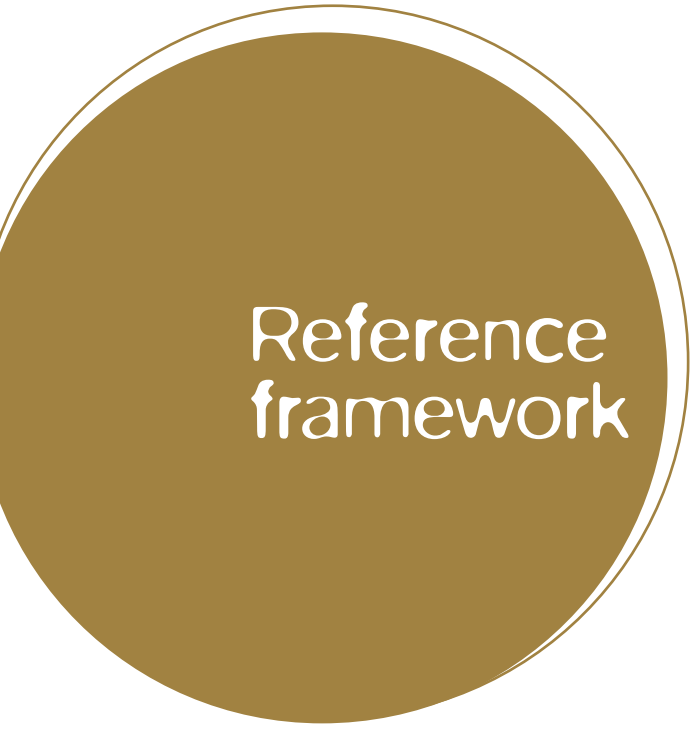
Direction générale de la santé & des consommateurs

AUC Department for Rural Economy & Agriculture

Better Training for Safer Food in Africa (BTSF)

REFERENCE FRAMEWORK FOR HARMONIZATION OF THE MANAGEMENT OF THE FOOD HYGIENE IN AFRICA:

27 August 2010



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1. Context

Food safety is one of the components of the policy of regional integration in Africa. To facilitate the exchange of safe foodstuffs between African states will contribute to the achievement of this objective. However, to reach that point it is advisable to define and harmonise a food safety reference framework (together with the obligations applicable to the manufacturers/producers of foodstuffs), as well as a set of procedures allowing for mutual recognition between African states of the food safety guarantees offered by the establishments engaged in trade in foodstuffs.

This initiative for a Reference Framework is registered as one of the actions of the joint partnership between Africa and Europe concluded at the Summit of Heads of State and governments of the African Union and the European Union in December 2007 in Lisbon.

It was conducted jointly by the European Union (Directorate-General Health and Consumers - DG SANCO) and the Commission of the African Union (Department of the Rural Economy and Agriculture - DREA) in close cooperation with the Regional Economic Communities, the African states and the technical Organizations concerned.

It is intended to promote a public-private partnership as regards safety of food, making it possible to reaffirm the central role of the Central Competent Authorities, and to encourage the operators to increase their level of compliance with the international standards on the safety of food in Africa.

2. Development of the reference framework.

this reference framework, developed within the framework of the program "Better Training For Safer Food - BTSF- Africa " financed by the European Union, was inspired by original similar work of Dr. Richard Bonne and Mr. Franck Boccas, carried out within the framework of a program CEN/ ASEAN (European Committee for Standardization/ Association of the States of the South East Asian) financed by the European Union. This work, based on the requirements of the Joint FAO/WHO Codex Alimentarius Recommended International Code of Practice, General Principles of Food Hygiene, allows for recognition of this reference framework for the purpose of compliance with the SPS Agreement and international recommendations and facilitates the teaching and application of the International standards.

It was elaborated in the process of 10 subregional work-shops [1] which included all the African States and the Regional Economic Communities (RECs) under the joint coordination of the Commission of the African Union and the Commission of the European Union. These workshops closely associated representatives of the Competent Authorities of the African States, the RECs, leaders/managers of food processing enterprises and representatives of Consumer Organisations of African countries. Representatives of the international organizations such as the WHO, the FAO, Codex Alimentarius, UNIDO, ARSO, AVA, etc, also took part in the workshops and actively contributed to the development of the Framework. This broad participation was aimed at a Pan-African consultation and the support of the relevant international organizations in order to take into account specific regional issues, contribute to the process in so far as they did not contradict the objectives of protection of the health of the consumer, and to take into account their views on the developments necessary.

The practical application of this reference framework was tested through use of a guide especially developed for this purpose and other original tools (grid of inspection and an alternative to the decision tree method of the Codex HACCP System) during the 5 regional workshops.

1 Accra (Ghana, July 6, 2009), Brazzaville (Congo, 21 September 25, 2009), Cairo (Egypt, 18-22 October 2009), Johannesburg (South Africa, 23 November 27 2009), Lusaka (Zambia, 7-11 December 2009).

2 Douala (Cameroun, 22 February 26, 2010), Casablanca (Morocco, 15 March 19, 2010), Kampala (Uganda, 19 April 23, 2010), Bamako (Mali, 24 May 28, 2010) and Lilongwe (Malawi, 14 June 18, 2010).

3. Objectives

In a more general way the objectives of these workshops were:

To train trainers in the understanding of The Recommended International Code Of Practice,General Principles Of Food Hygiene (CAC/RCP 1-1969, rev. 4-2003) Alimentarius Codex and the application of the related HACCP system;

b) To develop a harmonized understanding of the standard and methods of inspection by the Central Competent Authorities and the operators in Africa;

c) To train trainers in the application of the harmonized methods of inspection/audit of application of this reference framework;

D) To promote this reference framework throughout Africa for the development of an official system of certification, intended for all the food industry on the continent;

E) To initiate mechanisms of official harmonised certification of food hygiene, as a first step towards the integration of safety systems for food on the continent.

In order to achieve these goals, the participants were invited:

a) To reach an agreement on a technical reference framework to be used by the Competent Authorities of the African States and agri-food business operators for the inspection of food hygiene and the certification of the food companies respecting the Good Hygienic Practices (GHP) and Good Manufacturing Practice (GMP) insofar as they are relevant to food hygiene.

b) To participate in simulation exercises and visits to establishments to practice the application of this reference framework, to strengthen their understanding of the methods of inspection and to learn the lessons necessary to modify the reference framework with a view to its future application and to improve the safety of food and the protection of the consumer.

c) To reach an agreement on the rules that the Competent Authorities of the African States would use for the propsosed system of certification as a starting point for a mechanism of mutual recognition.

4. Field of application of the reference framework

On the one hand this reference framework harmonizes the hygienic conditions for the production of foodstuffs to apply in agri-food establishments. On the other hand it harmonizes the controls of these conditions by the Competent Authorities. It is aimed primarily at establishments in the food sector which market their food products (partially or totally) in one or more African states, provided the countries concerned have adopted this reference framework in their legislation.

4.1. The conditions of hygienic production

This reference framework concentrates on the application of the Good Hygienic Practice (GHP) in the production of the foodstuffs. It is however recommended to supplement the GHP by the implementation of control plans based on principles of HACCP when the control of the critical points can be identified and controlled. In addition it is useful to supplement the reference framework by the use of the the guide to its application (Guidelines to the Application of GMP, GHP and HACCP) and the use of the guide by the operators and by Competent Authorities during official controls is strongly recommended. This very technical guide presents an alternative approach to the decision tree of the HACCP system which allows a fast evaluation (in particular by the controlling authorities) of the relevance of the food hygiene control plans in the agro-food sector. It does not apply to the other aspects which contribute to the quality of these food products. However, concerning the quality of food (other than the food safety component), it is obvious that food products of bad quality or badly preserved or with a very short shelf life will be unsaleable or inedible thus leading to malnutrition or insufficient daily rations. It thus rests with the governments of the African states, if they do not already do so, to implement other compulsory

legal systems to promote the quality of the foodstuffs, their labelling, their nutritional composition, the standards to which they must correspond, the definitions of "niche" products, or organic agriculture etc, and with the professional organizations to structure the market, to segment it if need be, and to enact guides to Good Manufacturing Practice (GMP). So this reference framework, based on GHP will refer to the GMP only in measures which contribute, accompany, support, and supplement the Good Hygienic Practices (GHP).

