, vendors of street foods tend to buy raw materials at lower prices and may sometimes use lower-grade materials. Care should be taken that they do not utilize contaminated or hazardous raw materials and ingredients. To mask the modest or low quality of some foods, they are liable to use colours and other additives. Special care is required to assure that they use only permitted additives and only in quantities which are approved by appropriate authorities.

4.2 The Codex Code of General Principles of Food Hygiene should be used as a guide, with particular attention to the following:

- (a) Raw materials and ingredients, including ice, should be obtained from known and reliable sources and not from clandestine dealers (such as illegal slaughterers). Ingredients with particular health risks such as colours and other additives should be obtained from authorized dealers where they exist. In any case, the dealer should guarantee food-grade standard for the ingredient.
- (b) It should be assured that materials remain wholesome during transport, storage and handling through processing, cooking and sale.
- (c) Transport should be effected without undue exposure to heat, contaminants, pollutants, pests and other causes of spoilage. The containers should satisfy requirements as stated for utensils in section 5.3.



5. Place of preparation and sale

Preparation and sale may be carried out in the same place (particularly in stationary vending operations) or separately. Hygienic requirements are, however, similar in both cases:

5.1 Food should be prepared in a clean well-lighted place protected from strong sun, dust, rain and wind. It should be away from sources of contaminants such as solid and liquid wastes, and from animals, including pets as well as pests.

5.2 Equipment and surfaces in the place of preparation should be such that they can be cleaned easily and preferably made or covered with impervious materials. Preparation should not be carried out on or near the ground.

5.3 Utensils, pots, pans and other containers should be clean and in good condition and made of materials which do not release toxic or hazardous materials (copper, lead, cadmium, etc.) into food and beverages, especially when they are acidic. Structurally, they should allow easy cleaning and should not have pitted, grooved or sculpted surfaces. They should not be used for purposes other than cooking, processing and keeping of food. They should be kept free from contamination from the environment. For example, bowls and dishes could be stored upside-down to prevent the accumulation of dust and foreign matter.

5.4 All surfaces of cutting boards should be in good condition and free from pits and cracks for easy cleaning. If raw meat or poultry is handled, a separate cutting board should be kept exclusively for these foods. Where feasible, plastic cutting boards which are much easier to clean and maintain should be used.

5.5 Premises used for preparation and processing should not be used for habitation or storage of materials unconnected with food.

5.6 Sales points, stationary or ambulant, should be located in a place where risk of contamination from rubbish, sewerage and other noxious or toxic substances is absent or minimal. If such a risk cannot be completely eliminated, the food offered for sale should be suitably covered and protected from contamination.

5.7 Vending units should be designed and constructed so that they are easily cleaned and maintained.

5.8 The time required to transport food between the preparation and vending units should be such that bacterial proliferation does not reach hazardous levels under the conditions of transport and eventual sale.

5.9 Food should be transported in clean containers and protected from contamination through contact with unclean surfaces and exposure to undesirable or hazardous materials.

5.10 Vending in the vicinity of schools and homes for children requires strict supervision as young consumers are less critical and less experienced in judging the quality and safety of foods than are adults.

5.11 Sales points should be so located that they do not interfere with vehicular or pedestrian traffic and do not expose the customers, especially children, to traffic and other hazards.

## 6. Water

6.1 One of the most critical problems in street-food vending is the supply of water of acceptable quality and in sufficient quantities for drinking, washing, cleaning and other operations. The ambulant vendor can carry only limited supplies and even stationary food stalls may not have direct access to a water supply. Indeed, water is generally scarce in low-income areas in most developing countries. Water taps may run only for a few hours during the day and sometimes not for days. Street vendors in various parts of the world are known to wash their utensils, including those in which food has been served, in water which has been used previously, perhaps many times. Therefore, water supply needs particular attention in street-food operations.

6.2 As far as possible, the production and sales units should have their own supplies of potable<sup>12</sup> water whether it is from a central system or an individual source, such as a hand pump. If potable water is not available, a suitable source of safe<sup>13</sup> water should be used.

6.3 Water used for drinking and preparation of beverages should be potable. In any case, the quality of the water should not be inferior to that of drinking water available in the community. Special care should be taken to assure that such water is maintained in a sanitary state.

6.4 Water used for washing utensils, food and hands should be safe and should not be re-used. As far as possible, safe running water should be available for these purposes. If this is not feasible, a bucket or similar container can be used for washing, but it should be emptied and cleaned after each washing. Hot water, where available, makes cleaning and washing easier but is not generally available to street vendors.

6.5 Ice to be used in beverages and food should be prepared from potable water and should be transported and stored in a sanitary manner. Other items, such as food and beverages, should not be stored in the same container used to store ice.

