



Role of standard in Food Safety.

A presentation by Standards Organisation of Nigeria in the RSCL food safety summit on 26th August, 2022



Standards Organisation of Nigeria SON in Brief

- Standards Organisation of Nigeria (SON) was established by the enabling Act No. 56 of 1971 and have had several amendments in which the current is Act No. 14 of 2015

- Some of the Functions
 1. Designate and approve standards
 2. Responsible for quality Assurance of products, service and system
 3. Provides Conformity Assessment services(to ensure that locally manufactured and imported products and services comply with the requirements of the relevant Standards) – including metrology, inspection, testing and certification(product or system)
 4. Advice government at all levels on matters relating to standardisation



INTRODUCTION TO FOOD SAFETY

Food that is wholesome and that does not exceed an acceptable level of risk associated with pathogenic organisms or chemical and physical hazards is known as “**safe food**”

What are the possible food safety issues?.....

- An estimated 600 Million- almost 1 in 10 people in the world fall ill after eating contaminated food and 420,000 die every year.
- There are about 48 million cases of food borne illness every year.
- In Nigeria, Food borne illnesses cause over 200,000 death annually.

INTRODUCTION TO FOOD SAFETY

What are food safety hazards

‘A biological, chemical or physical **agent** in or conditions of food with the potential to cause an adverse health effect.’



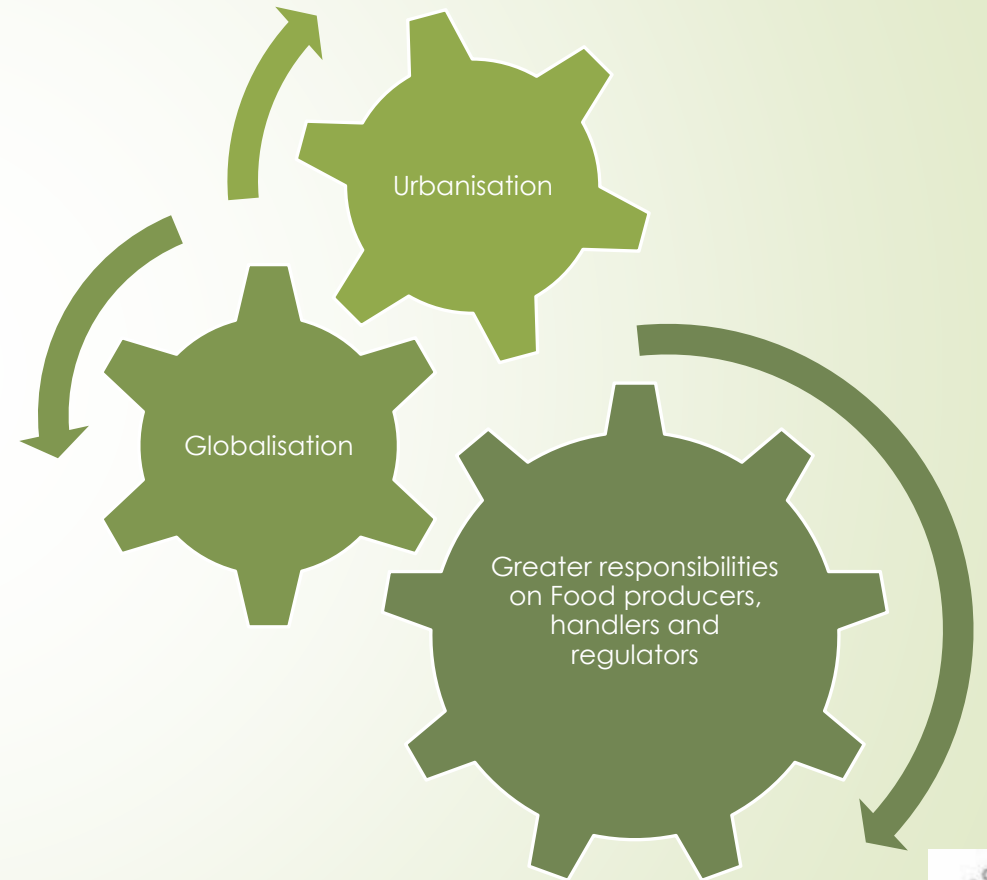
Food safety risk

“The probability that a food safety hazard occurs”

Food Safety and the evolving world

Safe Food supply affects

- National Economies
- Trade & Tourism
- Food & nutrition security
- Sustainable development



What is Food Safety?