4.2. Controls

Although-voluntary (indeed no company is obliged to market its products in a foreign country), the step suggested is politically and economically very important in the context of food safety, regional integration, the development of the trade between African states and the fight against poverty. Consequently the control of the application of the reference framework will be carried out under the authority of the competent official services. The establishment in conformity with this reference framework will be certified for the exchanges of foodstuffs between African States. The removal of hygiene checks at borders will reduce the customs formalities at border controls and thus improve the export trade. The competent authorities will carry out controls in these establishments to ensure their compliance, using methods such as audit, or inspection or any other means (evaluation, monitoring, taking of samples etc) necessary to make their judgement. This approval will be demonstrates by a health–mark affixed to the packaging or wrapping of the food products and in the case of unwrapped meat (carcasses) by a stamp with food grade ink. The characteristics of the Competent Authority as defined in this reference framework, and in particular the necessary absence of conflict of interest between the officers in charge of controls and the establishments controlled and certified, make it possible to consider, if it is the wish of the governments of the African States, that certain tasks of controls may be delegated by the Competent authority to third party organisations properly accredited to carry out such functions. In addition, African countries and their food businesses are still often dependent on the importation of certain raw materials, ingredients and materials used in wrapping/packing. The reference framework allows for the future harmonisation of the sanitary arrangements for the importation of the foodstuffs into Africa and control of such imported food products.

The objective of this harmonization is to make more fluid/simplify the exchanges of safe foodstuffs within Africa, the reference framework allows for systems of mutual assistance and exchanges of information between African states.

The Reference Framework also provides for the implementation of electronic systems of rapid alerts and traceability for traded products. Finally the upstream and downstream traceability systems are compulsory in the certified establishments to ensure the reliability of the system and rapid investigation in the event of problems encountered in the traded products.

As this step of certification of the establishments is a conduit for the opening of market and reductions of border controls as well as customs duties, [3] provided that such estabioishments are in compliance with other applicable regulations in the country of origin. (including national requirements as regards hygienic safety of food higher than those of this reference framework, for example, official plans for the monitoring chemical contaminants). These other provisions are in particular the rules concerning the labour laws, laws relating to taxation, of consumption, the social right, the quality of food, the health and welfare of animals. The persons in charge for these establishments must obviously pay to the National Authority the fees necessary for the financing of the implementation of the system of control and certification.

4.3. Establishments

This reference framework is not intended, initially, to be applied:

(1) to establishments whose products are destined exclusively for national market, except where they provide their products wholly or in part to an establishment certified in accordance with this reference framework, and

3 For certain countries, the social or religious obligations will have also to be taken into account to avoid certain difficulties of application of the reference frame by the employees (for example the separation of the toilets men/women)

(2) To retail establishments

(Including the private restaurants or private or public institutions catering for the public. However each African state which regards this reference framework (wholly or partly, or even only its principles) as necessary and relevant for any stage of the food production in its country can apply it to other areas of the food business other than that to which it directly applies. Gradually this reference framework should apply to all the establishments in the food sector not supplying directly to the final consumer (i.e. wholesale trade, private restaurants). However it shall apply "mutatis mutandis" to large catering establishment and to cutting/ processing operations attached to large supermarkets. Thus the establishments producing only for the national market will be gradually targeted by this reference framework, for the purpose of regional integration and to ensure an identical level of consumer protection and of fair competition in trade on all the African territory.

It is important to note that the adoption of food legislation applicable to all the types of establishments of the food sector without consideration of the means and the needs can encounter insurmountable difficulties in implementation. This is likely to put at risk all credibility in the legislation and the ability of the authority to implement it and ensure controls. Indeed, the fact that certain establishments provide foodstuffs directly to the consumer for immediate consumption thus reducing the risks of food poisoning due to the multiplication of pathogenic microorganisms potentially present (provided the such establishments respect good hygienic practices and control specific risks) may allow them to be subjected to less strict obligations. Strictly speaking in the Agri-food sector basic rules of hygiene contained within this reference framework and adapted to the specific activity should be applied to avoid the inherent risk of contamination and multiplication of microorganisms. The progressive application of this reference framework to the operators in the Agri food industry is strongly recommended.

5. Definitions

For purposes of this reference frame, the definitions below apply.

Establishment: any building or area in which food is handled and the surroundings under the same management.

Competent Authority: Means the Central authority of an African State competent to organise official controls or any other Authority to which that central authority has delegated the aforementioned competence. This definition includes, where appropriate, the corresponding authority of a third country.

Audit: The systematic and independent examition to determine whether activities and related results comply with the planned arrangementsand whether these arrangements are implemented effectively and are suitable to achieve the objectives.

Inspection: means the examination of any aspect of food, feed, or animal health and welfare in order to verify that such aspect(s) comply with the legal requirements of food and feed law and animal health and welfare rule .It includes the examination of establishments, their systems of management and production, including the documentation, analysis of finished product, as well as origin of raw materials and destination of finished products.

Traceability: capacity to trace and follow, through all the stages of the production, processing and the distribution, a food, feed, or food producing animal or substance intended to be or expected to be incorporated into a food or feed

Wrapping: the action to place a foodstuff in a wrapper or a container in direct contact with the food product concerned and the wrapper or container itself.

Packing: the action of placing one or more wrapped foodstuffs in a second container and the latter the container itself.

Official control: any form of control that the competent authority for the verification of compliance with food or feed lawand animal health and welfare rules.

Official certification: means the procedure by which competent authority or the control bodies authorised to act in that capacity provide written or electronic or equivalen assurance concerning compliance.

6. Principles general of hygiene of foodstuffs

6.1. Water and energy supply

The establishments must have a continuous supply of potable water and energy (gas, electricity, etc) and if possible should be be located in zones of activity specific to food production.

6.2. Requirements relating to the establishment, the general organization, the construction and the maintenance of the establishment the buildings and equipment

The location, the design of new facilities or buildings or the improvement of the facilities or buildings and new or existing equipment must attempt to respect the principles relating to food hygiene and have as the objective to prevent in an optimal way the contamination of the foodstuffs produced at all the stages of their preparation from the raw material until the finished product, wrapped or unwrapped. Within the framework of this prevention of the contaminantion and risks of the multiplication of undesirable microorganisms, the following points cannot be ignored: the control of vermin, the implementation of a pre-established cleaning plan and the verification of the cleanliness using appropriate techniques.

6.3. Operations and personnel

The operations of production, including the movements of the personnel, must be planned and carried out, in time or space, with the objectives of protecting the foodstuffs, and in particular the foodstuffs most exposed to contamination, (for example, unwrapped food products,) from any contamination during each stage of production and to avoid recontamination of finished products. Within the framework of this prevention of the contaminants and risks related to their multiplication the following points are impossible to ignore: the implementation of Good Hygienic Practices (GHP) in the production operations and a programme for the control of the contamination and/or multiplication by pathogenic agents; the implementation of a personnel health policy and the control of the hygiene of the personnel.

6.4. Climatic Conditions

The influence of the climatic conditions (temperature, humidity), in particular for the countries in tropical zones, must be taken into account in terms of risks of multiplication of the biological agents or conditions supporting this multiplication.

6.5 Water

Water other than drinking water as defined in section 4.4.1 of the standard CAC/RCP 1-1969, REV, 4 (2003) may be used provided it will not represent a risk of direct contamination, immediate or deferred, or contribute to the development of contaminating agents.

6.6. Packing

The Design of the packing/wrapping materials (first container of the food product) and the products used in their manufacture must ensure an optimal protection of the products in order to effectively reduce the possibility of contamination, to effectively prevent damage to the food and allow for labelling, in particular that which is legally required, and information to inform operators and consumers on preservation measures.

6.7. Food Safety traceability and eligibility of the raw materials and intermediate products.

To achieve certification under this reference framework, the companies must set up a documented food safey traceability system making it possible to identify without ambiguity suppliers of the various foodstuffs, including the primary production sector, the ingredients, and the packaging material used in the establishment. This documented system of food safety traceability must make it possible to identify without ambiguity the destination of product dispatched from the establishment

Raw materials and intermediate products entering an establishment certified under this Reference Framework should also be from an establishment certified in accordance with the Framwork and must meet the conditions of the Reference Framework. Imported products must satisfy the same conditions and offer the equivalent guarantees of compliance recognised by the Competent Authority and have undergone veterinary and sanitary controls (national, regional, and subregional) as described in item 6.12

6.8. Processes of conservation.

The processes of conservation of the food (salting, fermentation, maturing, heat treatment /pasteurization, sterilization, refrigeration,freezing) should not be included/understood as a means of stabilisation or consolidation against biological contaminants their toxins or chemicals and are not intended to compensate for failure to implement GHP or to remedy contamination already affecting the product. However the Competent Authorities within the framework of official programs of control/eradication of certain zoonotic diseases may accept certain processes/ treatments. (for example cold treatment of horse/pig meat to prevent trichinose, heat treatment of eggs coming from farms infected with Salmonella, pasteurization of cow' s milk from herds contaminated by Mycobacterium Tuberculosis, etc.

