Project: Technical assistance to improve implementation of food safety standards and disease crisis preparedness

1.2.5 (Task 4.2.2) Contribute to increased capacity of staff of the local chamber of commerce, chamber of food professionals, academy and others

Training on Food Associated Risks

SESSION 6: The Useful Tool for Food Safety Management: HACCP

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Hazard Analysis and Critical Control Point (HACCP)

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HACCP Concept

ASSURING FOOD SAFETY

Emphasizing from end-product testing to preventive control of critical aspects of producing safe foods

- Identifying potential food safety problems
- Determining how and where these can be controlled or prevented
- Describing what to do and training the personnel
- Implementation and recording

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HACCP is prediction rather than reaction

Control/prevent/minimize food safety hazards that may cause illness or injury

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The HACCP System: A Food Safety Management Tool

- Focuses on factors that cause foodborne illness
- Analyzes potential hazards
- Determines critical points in process that assures food safety
- Develops monitoring procedures to confirm safety control

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HACCP DOES:

- Emphasize process control
- Concentrate on the points in the process that are critical to the safety of the product
- Work to prevent rather then react
- Minimize risk and maximize safety

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Regulation (EC) No 852/2004

- Article 4
- Annex I
- Annex II
- Article 5

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Article 5 of Regulation (EC) No 852/2004

All food business operators shall:
implement a “permanent procedure based on the HACCP principles”

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Advantages of HACCP

A food safety program based on HACCP Principles helps to reduce or eliminate potential food safety hazards and:

- Protects your customers
- Improves control of food processes
- Provides a defense against complaints and legal action
- Provides a process for continuous self-inspection and self-improvement

“Farm-To-Table”






Assurance throughout the food chain

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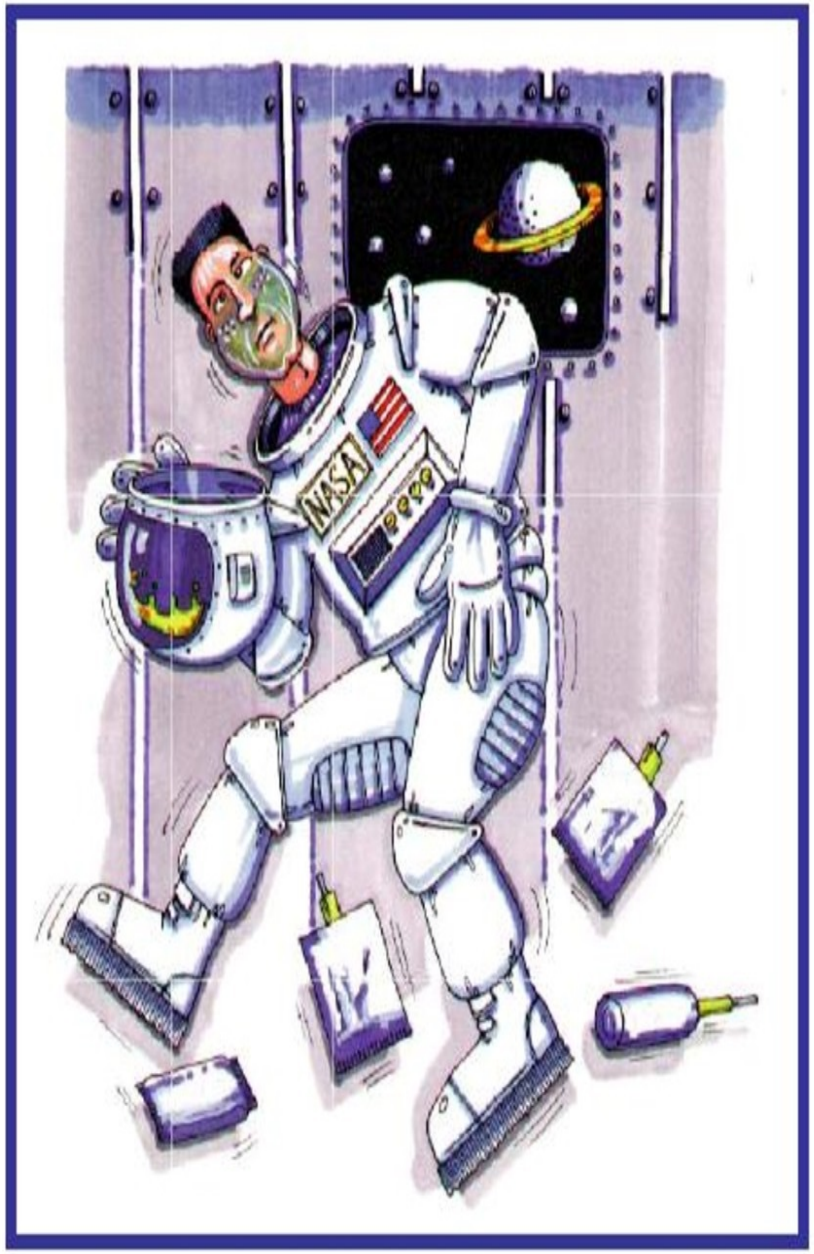
HACCP

