

FOOD Sanitation

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Philippine Context

• Atmospheric Profile... and Food?

Elements	Characteristics
Climate	Tropical and maritime characterized by relatively high temperature, high humidity, and abundant rainfall
Seasons	Rainy season from June to November Dry season from December to May
Temperature	Mean monthly range of 25.5°C (January) to the warmest of 28.3°C (May)
Relative humidity	Mean monthly range of 71% (March) to 85% (September) due to high temperature and surrounding bodies of water
Rainfall	Mean annual range of 965 to 4,064 mm varies from region to region depending upon the direction of the moisture-bearing winds and the location of the mountain system. Also, frequent typhoons have a great influence on local rainfall, humidity, and cloudiness.

Rutala, A. S., et al. (2021). Defining Risk in Food Safety in the Philippines. *Current Research in Nutrition and Food Science Journal*, 9, 235-257. 10.12944/CRNF53.91.25.

Philippine Context

- Ambient temperature range (25.5°C to 28.3°C) is **within the temperature danger zone for food storage** (4.44°C to 60°C)
 - conducive to **log phase** of growth of bacterial pathogens, such as *Staphylococcus aureus*, *Salmonella enteritidis*, *Escherichia coli*, and *Campylobacter*
- High relative humidity and heavy rainfall
 - require microorganism-inhibiting storage since moisture may **accelerate growth of spoilage** microorganisms

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1. Food Sanitation

- **FOOD**
 - any substance / product for human **consumption**
 - includes drinks, chewing gum, water, and substances incorporated (RA 10611 - Food Safety Act of 2013)
- **FOOD HYGIENE**
 - measures & conditions to **control hazards** to illnesses and **ensure fitness** for consumption
- **FOOD SAFETY**
 - **assurance** that food will **not cause harm** when prepared and eaten

• FOOD SANITATION

- operations to create **clean** working environment, **free from hazards** (agents causing adverse effects on health)

2. From Farm to Fork

- **FOOD SUPPLY CHAIN**
 - all production stages



- Disruptions:
 - Health crisis
 - Extreme weather conditions
 - Energy security



Hazards

- **CHEMICAL**
 - naturally or added
 - improper dumping, accidental seepage, oil leaks, grease contact, heavy metals
- **BIOLOGICAL**
 - pathogenic microorganisms (bacteria, parasites, viruses)
 - animal feces, human sewage, water used, soil
 - equipment, container, tools, packaging, transport vehicles
 - inadequate cleaning, toilet & handwashing facilities
- **PHYSICAL**
 - foreign objects (e.g. soil, stones, glass, wood, plastic, hair clips)
 - weather, broken / damaged, cleaning, training, clothing

Food Standards

- sources approved by local health authority
- **meat, meat products, fish:** sanitary / veterinary supervision
- unaffected by radioactivity
- **ambulant food vectors:**
 - prohibited to sell food that requires use of utensils
 - shall sell only bottled food drinks, biscuits, confectionaries
- **non-perishable:** designated spaces
- **perishable:** at or below 7°C or 45°F
 - extended periods: 4°C or 40°F
- **fruits & vegetables:** cool rooms
- **shelving:** prevent stocking; permit ventilation & cleaning
(PD 856: Code on Sanitation of the Philippines)

3. Dates

- **BEST IF USED BY**
 - for best flavor and quality
 - DOES NOT SPOIL AFTER (not a safety date)
 - may dry out or not taste as good
- **EXPIRATION DATE**
 - may not function the same after
 - e.g. yeast (effective), jam (texture)

4. Food Products

- **PERISHABLE FOODS**
 - frozen foods: not > -12°C or 10°F
 - meat and fish: 0-3°C or 32-38°F
 - milk and milk products: 5-7°C or 40-45°F
 - fruits and vegetables: 7-10°C or 44-50°F
 - not stored in refrigerator door (fluctuating temperature)
- **refrigerator:** 40°F or below
- **raw:** sealed container, wrapped securely
- **danger zone:** between 40 and 140°F or 4.44-60°C
(PD 856: Code on Sanitation of the Philippines)

5. Food Establishments

- **Licensing & Registration**
 - permit, license, certificate of registration / compliance (RA 10611 - Food Safety Act of 2013)
 - Secure **permit** from local health office. Post in establishment.
 - Employed: **health certificate**, after exams & immunizations
- **Structural Requirements**
 - floors: easily cleaned, resistant to wear & corrosion
 - walls: non-absorbent, readily cleaned
 - lighting (free from glare); ventilation; overcrowding (unobstructed, movement **without contamination**)

Special Provisions

- Grocery / sari-sari store: not within **25 meters** from any source of contamination
- Ice plants: only potable water

6. Laws

- **Code on Sanitation (Pres. Decree 856, s. 1975)**
 - sanitation requirements, especially for food establishments
 - Chap III: sanitary permits, health certificates, quality and protection of food, structural requirements
- **Republic Act 7394: Consumer Act**
 - protect consumer interests, promote general welfare, and establish standards of conduct for business and industry

7. Cross Contamination

- transfer of harmful bacteria **to** food **from** other foods, cutting boards, utensils, if not handled properly
- growth affected by pH, temperature, moisture, oxygen, time

8. Five Keys to Safer Food: Safe Food Handling

- **Keep clean. Panatiliing Malinis.**
 - Wash hands. Sanitize. Protect.
- **Separate raw and cooked. Ihiwalay ang hilaw sa luto.**
 - Food, equipment, utensils; store.
- **Cook thoroughly. Lutuwing mabuti.**
 - Meat, poultry, seafood; boiling; reheat.
- **Keep food at safe temperatures. Itago...**
 - Room >2H; refrigerate; storing too long
- **Use safe water and raw materials. Gumamit...**
 - Water; choose foods; not beyond expiry



9. Food-borne Diseases

- **Food-borne Infection**
 - pathogens grow in intestines after eating **contaminated food**
- **Food-borne Intoxication**
 - eating food containing **poisonous toxins**

10. Implications to Nurses' Care of Families

- **FOOD PREPARATION & STORAGE**
 - Wash hands & tools. Prevent contamination.
 - Covered containers / sealed bags; raw away from other food
 - Refrigerate / freeze leftovers within 2 hours or sooner. Use clean, shallow, covered containers.