6.9. Verification of the effectiveness and efficiency of control measures and the management of hygiene and hazards.

The measurement of the effectiveness of the good hygienic practices and the measures to control contamination and multiplication of pathogens is a routine evaluation

The measurement of the effectiveness of the good hygienic practice in the control of contamination and multiplication by pathogens will be verified by sampling and analysis.

6.10. Staff training

Staff training must be carried out in order to control in an optimal way the risk of contamination and multiplication of pathogens. Training should be carried out according to a plan and each operator and supervisor should be trained in food hygiene to a level appropriate to the duties to which the operator is assigned.-

6.11. Control of the implementation of reference framework, of approval, (certification) application of the health mark and issuing of health certificates.

The activities associated with the official controls of the implementation of the reference framework, the granting of certification, application of the health mark and the issuing of the certification shall be carried out by the Competent Authority of the African state on whose territory the establishment is suituated. However some or all of these duties may be delegated by the Central Competent Authority to a third party accredited by an accreditation agency recognised to the standard of EN 45011.

6.12 Control of foodstuffs imported from another African country or from countries outside Africa and intended for use in a Certified establishment.

Foodstuffs coming from counties and/or establishments not applying the reference framework will have to be subjected to a harmonized system of hygiene control defined by the Competent Authorities. This control will be carried out at border inspection post or at the point of destination, under a customs procedure approved by the Competent Authorities.

6.13 Information systems internal and external

The Central Competent Authority, in charge of the control of the application of this reference framework, must, by the introduction of an internal system of information management, have the capacity to identify the establishment in a unique unequivocal and unambiguous way. This system will contain in addition to relevant information concerning the establishments, the reports of the control activities carried out by the competent authorities, the actions to be carried out and follow-up actions.

The Central Competent Authority in charge of monitoring the application of the Framework for each country taking part in the process will provide to its partners (under a harmonized, defined, and approved format) the information necessary for the identification and registration of the establishments approved under the terms of the Framework. -

Each Central Competent Authority will commit to participate in a network of mutual co-operation and exchange of information with the Central Competent Authorities of the other African states, in particular at the time of food safety problems encountered in an establishment certified under this reference framework whose products have been or could be dispatched to other countries. This participation will be done through systems of rapid exchange of information, food safety alerts and product traceability, and in particular by the use of electronic certification of the foodstuffs exchanged and/or imported into Africa, where such systems are available.

6.14. Guide application of the reference framework.

It is strongly recommended that this Framework together with the Guidelines to its application, (Guidelines on the application of GMP, GHP, and HACCP) as approved by the African States, be used by the management of Agri-food establishments and the official authorities in charge of the controls. It is obligatory that the particular provisions described in the appendix to this Framework be respected.

6.15. Monitoring of the application of the reference frame and resolution of the conflicts.

The Regional Authority and/or Subregional Authorities are responsible for the supervision of the proper and uniform application of this reference framework, mainly by the evaluation of the organization of the competent authorities and their enforcement activities.

It is also the responsibility of the Regional Authorities or the Subregional Authorities to establish the rules for the resolution of the conflicts between African states concerning the application of this framework. This is particularly important in the event of a risk to public health, suspected or proven, so that the protection measures taken by the African states in reaction to these threats are appropriate and proportionate to the risks.

6.16. Revision

This reference framework and its appendices can be revised, in particular following an evaluation of its application or to take account of the administrative changes and scientific and/or technological advances. In particular the references to the Codex standards referred to in the reference framework-should be updated if these references are modified by the Codex procedure.

7. Particular provisions

The following provisions are applicable to this reference framework.

- Appendix 1 relating to the establishments and the operators in the food sector; and
- Appendix 2 relating to the recording and the certification of the establishments by the Competent Authority.

The practical application of the provisions will be facilitated by the use of the guide developed to assist in its application (Guidelines on the application of GHP, GMP and HACCP)

Appendix 1: requirements relating to the establishments and the operators of the food sector

8. Identification and recording of the establishments

In order to satisfy the conditions necessary for a traceability system as well as the needs of the Competent Authority in the management of its control function, the following details will be necessary for the identification of the establishment.

- Name of the establishment. (And trade mark if it is different).
- Name of the legal person in charge.
- Name of the manager responsible for the "food safety control plan".
- Legal status of establishment (SA, limited liability company, etc).
- Complete address (postal or physical): n°, road, locality, city, administrative subdivision of location (area, district, department, etc), country.
- Telephone, telefax, Internet address.
- Branch of activity in the Agri-food sector.
- Volume of activity (defined by: the volume of production, staff numbers, and other criteria retained by the Competent Authority…).
- Current volume of export and countries of destination (for exporting establishments).
- Official registration no. (Trade register, national register of the companies, licence, etc).

9. Conformity of the buildings

The design of new buildings or the improvement of the existing buildings and equipment should the respect of the following principles.

9.1. General principles.

9.1.1. Environment and site location.

The location of the establishment should not present sources of contamination constituting a threat for the safety of food. It must in particular be free from:

- zones which are polluted or with industrial activities representing a potential sources of contamination of food;
- Zones presenting a risk of air pollution;
- Zones prone to flooding;
- Zones which constiture a potential source of infestation by vermin;
- Zones where solids or liquid waste cannot be effectively removed;

Where the environmental conditions allow, a protection fence should be erected around the establishment.

9.1.2. Supply of water and energy

The establishment must be provided with water and energy and the supply must be guaranteed by the providers. Where possible, substitute sources (such as storage tanks and electrical generators) to be used as necessary should be provided.

9.1.3. Structure of the establishment [4]

The structure of the establishment must respect of the following requirements.

The establishment should have at least four doors.

- A door for the entry of the raw materials.
- A door for the entry of the production personnel.

[4] If the general organization of the establishment does not make it possible to satisfy both preceding principles, separation in time rather than in space, of incompatible activities, constitute an acceptable alternative..

- A door for the dispatch of the finished products.
- A door for the disposal of waste.
- A fifth door may be necessary in some establishment for the reception of wrapping and packaging materials.

The onward flow ptinciple:

- The production operations should ensure a forward progression of the product, without back return, from the lowest level of development to the highest, from the least hygienic condition to the most hygienic, and from the least susceptible condition to the most susceptible. In order to comply with this rule, the operators should not move around the production area but should remain at the work station to which they are assigned.

Criss crossing of the products lines:

- Production lines should not cross each other. They can be connected (assembly of ingredients, in a previously washed package) or split (lines of by-products obtained during the preparation of the principal product)

The separation warm and cold zones:

- The zones where warm food products are treated and the zones where the cold food products, (chilled or frozen) are treated must be clearly differentiated and separated to avoid thermal pollution and to maintain the cold chain.

The separation of the clean areas from the dirty areas:

- The waste produced at each stage of manufacture must be removed from the production area as directly as possible and conveyed to the treatment facility or the designated storage. (Local dustbin).

9.1.4. Supply drinking water [5]:

To properly carry out its activities the establishment must be supplied with sufficient quantities of cold and hot potable water.

- The potable water pipework and non potable water pipework (for firefighting, steam production, cooling circuits) must be clearly separated and identified (colour coding of the pipes).
- The potability of water used in the production of food or is used for washing food or washing the establishment, must be assured. This potability must be certified by the supplier when supplied by a local authority. In the case where a well, a spring, or an intermediate tank of storage tank is used the testing must be carried out by an officially recognised laboratory.
- Ice or steam, intended to be in direct contact of food, must be produced from potable water.

9.2. Rules of construction

The floors must be:

- Smooth.
- Impermeable.
- Non-slippery.
- Resistant.
- Easy to wash and disinfect.
- Not subject to rot.
- Have adequate slope in order to allow the natural flow of waste water towards the drainage system.

The walls must be:

- Smooth.
- Light coloured.
- Easy to wash and disinfect.
- Made from non toxic material.

5 For the products of the sea, the principle of use "of clean sea water" for cleaning of products and of the material can be retained.

- Shock resistant up to a height of 2 meters.
- Bonded to the floor with semi-circular joints to facilitate cleaning and disinfection.

The doors must be:
- Made from smooth material resistant to impact.
- Easy to clean and disinfect.
- Tight fitting to prevent the entry of pests.

The windows must be:
- Easy to clean.
- equipped with fly screens which can be dismantled for cleaning.
- Tight fitting to prevent the entry of vermin.

The ceilings must be:
- Light coloured.
- Smooth.
- Easy to clean and disinfect.