Concept that food will not cause adverse health effect for the consumers when it is prepared and or consumed in accordance with its intended use



INTRODUCTION TO FOOD SAFETY

FOOD SAFETY RISK

RISK is a Function of Probability of an adverse health effect and the Severity of that effect, consequential to a HAZARD(s) in food.

A **RISK** is the consequence of a hazard which includes:
diarrhoea, cancer,
allergic reactions, death...



The Cause of Food Contamination

Food safety

The Cause of Food Contamination

Physical

Chemical

Biological
(Microbiological)



Food Contamination

Physical contaminants

- ✘ Stones,
- ✘ Broken glasses (e.g., electric bulbs)
- ✘ Jewelry,
- ✘ Hair
- ✘ Wool
- ✘ Pieces of wood
- ✘ Fingernails



- ✘ Buttons
- ✘ Pen tops
- ✘ Plasters
- ✘ Nuts, bolts and screws from machinery or equipment
- ✘ Insects, their eggs and droppings etc.

Example of Chemical Contaminants

- ✘ Cleaning chemicals
- ✘ Unapproved or excess
Industrial processing
chemicals
- ✘ Pesticides and pest bait
- ✘ Toxins
- ✘ Allergens



Microbiological Contamination

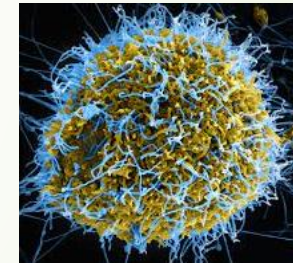
- Microbial contamination refers to the non-intended or accidental introduction of microbes such as **bacteria**, **yeast**, **mould**, **fungi**, **virus**, **protozoa** or their toxins and by-products in food.

Biological

Bacteria

Fungi

Virus



Standards

- ▶ A standard is a document, established by a consensus of subject matter experts and approved by a recognized body (e.g. SON) that provides guidance on the design, safety, use or performance of materials, products, processes, services, systems or persons.

▶ Types of Standards

- 1. Product Standards-** Product requirements to be met to satisfy quality e.g. NIS XXX Standard for Tomatoes
- 2. System /Services Standards** - How a system should operate (e.g Food safety management system)
- 3. Codes of Practices-** Recommended practices, procedures, guides, designs (Code of practice for Tomato Farmers)
- 4. Test methods-** For laboratory test methods only
- 5. Terminology-** Terms and definitions, illustrations and notes

Continuation...on Standards

► Hierarchy of Standards

1. Company Standards e.g Company Specifications
2. Trade group Standards eg Global Gap, GFSI
3. National Standards e.g NIS
4. Regional Standards e.g ECOSTAN
5. International Standards e.g ISO, Codex

Standards Development

- ▶ Standards are established by consensus
- ▶ Relevant MDA's (FMOH, NAFDAC, NAQS, FMARD e.t.c)
- ▶ Academia
- ▶ Trade Associations (MAN, AFBTE)
- ▶ Research Bodies (FIIRO)
- ▶ Consumer Representatives (FCCPC)
- ▶ An interactive approach is used to consult Scientifically
- ▶ Standards form the basis for Government regulations on Food
- ▶ Principles of Standards development
- ▶ Transparency
- ▶ Openness
- ▶ Impartiality
- ▶ Consensus
- ▶ Effectiveness and relevance
- ▶ Coherence

SON AS A NATIONAL STANDARDS BODY

- SON is the organization most representative of standardization in Nigeria
- Develops standards through Technical Committees
- Oversees/coordinates other standards development organizations (SDOs) (mandated by our SON Act)
- Publishes & maintains national standards (known as NIS)
- Represents country in regional / international standardization organizations
- Adopts international standards



International standard drivers and Key players in Food Safety

➤ 1. Codex Alimentarius
Commission (CAC)

➤ 2. International Organisation for
Standardisation

3. World Trade Organisation



Notable International Food Safety Scheme

- ▶ ISO 22000:2018
- ▶ SQF Code, Ed. 7.2
- ▶ BRC Food Safety Standard
- ▶ FSSC 22000