## 7. Waste disposal

All waste should be handled and disposed of in such a manner as to avoid contamination of food and water and the environment. In particular, access to food waste by pests (insects and rodents) as well as by animals (dogs and cats) should be avoided. The following types of waste should, if possible, be disposed of separately:

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<sup>12</sup> Potable water meets the quality specifications defined in the national drinking water standard.

<sup>13</sup> Safe water does not constitute an appreciable risk to health, but its appearance, smell or taste might be less than defined in the national drinking water standards.

- (a) Liquid waste (except oil and fat) should be emptied into the nearest sewer or drain. Some form of a trap should be used to ensure that only liquid waste is discharged into the sewer or the drain.
- (b) Remains of food may be separated and kept for feeding animals. Utensils on which food has been served to customers should not be licked by animals to "clean" them.
- (c) Other solid waste should be kept in covered containers to be removed at least once daily by the public garbage collection system. The containers should be cleaned daily.

## 8. Food handlers

8.1 This term applies to persons who prepare food and to those who sell it, if they are different persons.

8.2 All street-food handlers should be licensed, but prior medical examination (clinical and laboratory) should not be a condition for licensing or for subsequent renewal of license<sup>14</sup>. The handler should provide personal particulars, intended type of business and location or area of operation.

8.3 Food handlers should be educated, encouraged or supervised to stop their business promptly if at any time they suffer from diarrhoea or vomiting or have boils, sores or ulcers on exposed parts of the skin. Resumption of business after recovery may be subject to authorization by the appropriate food control authority.

8.4 Food handlers should wear clean and proper clothing according to prevailing local standards. Where feasible, food handlers should be encouraged to wear clean overall aprons, preferably white or light in colour.

8.5 Food handlers should wash their hands with soap and water after handling raw foods, before handling cooked foods, after using the toilet, after handling unsanitary objects such as garbage containers, and after contact with toxic substances such as pesticides and disinfectants.

8.6 In the preparation and sale of food, food handlers should refrain from unhygienic and unsightly practices, such as:

- chewing or smoking tobacco, chewing betel nut or chewing gum;
- touching mouth, tongue, nose, eyes, etc.; and
- spitting, sneezing and coughing on or near food.

## 9. Training of food handlers

9.1 Training of food handlers in personal hygiene and safe handling and preparation of food, as practicable under local street-vending conditions, is an essential part of any strategy to improve the safety and quality of street-vended food. This should, ideally, be done in conjunction with licensing, and

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<sup>14</sup> See "Health Surveillance and Management Procedures for Food-handling Personnel". Technical Report Series No. 785, WHO, Geneva, 1989.

refresher training sessions at intervals are strongly suggested. Appropriate authorities may develop training programmes and materials for food handlers based on concepts presented in this text and other publications<sup>15</sup> and adapted to local conditions and practices.

9.2 A complementary education programme for the consumer and the community is also strongly encouraged and will help to assure compliance by vendors under pressure of customer demands.

## 10. Preparation and processing

10.1 This is a critical area in the series of steps to which foods are subjected before their sale and consumption and is important in determining the safety of food. Some vendors carry out the final preparation with cooking (e.g., frying, grilling, baking, etc.) in open stalls in front of their customers. This exposure tends to inspire confidence and, in many cases, improves the taste and enjoyment of food. However, this does not obviate the necessity of observing the basic rules of food safety which are very well stated in the Ten Golden Rules for Safe Food Preparation<sup>16</sup>.

10.2 Most street vendors plan food preparation in such a way that no prepared or semi-prepared items are left over at the end of the daily business period, but sometimes they do have leftovers. If the latter is a potentially hazardous food and no cold storage (<10°C) is possible, the vendors should be encouraged to discard it or, where appropriate, use it as animal food.

10.3 An important principle in preparing and processing food is to avoid direct and indirect contact between raw and cooked or prepared foods which will be consumed without adequate re-heating<sup>17</sup>. Indirect contact may be caused by an unwashed cutting board, knife or hands. The following precautions may also reduce the level of contamination:

- (a) Grains (rice, pulses, beans, etc.) and vegetables and fruits (especially if they are to be consumed raw) should be soaked and washed sufficiently with safe (preferably running) water to remove contamination adhering to their surfaces.
- (b) Meat, poultry, fish and similar foods should also be washed, but should not come into contact with other food which is to be consumed raw.
- (c) If frozen foods are used they should be thawed before processing. Thawing may be omitted in special cases where the manufacturer recommends doing so.

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<sup>15</sup>Jacob, M. (1989). Safe Food Handling - A training guide for managers of food service establishments. WHO, Geneva.

<sup>16</sup> World Health, November 1988, p. 7 - as part of an article by Dr F.K. Käferstein; also published separately by WHO as a poster.

<sup>17</sup> The use of salt, pepper and other condiments on cooked food shortly before consumption should be excepted from this general rule.