Passive or active ventilation must:
- Ensure the extraction of the vapors and the fume.
- Reduce the risk of condensation and contamination of the foodstuffs.
- Contribute efficiently to regulating the temperature in the food preparation area.

Lighting must be:
- Bright.
- Not modifying the colors of the foodstuffs.
- Protected from the impact, and designed so as to avoid glass falling into the food during preparation.

The system of drainage must be equipped with grids and Ubends to avoid [6] :
- Obstruction of drains by the accumulation of waste,
- The entry of rodents in the buildings.
- The reflux of waste water.

9.3. Conformity of the material and the equipment

Furniture must be:
- Smooth.
- Easy to clean and disinfect.
- Durable/non corrosive
- Stainless.

Compliance with these rules prohibits the use of the paperboard or adhesive tape for manufacture of furniture (or to carry out temporary installations or repairs) or in general the use of untreated wood. The use of undressed wood of good quality, can be accepted (or officially authorized) in certain sectors of agri -food production where it traditionally used. (Bakery, repening of cheeses, etc).

The materials used for the manufacture of tables shall be:
- Smooth.
- Light coloured.
- Easy to clean and disinfect.
- Durable/non corrosive.
- Non toxic.
- Impermeable

[6] Various devices for treatment (or pretreatment) of waste water must be installed if necessary (legal obligation, protection of the rivers, etc).

Compliance with these rules prohibits the use of undressed wood or cardboard, or porous or rough materials like concrete. The materials most often used are stainless steel, plastics, or earthenware tiles.
The use of the wood undressed wood of good quality, can be accepted (or officially authorized) in certain sectors of agri-food production where it is traditionally used (bakery, etc).

The small equipment (hand tools) must be:

- Inalterable in all its parts.
- Easy to clean and disinfect.

Compliance with this principle generally prohibits the use of wood even for the handles of tools. The materials most often used are the stainless steel, aluminium, plastics.
However, in some sectors of the agri-food production, the use of small tools made from of wood can be accepted (bakery, etc).

The machines must be:

- Manufactured in inalterable materials.
- Easily dismantled.
- Easily cleaned.

Where possible (and when new equipment is being installed) equipment should not be placed close to walls to allow for proper inspection and cleaning and to facilitate rodent control.
The vehicles used for handling, in the areas where food is manufactured or stored should not emit fumes which could constitute a danger to the food or to the health of the operators.

9.4. Sanitary facilities

Sanitary facilities must be provided at the establishment, (suitably suituated so as not to be a source of contamination of areas of production or storage) in sufficient numbers for the operators to maintain a level of personal hygiene compatible with the handling of the foodstuffs.

These installations must include in particular:

- Operational toilets designed in accordance with the rules of hygiene;
- Adequate changing facilities (separate for men/women), equipped with showers with hot and cold water, where the personnel can change;
- A locker with two compartments (or two lockers) per operator in order to provide separate storage space for personal clothing and work clothing;
- Cloakrooms and toilets should be physically separated;

9.5. Maintenance (preventive and corrective)

The state of conformity of an establishment and its equipment depends on a maintainance plan based on the following.

- The implementation of a plan of preventive maintenance, based on routine maintainance carried out, in particular, on the refrigeration, mechanical, hydraulic, and electric equipment;
- Notification by operators to maintainance personnel of damages to installation as soon as they appear;
- An up to date register of preventive and corrective maintainance which were carried out;
- Periodic calibration of the measuring instruments used in the establishment;

9.6. Storage of the chemical substances

All chemical substances and in particular those which are used in vermin control and those used for cleaning and disinfection must:

- be stored in a locked room (or storage press) specific to the purpose;
- be stored and handled under conditions designed to reduce cross contaminations, caused by errors of handling or by accidents;
- be labelled, indicating the active substances and information on the safe use of the substances.

9.7. Pest contol plan

The pests generally considered are rodents and the insects. In certain sectors (Hypermarkets or other large spaces) birds which settle in the superstructures of the buildings, or cats (slaughter-houses) which soil the environment while attacking the stored food products are considered pests. In subtropical zones, small amphibians and chéiroptères infesting the buildings are also regarded as pests.
Stray domestic animals, can like the vermin soil the environment and attack the stored food products. They must also be taken into account (if possible they should be excluded by a perimeter fence)

9.8. Passive control, maintenance of surroundings and outbuildings

In order to prevent the settlement of pests in the surroundings of the establishment, i.e. not to provide them places of refuge or sources of food it is necessary to have correct management of the environment which includes:

- Isolated storage of unutilised materials, pallets and machines away from contact with the walls;
- Design and the maintenance of external spaces including:
  - The elimination of holes and spaces in waste land with high vegetation;
  - The elimination of the stagnant water pools;
  - The regular cutting of lawns;
  - The absence of rags, papers, plastic films and other detritis on the ground (constituting a source of materials for construction of nests for rodents).
- Maintaining the interior surfaces (racks, tops of pieces of furniture) clean so as not to leave food sources for insects and rodents.
- Tidying and cleaning of buildings (machine shop, boiler room, refrigeration room, power station, and electrical equipment boxes, etc) to avoid rodent settlements.
- The installation of mosquito nets on the windows.
- The rigorous management of the waste containers which must be:
  - maintained clean so as not to attract insects;
  - stored on a clean surface and easily cleaned area (with a source of cleaning water and drainage for waste water);
  - kept closed (so as not to be used as food resource for all types of pests);
  - Not filled to overflowing (so that there is no food waste on the ground);
  - manufactured from a waterproof material, easy to clean and disinfect;
  - frequently removed from the production area;

9.9. Active Control

9.9.1. Detection

Rodents:

- Search for rodent droppings or traces of urine.
- Search for attacks on the food products (teeth marks) or their packaging (torn bags).
- Presence of traces of grease of rodents on the regular passages.
- Search for rodent nests.

Insects:

- Search for dead insects.
- Search for live insects in places of refuge (drawers).
- Search for and carefully remove dead insects from electic insects traps/collectors.

9.9.2. Rodent control plan

This plan consists of a complete set of documents, defining actions to be implemented, and including:

- Technical cards for the rodent poison used;
- Procedure and scheduling of control operations, including the checking and renewal of bait points;

The frequency and procedure of the inspection, search, and evaluation of possible infestation, in particular by counting dead rodents when opening the traps;

- Details of additional treatment in the event of a residual infestation;
- A factory plan on which the location of the poison baits is identified;
- Indicators on the wall of the premises indicating bait points;

9.93. Insect Control Plan

This plan is composed of a complete set of documents defining actions and procedures to be implemented and includes;

- Technical cards for the insecticide used.
- The procedure and frequency of insect control operations (walls, insecticidal paint application and renewal, and spraying of the premises with insecticide).
- The procedure and frequency for emptying traps and trapped insect and monitoring in order to evaluate the level of infestation.
- A factory plan on which the location of poison baits for crawling insect and electric insect traps are identified.

9.9.4. Chemical substances used in pest control:

These substances must be approved for the purpose. Their delivery and storage must be accompanied by clear documentation indicating the proper use, the storage conditions, and safety precautions, and actions to be taken in the case of an accident.

10. Suppliers and controls at reception

10.1. Suppliers

The raw materials or intermediate products must come from establishments presenting the same guarantees in terms of food safety as the establishment intending to export to other African states, or equivalent guarantees for imported products. This equivalence shall be determined by the Competent Authority of the importing country.

10.1.1. Specifications for raw materials

In order to have a sound bases for controls at delivery, the characteristics of the raw materials must be specified precisely.

The conditions of acceptance or rejection of the batches must also be clearly defined, and using specifications for each raw material, a chart will be drawn up which should include:

- Labelling, in particular, food safety official marks and elements of traceability;
- Type of packaging defined by its nature, its volume, its shape;
- Integrity of packing and wrapping
- For the imported foodstuffs, health certificate and import documentation in good order;
- Storage temperature for perishable goods;
- Microbiological standards and the formulation defining: the physicochemical composition, presentation, particle /chunk size and variability, physicochemical constants, (pH, Aw, salt or sugar concentration, viscosity of the liquids);

Purity criteria, applying to the raw materials and to packaging:

- Absence of residues (heavy metals, pesticides, hydrocarbons, solvents);
- Absence of certain foreign bodies (plastic, wood, glass, metals, mineral particles, body of insects, feathers, hairs, etc);
- Particular specifications relating to the conditions under which the raw materials are produced, may be included insofar as these can influence the safety of the food (general hygiene or specific risk of contamination).