Common Framework for International Food Safety Standards



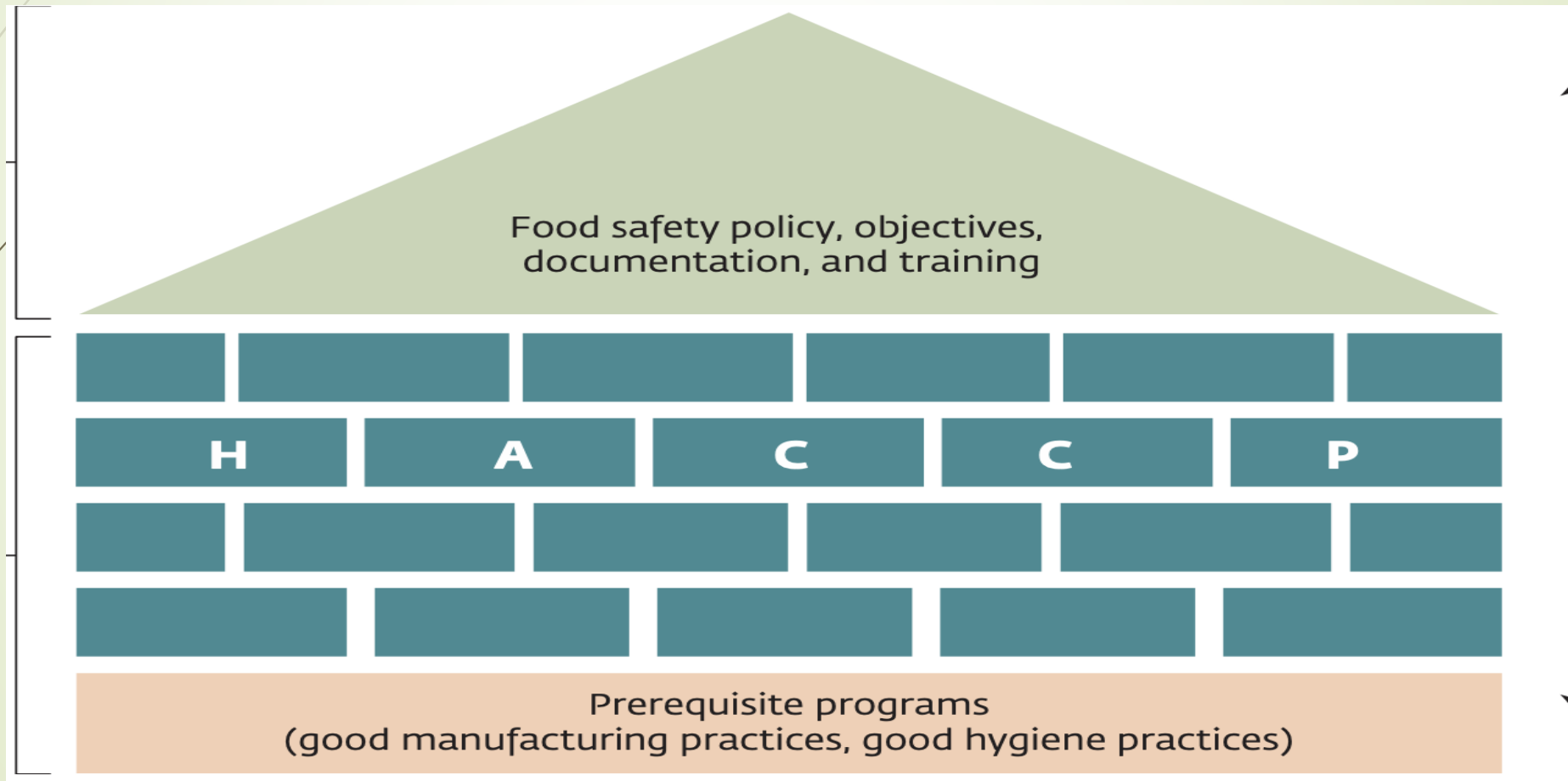
Hazard Analysis &
Critical Control
Points
(HACCP)



Prerequisite
Programs
(PRPs)



The Food Safety House



Hazard Analysis & Critical Control Points (HACCP)

- HACCP is a management system in which food safety is addressed through the analysis, assessment and control of **biological**, **chemical**, and **physical** hazards in food from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product.
- Principle 1: Conduct a hazard analysis.
- Principle 2: Determine the critical control points (CCPs).
- Principle 3: Establish critical limits.
- Principle 4: Establish monitoring procedures.
- Principle 5: Establish corrective actions.
- Principle 6: Establish verification procedures.
- Principle 7: Establish record-keeping and documentation procedures.