- (d) If food is processed by heat treatment (e.g., frying, grilling, baking, etc.) it should be thoroughly cooked, which means that the temperature of all parts of the food reaches at least 70°C.
- (e) The utensils used for cooking food should not be used for other purposes.
- (f) Foods to be eaten raw (e.g., salads and peeled or cut fruit) should be prepared with special attention to cleanliness. Particular care is also required in preparing and handling food to be consumed by children.

## 11. Transportation and storage of prepared foods

11.1 Ready-to-eat food and beverages should be transported to the sales point in clean, well-protected and covered (preferably hermetically sealed) containers, particularly if transport time is long.

11.2 If foods which easily engender bacterial growth at ambient temperatures are to be transported over long distances, the container should be maintained at a temperature below 10°C. Chemical preservatives should not be used.

11.3 The vehicle used for transport should be clean and should not carry animals, toxic substances or contaminating materials along with the prepared food, unless equipped with a structural barrier to prevent cross-contamination.

11.4 Problems of transport are simplified if the point of sale is near the place of preparation.

11.5 Storage of prepared foods which are left over at the end of the business period should be avoided by preparing quantities likely to be sold. If cold storage facilities are available, the food may be kept for sale after re-heating (>70°C) on the following day. However, it is preferable to recycle or discard leftovers, especially foods liable to encourage microbial growth.

11.6 If cold storage is used, bulk food should not be hot when put into the refrigerator as bacterial growth will occur in the centre of the food which remains warm (above 10°C) for a long time. It is preferable to store food in small, shallow pans to allow rapid cooling of all parts of it.

11.7 It is generally feasible to store dry, acidified and some fermented foods for varying periods in a cool, dry place protected from dust and pests. Storage of dairy-packed sterilized milk, bottled beverages and many canned foods presents few storage problems if they are protected from direct sunshine and excessive warmth.

## 12. Marketing

This represents the final stage in the chain of operations for street vending of foods and is of particular importance in assuring their safety. The requirements for location and structure of sales points have been dealt with in section 5. The following are the other hygienic requirements:

- (a) Sales points, whether stationary (e.g., stalls and kiosks), or mobile (e.g., pushcarts, mobile stalls and tricycles) should be kept in good condition and meticulously clean, especially the working surfaces.
- (b) Prepared foods offered for sale should be protected from dust, insects and exhaust fumes. Foods displayed for sale should be protected by glass, plastic or other suitable coverings
- (c) Containers or cases in which food is displayed or kept should be made of material which does not release toxic substances into the food; they should be easy to clean and kept in a sound, sanitary condition.
- (d) Utensils in which food and beverages are served should be easy to wash and keep clean. Tree leaves and crude earthenware used as disposable vessels for serving food and beverages should be thoroughly washed before use and should not be re-used.
- (e) Take-away food should be wrapped in clean paper, plastic or other suitable material. Newsprint, used paper and other insanitary wrapping materials should not be used in direct contact with food.
- (f) Prepared foods served hot should be kept at a temperature of at least 60°C to prevent microbial growth if the sales period extends over 4-5 hours.
- (g) Cold storage, rarely available to street vendors, would be an alternative, with re-heating for serving. Only the portion required for serving should be reheated (in a way that all parts of it reach a temperature of 70°C or above). Food once reheated should not be put back in cold storage.

### 13. Street-food vending centres

13.1 In some countries it has been possible to locate street-food vendors in specially designed centres. This grouping makes it possible to provide common facilities (potable water and electric supplies, waste disposal equipment, drainage, toilets, vehicle parks, etc.). In addition, common utensils can be centrally supplied and cleaned.

13.2 Food safety provisions such as those of open-air food markets and in some respects, those required by restaurants and stationary food vendor stalls would apply to these centres.

### 14. Street foods at large public gatherings

14.1 Large fairs, festivals and other celebrations in which large numbers of people come together provide a favourable occasion for street-food vendors to do profitable business. The high demand for food may tempt vendors to prepare large quantities in advance and store such food under unsatisfactory conditions before sale. Untrained vendors or persons with inadequate knowledge and experience employed as cooks, waiters, etc. by stall owners may

present special risks. Food served at large fairs and similar gatherings are known to have been the sources of outbreaks of gastroenteric infections, including cholera and salmonellosis, as well as foodborne intoxications such as that caused by staphylococci.

14.2 Control authorities have to be particularly vigilant on these occasions and take measures to enforce hygienic practices. Some actions taken before the event may help in achieving this goal, such as:

- (a) Designating placement of stalls, kiosks, vehicles of ambulant vendors, etc. to assure the smooth flow of people and services into and out of the catering area.
- (b) Organizing and registering the vendors and other food handlers, who should be briefed or trained as required. Particular attention should be given to potentially hazardous foods and to their conditions of handling.
- (c) Providing or arranging for supplies of such essentials as potable water, ice, fuel and transport.
- (d) Providing conveniently located toilets and hand-washing facilities even in a simple form.
- (e) Providing services for collection and removal of wastes, including disposable utensils, if used.