10.1.2. Preferential choice of suppliers:

Preferential choice will relate to suppliers complying with:

- Certification (ISO 9000 or ISO 22000 or YEWS for example);
- Other type of certification (Halal, Kosher, vegetarian, without GMO);
- Any other international approval (the EU, the USA, Japan for example);
- An accreditation or a reference from a recognized customer (National Defense or large supermarket chain).

10.1.3. Preferential choice of suppliers following a visit to the production facility

10.2. Controls at reception

The effective implimentation of the reception control checks is achieved by the use of control /recording cards completed at the time of delivery and filed.

10.2.1. Control sheets at reception

These cards must make it possible to at least control the criteria according to:

- The official food safety approval number of the establishment or the health certificate for the imported products from countries outside Africa,
- The health certificate accompanying the products exchanged between African states having adopted the reference framework.
- The temperature of the product at reception (refer to appendix 3 of the guide to application of this reference framework concerning the calibration of the measuring instruments);
- The Expiry date or the Best Before date.
- The presence of a batch number necessary to operate the system of traceability upstream and downstream.
- The integrity of the wrapping and packaging material;
- The cleanliness of the delivery vehicle, which must be spefically designed for the transport of foodstuff (food grade material for containers, thermal insulation, or refridgeration).

Other criteria can be checked according to their importance. In all the cases, the number of checks must be limited, in order to make possible effective and efficient control.

Details of the parameter checked/inspected can be recorded in a variety of ways, perhaps either on check cards or by use of an inspection grid printed from by a stamp on the reverse of the delivery orders.

10.2.2. Organoleptic criteria

The criteria given in the "specifications raw materials" must be confirmed and must be recorded. Products which are not fit for human consumption must never be used in the process.

10.2.3. Temperature controls at reception

This measurement is necessary when the temperature is essential to ensure food safety (food of animal origin). The temperature must be measured in the products themselves, or at their contact, in the delivery vehicle or immediately after delivery.

After the doors have been opened the temperature in the delivery vehicle shall not be considered to be significant.

The values of the temperatures defined in the appendix to the guide to the application of this reference framework are to be respected with a tolerance of +/- 4°C at the time of the delivery.

10.2.4. Other essential criteria

Other essential criteria may be taken into account and can be integrated into the delivery recording documents:

- If necessary, the date of production or packaging (canned or frozen products) in plain or coded form;
- The conformity of the labelling (of the packaged products) in particular the official food safety marks, the composition of the product and the listing of the additives used.

10.2.5 Recieving (into storage) procedures for raw materials following delivery checks and initial decontamination operations

The Some care must be taken during the introductionof raw materials into storage:

- The maximum time between the arrival of the raw materials and their storage under specified conditions (chilled rooms, cold storage, etc) must be defined and respected.
- Soiled packing (cardboard wodden pallets, etc) shall be removed before placing the raw materials in clean storage.
- If plant products (vegetables, fruits, etc) undego a decontamination treatment by steeping in disinfectant solution (chlorination, ozonisation, etc) the concentration of disinfectant and holding time (max an/or min) must be defined and respected.

10.2.6. Procedures of rejection

The application of a rejection procedure must correspond to the conditions for rejection established in contract with the supplier.The following must be recorded on the card of rejection:

- Reference identifying the rejected batch (identification, composition);
- The reason for the rejection by referring to the conditions contained in the supply contract;
- Signatures of the conveyor and the receiver.

11. Personnel hygiene policy

The enforcement of this policy depends on the food factory occupational health care management system. It is nevertheless necessary to recommend the following provisions:
The presentation of an certificate of fitness to handle food at the time of initial recruitment and then at least annually (or more frequent in certain countries) or after any prolonged period of sickness, for each operator engaged in the handling or manufacturing process

- A systematic monitoring of the staff by clinical examination of the arms hands face throat and other exposed skin carried out by a medical practioner with appropriate experience of food handling requirements.
- A systematic monitoring, for potential Samonella carriers (probably subject to frequent bouts of diarrhoea) by consultation with a medical practitioner for industrial medicine.
- Enforcement of detection procedures for employees likely to carry Staphylococcus or Salmonellas, by way of bacteriological analysis.
- Medical treatment for those diagnosed positive with any of the above micro-organisms and temporary exclusion from process areas, without penalty, so as to ensure staff confidence in and cooperation with the scheme.
- Temporary exclusion when justified from process areas and medical treatment for employees with complex or purulent hand wounds or other clinical sign (coughing, diarrhoea, fever, etc) (without penalty so as to ensure staff confidence in and cooperation with the scheme).
- Availability of first aid kits, regularly resupplied, to allow the treatment of wounds and their protection with protective bandage.
- Employees shall be aware of the need to report to management any health incident presenting a potential risk to the consumer.

12. Hand hygiene

Hands, which are frequently in direct contact with foodstuffs, need to be considered as the first operational tool. For this reason, detailed attention must be given to their cleanliness (just as with any equipment placed at the operator's disposal) and to the hand washing regime. If not subjected to strict hygiene rules, hands constitute the first vector of contamination of foodstuff by microorganisms passed on by the operator, (potentially pathogenic).
In order to reduce the risk of contamination of the hands, in all areas where foodstuffs are being handled, waste bins must be equipped with opening mechanisms which are not hand operated (pedals etc).

12.1. Wash hand basins

Wash hand basins shall be installed in a sufficient number, at the working stations or near these stations, as well as the exit from the staff rooms (toilets, cloakrooms, rest rooms, refectory, etc)
Wash hand basins shall conform to the following principles:
Water flow shall not be operated by hand, but by foot or knee or by an automatic presence detector and shall be supplied, where appropriate, with hot and cold water and a mixing valve.
Liquid (or foam) soap shall be bacteriocidal but not a skin irritant (this excludes toilet soaps without bacteriocidal effect).
Soap dispensers shall be placed in a position adjacent to the hand basins.
A second dispenser reserved for a disinfecting solution (e.g. of alcohol solution) can be associated with the liquid soap dispenser.

- The device for drying the hands must be of single use (paper towels being in practice, the only possible onsolution)
- Pictorial notices demonstrating the hand washing procedures shall be posted close to the hand wash basins.
- For the majority of the agri-food industry nail brushes should be placed at the disposal of the operators. Nail brushes must be entirely of synthetic material (handles and bristles) and shall be kept in a clean disinfectant solution which should be renewed after each work period.

12.2. Hand washing procedure

- It must be the subject of part of the continuous training scheme of the personnel;
- The wet hands coated with cleaning product must be rubbed for a period 20 seconds (the operator counts in his head: 101… 102… 103… up to 120);
- the rinsing of the hands, which are rubbed under running water, must last for a period 10 seconds at least (using the same method of calculation of time);
- The drying of hands is not always necessary, being unnecessary for certain types of activities;
- If a disinfecting solution is used, the operators must let it dry spontaneously on the hands without wiping it;
- Control of hand cleanliness can be achieved by visual inspection and /or microbiological tests, if necessary carried out under the supervision of the workplace doctor.

12.3. Frequency of washing of the hands

Since ffective hand washing takes a long time, strict definition of the frequency and circumstances of this procedure is needed. Hands must be effectively washed whenever and wherever their contamination is practically certain. The washing must be carried out immediately after dirty operations. This will restore hands to satisfactory cleanliness and will prevent anything in contact with hands from gross contamination. If contact points are themselves grossly contaminated, hand hygiene is not possible because, as work continues, they are immediately re-contaminated.

12.4. Complete hand washing after the operations or dirty situations

These operations are practically the same in all the branches of industry:
Arrival at the work station.
Passing through and/or using toilets or changing rooms.
After blowing the nose.
After handling dustbins.
After handling cardboard boxes at delivery (cardboard box bases are often very dirty).
After handling eggs shells (frequently contaminated by salmonellae).
After handling vegetables direct from the soil.
After handling game or poultry 'in fur or feather'.
While passing from raw food production areas to cooked food product areas (i.e. from low risk to high risk areas).
In this case materials used (cutting boards, knives, etc…) must similarly be changed or correctly cleaned.

12.5. Quick hand washing before conducting clean operations.

There are various clean operation specific to each branch of industry (cooked meat cutting, assembly of pastry ingredients,…) and do not require a thorough washing of hands, if the operators have systematically taken the precaution to wash their hands after the dirty operations, and if the hygiene of the points of contact is controlled.

12.6. Hygiene contact points

- The points of contact must be listed (handles of door of refrigerator, handles of machines, handles of ustensils, electric switches, etc),
- These points of contacts must be the object of a meticulous cleaning, daily, or at each time work is resumed at the work station or with each change of operator.