Commissioned by NASA in 1959

First published in 1973 (Pillsbury)

Codex Alimentarious Comission 'the most effective system of food safety assurance'

Implementing principles of HACCP legal requirements for most food premises within EU.



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The HACCP system has grown to become the universally accepted method for food safety assurance.

WHY ???

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The need for an effective food safety assurance method

- Foodborne disease are a widespread public health problem
- Emergence of foodborne disease
- Increased knowledge and awareness of the serious and chronic health effects
- New food technologies and processing methods
- Increased awareness of the economic consequences of foodborne disease

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HOW TO BUILD UP A HACCP SYSTEM

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Guidelines for the application of HACCP system:

1. Assemble the HACCP team
2. Describe product
3. Identify intended use
4. Construct flow diagram
5. On-site verification of flow diagram
6. Assess Current Program
7. Employee Orientation & Training

1. Assemble the HACCP Team

A multi-disciplinary HACCP Team needs to include knowledge of the following aspects :

- Raw Materials
- Specialist (Quality Assurance/technical)
- Operation activities
- Engineering/equipment technical knowledge of HACCP
- Process
- Finished product
- Hazard expertise
- Environment (premises, property, surroundings)

- **Elect one person to be “in charge”**

- **Engage all food service employees**
  - ✓ **Share ownership**
  - ✓ **Increase motivation**
  - ✓ **Employee contributions are important**

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- **Team is responsible for**

  - ✓ **Assessment of current operations**
  - ✓ **Development of the food service plan**
  - ✓ **Implementation of the food service plan**

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HACCP TEAM

- ✓ HACCP Plan
- ✓ Approved source
- ✓ Hygiene
- ✓ Sanitation
- ✓ Employee and Health
- ✓ Pest control program
- ✓ Product Safety and Recall Program
- ✓ Refridgeration

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2. Describe the product

Describe the product giving detail of its composition, physical/chemical structure, packaging, safety information, processing treatments, storage and method of distribution:

- Product Name
- Composition
- End Product Characteristics
- Method of Preservation
- Packaging – Primary
- Packaging – Shipping
- Storage Conditions
- Distribution Method
- Shelf Life
- Special Labeling
- Customer Preparation

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3. Identify the intended use

- Identify the intended use of the product, its target consumer with reference to sensitive population
- Five sensitive groups in the population
  - Elderly
  - Infants
  - Pregnant
  - Sick
  - Immunocompromised

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4. Construct a process flow diagram

- Details of all process activities including inspections, transportation, storage and delays in the process
- Inputs into the process in terms of raw materials, packaging, water and chemicals
- Output from the process e.g. waste – packaging, raw materials, product-in-progress, rework and rejected products.

5. On site verification of the process flow diagram

- It should be done by all members of the HACCP team during all stages and hours of operation.

- Validate process flow diagram
  - By HACCP Team
  - Observe process flow
  - Sample activities
  - Interviews
  - Routine / non routine operations

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6. Assess Current Program

- Develop Standard Operating Procedures
- SOPs must be specific to each site and each type of production

  - What
  - Why
  - How
  - When
  - Who

- Need strong foundation
  - Assess prerequisite programs
  - Prerequisite programs need to be in place before a HACCP based program can be effective.

7. Employee Orientation & Training

- Employee Orientation
  - Food safety concepts
  - Signed by employee & supervisor
  - Kept on file

Establish Monitoring Procedures

- **Monitoring is critical**
- **Written documentation**

Remember,

if it has not been written down,

It has not been done!