Prerequisite Programs (PRPs)

- ▶ PRPs are basic hygienic and environmental activities/ conditions that are necessary within an organisation to maintain Food Safety.

- *GMP – Good Manufacturing Practice*
- *GHP - Good Hygienic Practice*
- *GAP – Good Agricultural Practice*
- *GVP – Good Veterinary Practice*
- *GDP – Good distribution practice*
- *GTP – Good trading practice*

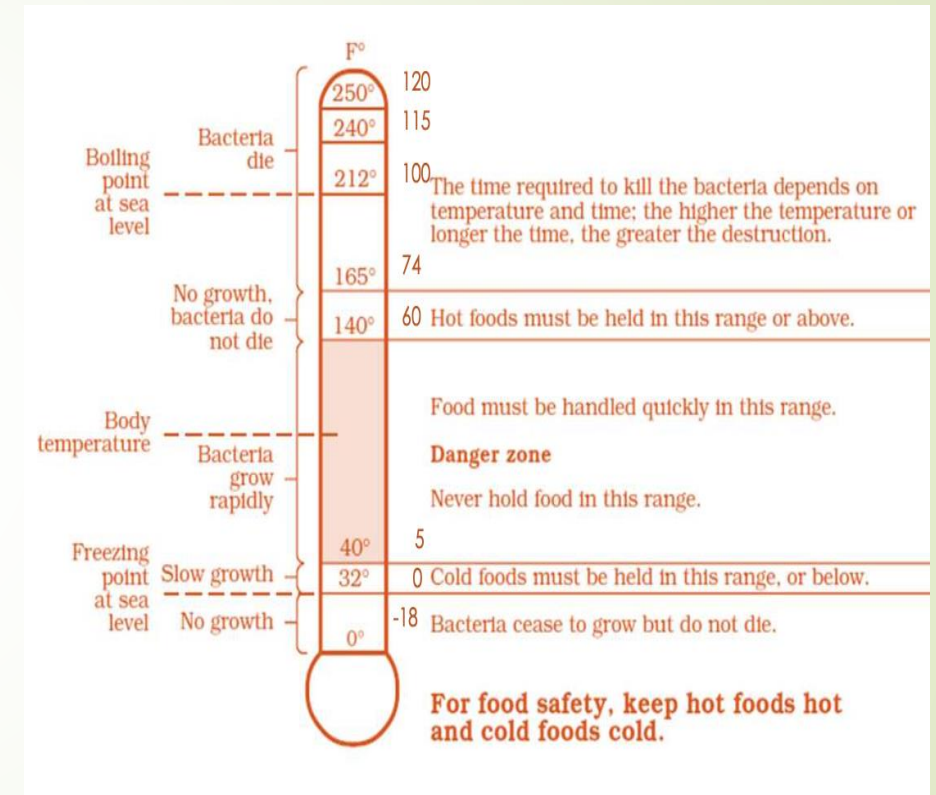
Note: It is called prerequisite because it is considered by scientific experts to be prerequisite to a HACCP plan.

- ▶ Examples of common prerequisite program

- Sanitary Facilities
- Cleaning
- Suitable Equipment
- Personal Hygiene
- Training
- Record keeping
- Supplier control
- Pest Control

Critical Control Points examples

- Purchasing
- Receiving
- Cooking
- Cooling
- reheating



Benefits of Standards implementation in the Food Value Chain

Food standards give confidence to consumers in the safety, quality and authenticity of what they eat.



IMPACTS OF SON IN FOOD SAFETY

- ▶ SON is the Codex Contact point of Nigeria and a member of ISO
- ▶ SON publishes hundreds of Standards yearly for food products. The sole aim of Food standards is to ensure that Food products made in Nigeria are safe & for enhanced access to relevant markets
- ▶ To address consumers increasing concerns about food-related risks, including health hazards due to micro-organisms, pesticide residues, other contaminants and unsafe food additives, Nigerian Industrial Standards have sections that specify minimum or maximum limits for these
- ▶ Certification to ISO & FSSC is possible because SON is a member body of ISO and participates in the elaboration of these standards

Note: Safety implies fit for human consumption without causing harm either to humans or the environment





CONCLUSION

“...to ensure health and safety of the consumer...”,

is a statement captured in every Nigerian Industrial Standard for Food.

Standards enhance food safety.

Let us join hands in contributing to Nigeria's standards development, embrace and spread the word about Food Safety Culture & Standards.



THANK YOU