12.7. Additional rules

No smoking, taking of snuff, eating or chewing at the work station, in the work place or whenever wearing work clothes.
No tasting of food involving hand-to-mouth action.
No rings, jewellery or watches to be worn (even if wearing work gloves).
Maintain neat short finger nails.
No nail varnish or perfume,
The washing of gloved hands must be carried out using the same procedure as for bare hands.
No reuse of disposable gloves after removal.
Never use perfume on hands in order to avoid transmitting smell or abnormal taste to foodstuffs.

1.2.8 Work clothing hygiene

12.8.1 Clothing behaviour

In agro-food industries, clothing can be a major vector in food contamination. Unclean work clothing can be a source of contamination for hands, whenever it is used to wipe them. In certain sectors, such as butchery, clothing is in direct contact with handled carcasses, (e.g. in shouldering carcasses when loading/unloading delivery vehicles).

The Work clothing design and its management must respect specific principles.

- It must of a standard type, preferably light colour and provided by the company, and adapted to the different activities of the company.
- It must put in a locker (or a compartment of cupboard) physically separated from personal clothing.

- The locker shall be maintained clean, shall not contain unprotected food and be design to prevent access by pests.
- The colour, or the colour of one of its elements (cap, overall), may be specific to a work station or a zone of assignment of operators (for example "clean" and "dirty" areas).
- It includes a cap or net which covers all hair – this includes snoods for moustaches and beards (head covering may also be worn for other purposes, such as shock proof helmets).
- A net must also (if necessary) cover the beard; the moustache may be covered by the nazal/ mouth mask,
- It must include shoes (crush proof and non-skid) which are only worn in the factory (foot wear shall not contaminate work wear in a locker)
- It must be laundered by the company or under its control (e.g. by contract with an industrial laundry).
- in all the cases, the washing procedure must guarantee against any cross contamination by linen intended for another use or of another source,
- It must be resistant to:
  - Mechanical actions (tears).
  - Fire.
  - Must be capable of withstanding frequent washings.
  - The obligation to wear compulsory work attire (or protective clothing for visitors) shall be notified by notices at entry points to food processing areas.
  - Operators shall never arrive at or leave the establishment wearing their work attire.

12.8.2 The hygiene of the boots and/or the shoes

The control of the hygiene of the boots and the shoes requires should respect the following requirements:

- Permanennt devices (boots or shoes wshstands) or moveable devices (trays on the ground), containing a disinfecting solution, must provide for cleaning/disinfection of the shoes or the boots before entering the production zones.
- Equipment for the washing of footwear may not be manually operated;
- They must be supplied with water, detergent, disinfecting, a suitable brushing system;
- The concentration of disinfecting must be controlled and maintained at an effective level during the whole of the processing period.

13: Premises hygiene-cleaning plan

13.1 General principles

At least two copies to the cleaning plan should be available:

- A complete version of the document held and updated by the quality management department and to which are annexed the charts for the products used in cleaning/disinfection as well as directions for the use of the machines used in the cleaning process.
- An abridged version allowing each cleaning operator to have only that part of the plan relating to the operators particular duty.

In the cleaning plan file, task checklists should be included included as well as the target results of microbiological test on surfaces after cleaning.

The cleaning task must be followed up by checks to monitor its effectiveness and the results of such checks must be recorded. Conducting microbiological analyses of surfaces makes it possible to check the effectiveness of the cleaning plan.

Good hygiene of the buildings envolves the creation of a cleaning plan. The use of the method known as of the "WWWWWH" makes it possible to draft a suitable plan of cleaning. The nature of the first question put during the application of the method of the "wwwwwh" guides the principle of the general organisation.

"When"? Cleaning tasks will be will be organized per day, week or month;

- "Which? The tasks of cleanings will be organized by an individual or a team;
- "What"? The tasks of cleaning will be organized according to the buildings the department or the equipment.*

*See guidelines on the application ofGMP, GHP and HACCP

13.2 Cleanliness of tools during Production

During use, the manual tools must be the subject frequent cleaning/disinfection, by rinsing and placing in a sterilizer with hot water at least 82°C:

Or several tools may be used and placed alternatively in the sterilizer;

- Or all the tools are changed periodically to be replaced by clean and disinfected tools (every hour, every 30 minutes, etc);
- Any other equivalent method, allowing a frequent cleaning/disinfection of the manual tools, can replace the use of sterilizers with hot water.

These operations of "cleaning/disinfection" of the manual tools must be carried out:

- After work on a soiled product (eg hide cutting in slaughter-house)
- Before passing from work on raw foodstuff to work on cooked products.
- In some operations, such as hide removal in an abattoir, operators are required to pass the tool from one hand to the other. In this case the secondary hand, already soiled, becomes the operating hand which holds the tool. Care needs to be taken to ensure effective cleaning of both tools and hands.

14 Hot and cold texhnologies an the formulation of foodstuffs

14.1 Cold Chain Technology

The application of cold chain technology allows for a routine control of physical parameters (time and temperatures), their monitoring and their recording. The monitoring of these parameters (and their recording), for each batch stored or processed, allows the introduction of CCPs, if a hazard risk analysis indicates that it is necessary and in the context of the food safety management plan established by the business.

In general, cold storage (frozen or chilled) is reserved for high quality products. Cold application (freezing or chilling) needs to be conducted as quickly as possible and the appropriate low temperatures maintained continuously until further processing or consumption. This continuous application shall when feasible, be monitored by temperature measuring and recording either manually or by automatic devices. If necessary, food establishments in the primary production sectors (fishery or dairy products) must be equipped so as to ensure cold storage of collected products and maintenance of an appropriate temperature during storage.

14.1.1 Chilling

Chilling is the application of non-freezing cold temperature conditions to preserve foodstuffs. This technique causes the slowing down (not cessation) of deterioration. Consequently, it can be applied to foodstuffs only for relatively short periods according to food type, e.g. 2 or 3 days only for minced meat, or perhaps a few weeks for some pasteurized products.

Temperature of refridgerated foodstuff:

- The temperature of storage is an important parameter for the safety of the cooled perishable goods (food products of animal origin in particular). It must be measured in the products themselves, or at their contact.
- The values of temperature defined in the appendix n° 4 of the guide to the application of this

reference framework are to be respected with a tolerance of + 2°C during storage;

- After the doors of a cold room are open, the temperature of the ambient air should not be regarded as a significant value.

Additional rules for the management of the storage of the cooled food products:

- These additional rules are detailed in the guide to the application of this reference framework.

14.1.2 Refrigerated vehicles of transport

The refrigerated vehicles must be regarded as mobile cold rooms and for this reason their performances and their use must be regarded as being identical to those of the fixed cold rooms.

14.1.3 Quick Chilling.

This technique relates to mainly the products cooked in advance as well as pasteurized products, after they have undergone a treatment of partial decontamination by heat. It makes it possible, in practice to reduce the microbial activity (mainly multiplication) by a quick reduction of the temperature, but also by reducing the water activity at the surface of the product This second aspect is most useful in abbatoirs.

The implementation of this quick chilling technique must comply with certain principles:

- the internal temperature of the cooked products must go down from 63°C (or more) to 10°C (or less) in less than 2 hours.
- The method of reheating of refridgerated foodstuffs prepared in advance must allow the core temperature ≤ 3°C of the product to rise to a core temperature of ≥ 63°C in a maximum of 1 hour;
- Quick chilling cells or any other method giving similar performance may be used (such as a bath made up of water + ice)
- Dividing the mass of the product into smaller quantities makes the achievement of good rapid chilling possible.
- to ensure the attainment of the required performance for each batch identified the product core temperature and the time shall be systematically measured and recorded from chill start to finish.
- These measurements and recordings can possibly be used as a basis for setting-up of CCP, if the business has decided to use the HACCP system.

14.1.4 Freezing

Freezing is the application of negative temperature for the preservation of food. Freezing inhibits any microbial activityl (through the withdrawal of available water and low temperature) and it strongly retards deterioration of biochemical origin (such as rancidity). Consequently the frozen products can be preserved for several months (some for possibly 12 months, although some products can be preserved for longer periods subject to strict control and possibly testing before use).

Temperature of preservation of frozen products

- The temperature of storage is an important parameter for the safety of the frozen food products. It must be measured in contact with the product or possibly in the products themselves (dairy ice creams);
- The temperature values set down for foods chilled or frozen in appendix 4 of the guide to the use of this refrence framework are the higher limit values to be respected but better preservation can be achieved using of temperatures which are colder especially over longer periods of storage.

Additional rules for freezing/deep freezing of the food products:

- These are detailed in the guide of application of this reference framework.