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Establish Record Keeping Procedures

The record keeping system should be:

- **Simple**
- **Part of the daily/weekly routine**
- **Accurate**
- **Comprehensive**
- **Kept for at least one year (some districts choose to keep them for 3 years as they do other records)**

HACCP involves 7 principles

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1) Conduct hazard analysis and identify prevention or control measures
2) Identify critical control points (CCPs)
3) Determine critical limits (CL)
4) Monitor each critical control point/process step
5) Establish corrective action with a critical limit deviation
6) Verify that the food safety plan is working
7) Record keeping for critical control points, corrective action and verification

1. CONDUCT HAZARDS

The first principle is about understanding the operation and determining what food safety hazards are likely to occur.

Additionally, this step involves determining the control measures that can be used to eliminate, prevent, or reduce food safety hazards.

Control measures include such activities as implementation of employee health policies to restrict or exclude ill employees and proper hand washing.

2. IDENTIFY CRITICAL CONTROL POINTS (CCPs)

An operational step in a food preparation process where control measures must be applied to prevent or eliminate or reduce a food safety hazard to an acceptable level.

A Critical Control Point (CCP) is an identifiable point in the production chain where a hazard may occur.

Action is taken to prevent the hazard from occurring.

This can either be a point, step or procedure at which control can be applied and is essential to prevent or eliminate a hazard or reduce it to an acceptable level.

A CCP can be used to control more than one hazard – refrigeration storage CCP.
Alternatively, several CCPs may be needed to control one hazard.

Points may be identified as CCP when hazards can be prevented, for example:

- introduction of chemical residue can be prevented by control at the receiving stage;
- a chemical hazard can be prevented by control at the formulation or ingredient-addition stage;
- pathogenic bacteria growth can be controlled by refrigerated storage or chilling.

3. DETERMINE the CRITICAL CONTROL LIMITS

Critical limits are the parameters that must be achieved to control a food safety hazard.

Critical Limits (CL) have been established - which are the boundaries that must be met to control a food safety hazard.

These standards will be observable and measurable and usually specified by using temperature and time.

The Critical Limits will be included on recipes indicating the end-state temperature, holding and reheating temperatures (for hot foods) involving potentially hazardous products.

- A critical limit is a criteria or boundary that must be met for each control measure at a CCP.

- A maximum and/or minimum value to ensure that the biological, chemical or physical hazard identified at the CCP is controlled.

4. ESTABLISH PROCEDURES to MONITOR CCPs

Keep track of the CCPs as the food flows through the operation.

Monitoring involves making direct observations or measurements to see that the CCPs are kept under control by adhering to the established critical limits.

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Critical Control Points, Critical Limits and employees practices will be monitored on a daily basis by the kitchen managers and the employees involved in food preparation. Observations will be made to compare what actually happens to the standards that have been established.

5. ESTABLISH CORRECTIVE ACTIONS

This step establishes a plan for what happens when a critical limit has not been met at a CCP. The operator decides what the actions will be, communicates those actions to the employees, and trains them in making the right decisions.

This preventive approach is the heart of HACCP.

Corrective Action has been established if a Critical Limit has not been met at a Critical Control Point. Corrective Action will address what needs to be done to eliminate or control the possibility of a food borne illness.

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6. ESTABLISH VERIFICATION PROCEDURES

This principle is about making sure that the system is scientifically-sound to effectively control the hazards. In addition, this step ensures that the system is operating according to what is specified in the plan.

- Confirmation that a food safety program is working

- Provides the needed information to

  ✓ maintain an effective program
  ✓ update the program as needed

Verification Procedures have been enacted to validate what is written in the food safety plan is actually occurring in the operations.

Attention will be paid to how often Corrective Action is needed as this may indicate a change is necessary in the food safety plan.

The safe food handling program will be reviewed / revised on an annual basis or as changes are required.

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Review to verify

- On-going - daily, weekly, monthly
  - Monthly audit checklist
- Review CCP monitoring logs
  - Receiving/storage temperature
  - Cooking temperature
  - Cooling temperature
  - Reheating temperature
- Review menus periodically

7. ESTABLISH A RECORD KEEPING SYSTEM

Certain written records or documentation are needed to verify that the system is working.

These records will normally involve the HACCP plan itself and any monitoring, corrective action, or calibration records produced in the operation of the HACCP system.

Records

- Records documenting SOP's
- Monitoring records (e.g. temperature)
- Corrective Action records
- Calibration records
- Review of records (verification)

Examples of Records

- Food temperature logs
- Refrigerator temperature logs
- Freezer temperature logs
- Sanitizer concentration logs

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