14.1.5 Defrosting

Frozen foodstuffs generally not usable in that state are frequently subjected to a defrosting phase prior to use.This process can be the source of a hazard if not carried out properly so the process must obey certain rules.
Defrosting must be carried out using appropriate methods in conditions of controlled temperature so as to ensure that all parts of the product undergoing defrosting do not rise above normal positive cold storage temperatures, or it is carried out quickly enough not to compromise the safety of the food.

Defrosting can be carried out:

- By placing the large parts frozen pieces in a chilled room in advance,
- By using microwave technology.
- By direct cooking of the frozen product,
- For the small pieces of product frozen in a protective packagea hot wate bath actively kept to the boil can be used.

Defrosting should not be carried out:

- At ambient temperature;
- In a tepid water bath.

14.2 Heat technologies

The principal techniques based on the use of heat are four:

- Direct heating;
- Cooking;
- Pasteurization;
- Canning (or sterilization in can, bottles, or other pack.

The three last techniques of this list, present similarities:

- They have a reducing effect (more or less thorough) on the microbial flora of the food products
- Their effect can be quantified by a reference value:
  - Cooking value
  - Pasteurisation value
  - Sterilisation value
- This quantified value results from the combined effect of time and the temperature.

The application of these techniques can thus lend itself to the routine inspection of the physical parameters (time and the temperature) and to the recording of the results obtained.The monitoring of these values, for each batch manufactured or stored by the business, will allow the introduction of CPC, if a risk analysis so indicates in the context of the application of a HACCP.
The application of these technologies is subject to common rules and some particular rules.

14.2.1 Rules suitable for cooking

- The temperature and the duration of cooking must be subject to measurement and recording (time and temperature).
- Cooked products meant for immediate consumption should not be kept for more than 2 hours at a temperature of ≥ 63°C.
- Constant unit volumes of food batches make it possible to reproduce identical cooking conditions for all manufactured batches.
- For products cooked in advance quick cooling is essential. (Fast cooling should be carried out by a method discussed in the earler paragraphs).

14.2.2 Rules common to pasteurization and canning

The reducing effect of these two methods on the microbialflora of food can be quantified by a reference value

- Pasteurisation value or;
- Sterilisation value;
- A series of preliminary tests makes it possible to establish a reference scale for sterilization (or pasteurization) for each type of product.
- The evolution of the time/temperature combinations for effective processing must be checked and recorded;
  - By measurements carried out with regular intervals,
  - By the plotting of a graph plotted by automated devices.
- Canned foods must undergo a sterilisation process guaranteeing their stability under their usual storage conditions.
- The shelf life of the pasteurized products is established by the manufacturer (his responsibility), on the basis:
  - Pasteurisation value obtained by the treatment applied, time/temperature;
  - Stability tests by incubation or ageing test and prolonged storage of the product.
- The complete sealing of the packages into which products for processing are place must be controlled and ensured (cans, bottles, jars, sachets…)
- Damage to the seals or accidental opening of the containers or accidental damage, compromises the long term preservation of the product.
- Any accidental damage to the containers, must systematically involve the rejection of the product.
- Each batch treated must be composed of identical products:
  - Of the same physico-chemical composition (formula, acidity, Aw, viscosity, granulometry, etc)
  - Of the same size
  - Of the same shape
  - In the same packaging material.

14.3 Formulation of foodstuffs

For foodstuffs (products salted, dried, acidified, etc) which are preserved by physicochemical characteristics (acidity, water activity, etc) that are predefined it is essential to apply the formulation carefully and to check it strictly.

The formulation of food depending on their physicochemical characteristics:

- pH (acidity) The control of the standard value of the pH (acidity/alkalinity) for these products, must becontrolled, either by the direct measurement of this parameter (pH meter), or by the quantitative measurement of the raw materials entering its formulation.
- Aw or water activity corresponding to the water available for microbial activity
  The control of the standard Aw value for products for which the control of this is essential (salted, dried or sweetened product) must be guaranteed either by direct measurement of this parameter or by measuring the raw materials entering into the formulation
- Viscosity:
  The efficiency of sterilisation or pasteurisation applied to a food product in the liquid phase depends on its viscosity.The lower the viscosity the faster the heat transfer to all parts of the product will be. The faster the heat transfer the more efficient the sterilisation (or pasteurisation) will be.
- Nutrient content
  - Proteins
  - Sugars
  - Microbial growth ingredients
- Content of inhibiting elements:
  - Fatty Acids
  - Salt with strong concentration

- Sugar with strong concentration
- Nitrites

Some of these parameters, fluctuations of which have a direct effect on the stability of the products, are easily and quickly quantifiable and can thus be exploited for the introduction of CCP.

To ensure the consistancy the formulation, measurements of the component ingredients are needed.

- The weight
- Volume
- The number of units (containers) of a raw material introduced into the preparation

On the finished products or on work in progress some measurements may also be carried out:

- PH
- Viscosity
- Density of the solutions (measurement of sugar concentration for example)
- The refractive index of the solutions (measurement of concentration)
- The temperature

14.4 Labelling, traceability, procedures of withdrawal (or of recall)

14.4.1 Labelling

The labelling of the products must be in compliance with the requirements of the General Standard for the Labelling of the Pre -Packaged Foods, intended to be given in the state to the consumer (Stan Codex. 1-1985) and with the legislation of the country in which the food is marketed. It shall in particular comply with the following mandatory requirements

- Name of the product;
- The composition of the product which must be in descending order on a percentage basis of importance of various components, and which must specifically mention the recognized allergens if the products contains allergens;
- The temperature of storage for the perishable goods
- Country of origin and the "health mark" if the if the production establishment has been allocated a such a mark, or the identification of the manufacturer by name, address, and the registration number allocated by the National Authority
- The "EXPIRY DATE" or date of optimal use "BEST BEFORE DATE".
- Date of production, in clear or in code, and if necessary conditions for the preservation and storage (If required by National legislation).
- The manufacturing batch number.

The labelling of the products can also include additional optional information (directions for use etc) within the limits of the regulation in force in the country where the food is marketed.

14.4.2 Traceability

Food processors are undertaking two processes simultaneously and this must be bourn in mind when considering traceability.

- A flow of foodstuffs processed to obtain a finished product starting from raw material
- A flow of information relating to the raw materials collected from the suppliers, then recorded to meet the needs for the company, and finally transmitted to the products in the form of information allowing traceability.

This management of the flow of information is essential for the establishment of procedures of withdrawal (or of recall), but also for the designof a Food Safety Management System which may be based on the HACCP system.

14.4.3 Procedures of withdrawal (or of recall)

Procedures for withdrawal (or recall) to be applied in emergency suituations must be prepared in advance and available in the establishment, in the event that a batch of foodstuffs would be likely to present a risk to the consumer.

15 Self-checking (autocontrols)

15.1 General principles

A sampling plan, for purposes of microbiological and physicochemical analyses must be prepared base on the basis of a risk analysis, and must:

- Relate to the finished products (and possibly to the raw materials and/or the products in the course of manufacture) as well as the work environment (surface of the equipment, the tools and the work surfaces, etc);
- refer to the standard method of analysis to be used which must be at least equivalent to those prescribed in national legislation.
- refer to the standards for qualitative microbiological criteria (list of the generic flora or required microbial species to be detected), and quantitative microbiological criteria (maximum limit of presence of these microbial contaminants).

15.2 Self-checking of the products

The bacteriological testing carried out on the finished products is generally carachterised by a relatively long response time. As a result it is not possible to await the receipt of the results to affect production control or to even await them before releasing the products.
Consequently, the tests of finished products have a value in assessment function of the effectiveness of the implementation of the GMP as well as the operation of the HACCP plan. Unfavourable results do not make it possible to employ corrective actions on the products, but must lead to a re-evaluation and improvement in the GMP as well as thre implementation of the HACCP plan.
Within the framework of the risk analysis carried out in carried out in the HACCP study bacteriological analysis carried out on products at different stages of production makes it possible to to evaluate the impact of each processing activity/step.
The results of analysis must be interpreted in accordance with certain rules based on the relative importance of the microorganisms and their numbers in the product.

15.3 Self-checking of surfaces

The bacteriological tests carried out on surfaces are characterized by a relatively long response time. Under these conditions, it is not possible to await the receipt of the results to continue manufacturing or even to wait for them to release the products.
Consequently, the testing carried out on surfaces have a value in checking on the effectiveness of the cleaning plan. Unfavourable results do not make it possible to take corrective actions on the products which were in course of manufacture at the time at the time of testing, but must be used to review and improve the cleaning plan.

15.4 Staff training

A training plan on the general principles of food hygiene must be set up in each food processing establishment. Each member of the staff must receive training to a level appropriate to the tasks which the member of staff is required to carry out.
The following simple principles can be followed to design and impliment a staff training programme.

- analyze the training needs, taking account of the specific work of the enterprise and the different staff needs to be addressed.
- establish a training plan with clearly definited objectives and indicators, for example:
  - The objective "to train all the personnel, including the seasonal workers, before introducing them into the production area «,
  - The programme of training for the next months
  - Indicators in this case are the number of people who followed this module and the competences which they will have aquired,

- Design and organise the training sessions including the content and the training method to be followed. (Teaching aids, material, logistic).
- The creation of a system of individual record sheets, recording for each member of the staff, the various training cources which they have received.

- To carry out the training,
- To evaluate the results.

16 Requirements for the routine evaluation of the implimentation of good hygienic practices (ghp) and good manufacturing practices (gmp)

A simplified periodic procedure, known as the "evaluation of routine" of the efficiency and the effectiveness of the FSMS (Food Safety Management System), must be set up.
Several criteria will have to be taken into account for this "Evaluation of Routine", and will be particular to the individual establishment:

- Routine inspection of the raw materials at reception, demonstrated by the correct management of the documentation at the receiving point;
- The checking of the efficiency and effectiveness of traceability system applied to the raw materials, and to the finished products;
- The documentation attesting to the potability of the water used in the manufacturing process or used for cleaning;
- The evidence of the implementation of the cleaning plan demonstrated by the recording of the tasks including bacteriological analysis carried out on surfaces of equipment;
- The control of vermin in the production premises as well as the documentation relating to the pest control plan;
- The presence of medical certificates indicating the suitability of the workers for working with foodstuffs;
- Summary of individual record sheets and certificates of continuous training for each member of the personnel;
- The physical control of the state of conformity of the eqipment, as well as the records relating the preventive and corrective maintenance;
- The checking of the system of compliance with the temperatures relating to hot and cold technologies attested to by the documentation;
- The checking at the production premises, that the water, soap and towels are correctly provided at the wash hand basins as provided for in the plan;
- The checking on the production premises that the correct supplies of water detergent brushes for cleaning footwear are provided; and the correct provisioning of the boot wash or the foot baths: the supply of water and detergent;
- Checks are carried out for the presence of valid calibration certificates for all measureing equipment;

17 Requirements relating to the functional checks of the procedures of traceability and withdrawal (or recall) of food products which can present a risk for the consumer

17.1 Traceability

A simplified procedure must be periodically applied to check the effectiveness and efficiency of the traceability system set up pursuant to item 14.4.2 of this appendix.

- By a simulation exercise of downstream traceability carried out on batches of finished products marketed during recent days;
- By a simulation exercise of upstream traceabilitycarried out on raw materials stored in the establishment.

17.2 Withdrawal/recall

A simplified procedure must be periodically applied to check the efficiency and effectiveness of the withdrawal/recall procedure set up pursuant to the principles stated at 14.4.3 of this appendix:

17.3 Requirements relating to labelling

A simplified procedure must be periodically applied to check the efficiency and effectiveness of labelling system set up pursuant to the principles stated at 14.4.1 of this appendix:

18 The food safety managemet system (fsms) and the implementation of the haccp system

For the companies having chosen to implement a FSMS (FOOD SAFETY MANAGEMENT SYSTEM) integrating HACCP, additional checks will have to take into account, the monitoring of CCPs and the management of the documentation which is a requirement for the implementation of a HACCP system in accordance with Codex Recommended Intenational Code Of Practice -General Principles of Food Hygiene - CAC/RCP 1-1969, REV, 4 (2003). The implementation is greatly facilitated by the use of the simplified method appearing in the guide to the application of this reference framework.

Appendix 2: Requirements relating to registration and approval (certification) of the establishments by the competent authority

19 General principles

The official control activities for the implimentation (inspection, audit, etc) of this reference framework may be delegated by the Central Competent Authority of the State to a third party accredited to carry out the work in accordance with the standard.

19.1 Obligations applicable to officials responsible for controls

The Central Competent Authority (CCA) of the state must ensure that the officials responsible for controls (public bodies or those to whom the task has been delegated):

- have the qualifications and the necessary experience to properly carry out the control tasks (inspection, auditing, sampling and documentation checks).

- are sworn in officials and free of any conflict of interest (material, financial, moral or social).
- Have or have access to the equipment, facilities and funds necessary to carry out their duties. (In particular the financial needs and personal health and safety of the officials).
- receive appropriate training and regular updating of the skill necessary to carry out the control tasks.

19.2 Obligations applicable to the organisation of official control

When carrying out an official control the representative of the Competent Authority must carry out the controls in accordance with three steps.

- Preliminary preparation /programming of the inspection,
- Carry out the inspection in two phases:
- Physical inspection
- Documentary checks
- Issue a report of the outcome of the controls carried out and the corrective actions required (carry out checks on the effective implementation of corrective action) and the sanctions applied where appropriate.

19.3 Information systems

19.3.1 Internal

The Central Competent Authority under the authority of Government (central/national, regional or local) is in charge of implimenting an information management system must be of identifying the establishment in a formal way without ambiguity. The information management system should include;
Identification and the recording of the establishments, taking into account the following:
Identification and registration of the food business
Identification of the person legally responsible for the establishment
(Certification will be granted to the establishment and the legally responsible person at the time of certification. Under these circumstances the certification shall not be transferrable and/or exchangeable)

Geographic location

In case of accidental pollution (chemical pollution of a river) or seasonal biological events (toxicity of molluscs at the time of a red tide phenomena, etc), geographical location information will allow the withdrawal of possibly contaminated products from the market.

Type of foodstuffs

This information is essential to evaluate the sensitivity of the processed products and consequently the specific level of risk associated with the production establishment.

The volume of activity

The larger the volumes of products processed the more difficult it is to respect the requirement of the cold chain and the heat treatments. Consequently large volumes of production are available to a bigger number of consumers and represent a greater risk of a food safety accident than smaller volumes of production.

The official registration number

Information relating to the geographical location of the establishment, and the registration number kept by the local authority will have to correspond with the records maintained by the Central Comprtent Authority so the records of inspection and possible certification can be maintained.

- Establishing for each registered establishment a correlation link with the central competent authority subdivision in charge of the inspection.
- Recording in the central information system of the Central Competent Authority the identy of each officer in charge of control tasks, the location of officers and the establishments for which each officer has responsibility.

- After each inspection recording in the central information system the outcome of the inspection. This report should be available (on a consultation basis) to officers in other geographical regions carrying out inspections on behalf of the Central Competent Authority.
- The records of certification granted.

19.3.2 External

The Central Competent Authority of each participating country shall provide to other participating countries (using a harmomised system) the information described above for all establishment certified in accordance with this system.
It is considered useful to have mutual cooperation and information sharing by Central Competent Authorities of African states particularly at a time when there is a food safety problem identified in an establishment whose products may have been exported across borders. This cooperation will be done through a traceability and "Rapid Alert System" managed by the Regional or Subregional Central Competent Authorities when the system is in place.

20. Rules for the granting of certification

Only establishment in good regulatory standing with their national authorities may be considered for certification.
Only those establishments complying with at least 80% of the requirements of this reference framework can be certified provided that they do not show any non compliance with the following essential requirements.

- Establishment identification and registration (Section 8);
- Potable water supply and the conditions for its use in the manufacturing processes. (Sections 9.1.4);
- The control of the raw materials (Section 10);
- The respect of the cold chain (Section 14.1);
- Control of the heat treatments (Section 14.2);
- The labelling of the finished products and the installation of a food safety traceability system upstream/downstream (Section 14.4) in compliance with the general principles (Sections 6.6 and 6.7).

One audit aimed at the renewal of the approval shall take place at least every two years.
However if at any time an official audit/inspection of an establishment which has been certified shows that there are non conformances the Competent will have to consider suspension/withdrawal of certification if;

- Less than 80% of the requirements defined in this reference framework are respected or
- The essential requirements of this reference framework are not respected.

21. Use of the fund generated by certification (fees)

The income generated by the collection of fees within the framework of certification must be used to finance the development of the system of certification and contribute to the training of the officers carrying out the official controls and the development of the infrastructures necessary.
The procedure for the collection of fees must be transparent and must be independent of the officers carrying out the controls and should not be considered part of the income of the local competent authority.

Accra 6-10 July 2009

Brazzaville 21-25 September 2009

Cairo 18-22 October 2009

Johannesburg 23-27 November 2009

Lusaka 7-11 December 2009

Douala 22-26 February 2010

Casablanca 15-19 March 2010

Kampala 19-23 April 2010

Bamako 24-28 Mai 2010

Lilongwe 14-18 Juin 2010