



# ONE NUTRITION

connecting people and food for healthier diets,  
thriving communities and the wellbeing of the environment



**gain**  
Global Alliance for  
Improved Nutrition

## Recommended citation

**Trevenen-Jones A, Muketha M, and Minja D. ONE Nutrition toolkit: slide deck. Global Alliance for Improved Nutrition (GAIN). Geneva, Switzerland, 2026.**

### © The Global Alliance for Improved Nutrition (GAIN)

This work is available under the Creative Commons Attribution-Non-Commercial-Share Alike 4.0 IGO licence (CC BY-NC-SA 4.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/4.0/>). Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that GAIN endorses any specific organisation, products or services. The use of the GAIN logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. The contribution of third parties do not necessarily represent the view or opinion of GAIN.



# Acknowledgements

The authors wish to thank GAIN country teams in Indonesia, Kenya, Mozambique and Tanzania, who used and provided feedback about the ONE Nutrition training tool. We appreciate the many sub-national and city governments, market committees and vendors who championed ONE Nutrition training and/or were part of learning together with us about nutrition, food systems and local realities. Further acknowledgment is extended to Helena Kerr and Trish Muzenda for their design support on the slide deck.

The Food Hygiene and Safety content used in this slide deck was made possible partially through support previously provided by Feed the Future through the U.S. Agency for International Development (USAID), under the terms of Agreement #7200AA19CA00010.

This Slide Deck and accompanying Facilitators Guide are part of GAIN’s Nourishing Food Pathways programme which is jointly funded by:



The findings, ideas, and conclusions presented here are those of the authors and do not necessarily reflect positions or policies of any of GAIN’s funding partners - including USAID. All photographs included in this document have been taken with consent for use in publication..



# ONE NUTRITION

connecting people and food for healthier diets,  
thriving communities and the wellbeing of the environment



**gain**  
Global Alliance for  
Improved Nutrition

# Contents

Contents	Slide Number
Citation, Creative Commons Note and Acknowledgements	2-3
Welcome	4
Section 1: Introduction: Food Systems and the Food Environment	6-16
Section 2: Nutrition	17-63
Section 3: Food Hygiene and Safety	64-90
Section 4: Food Waste	91-118
Concluding Comments	119-121
References	122-126

# Introduction

## Food Systems and Food Environments

# Food Systems

Webs of local market relationships between people and nature



**wholesale and retail**



**Markets**

Distributors, other  
,markets, last mile  
vendors

Consumers



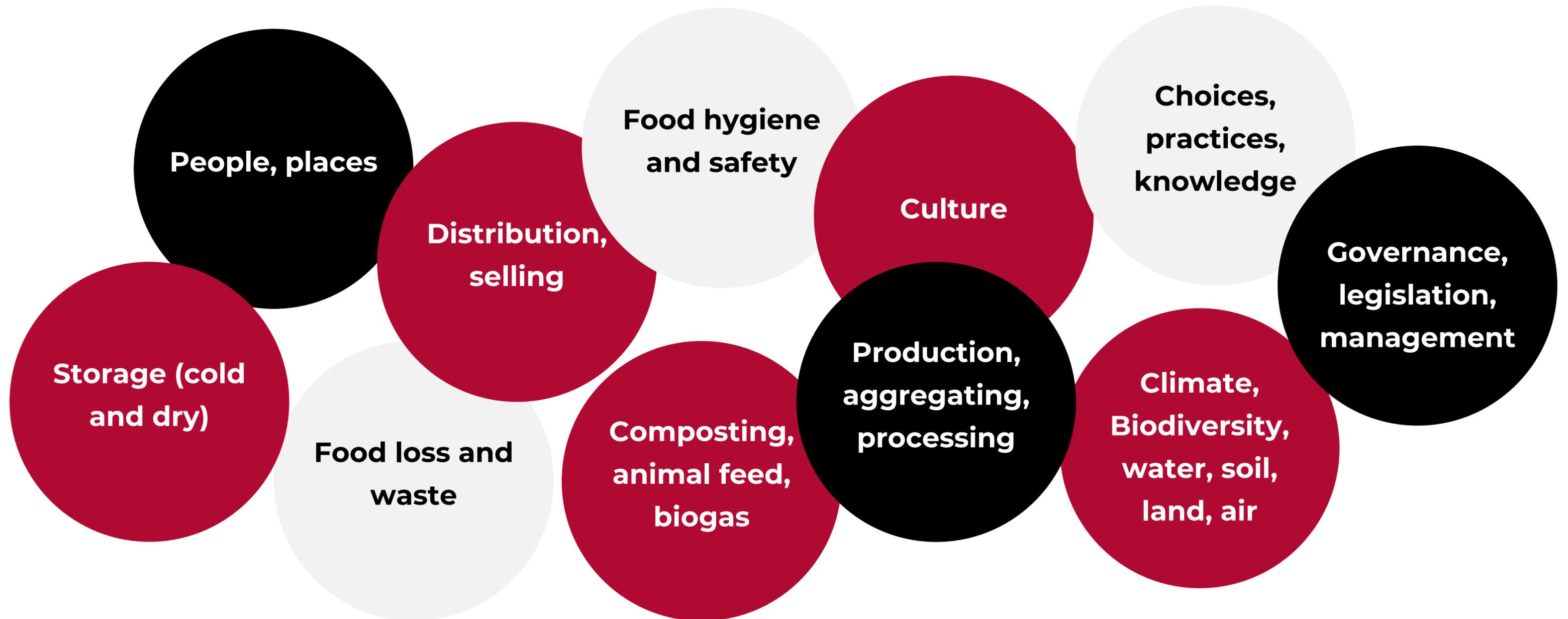
Environment

Agri-food production,  
gathering, fishing

Aggregators,  
processors, transporters

Environment

# What Makes Up a Food System?

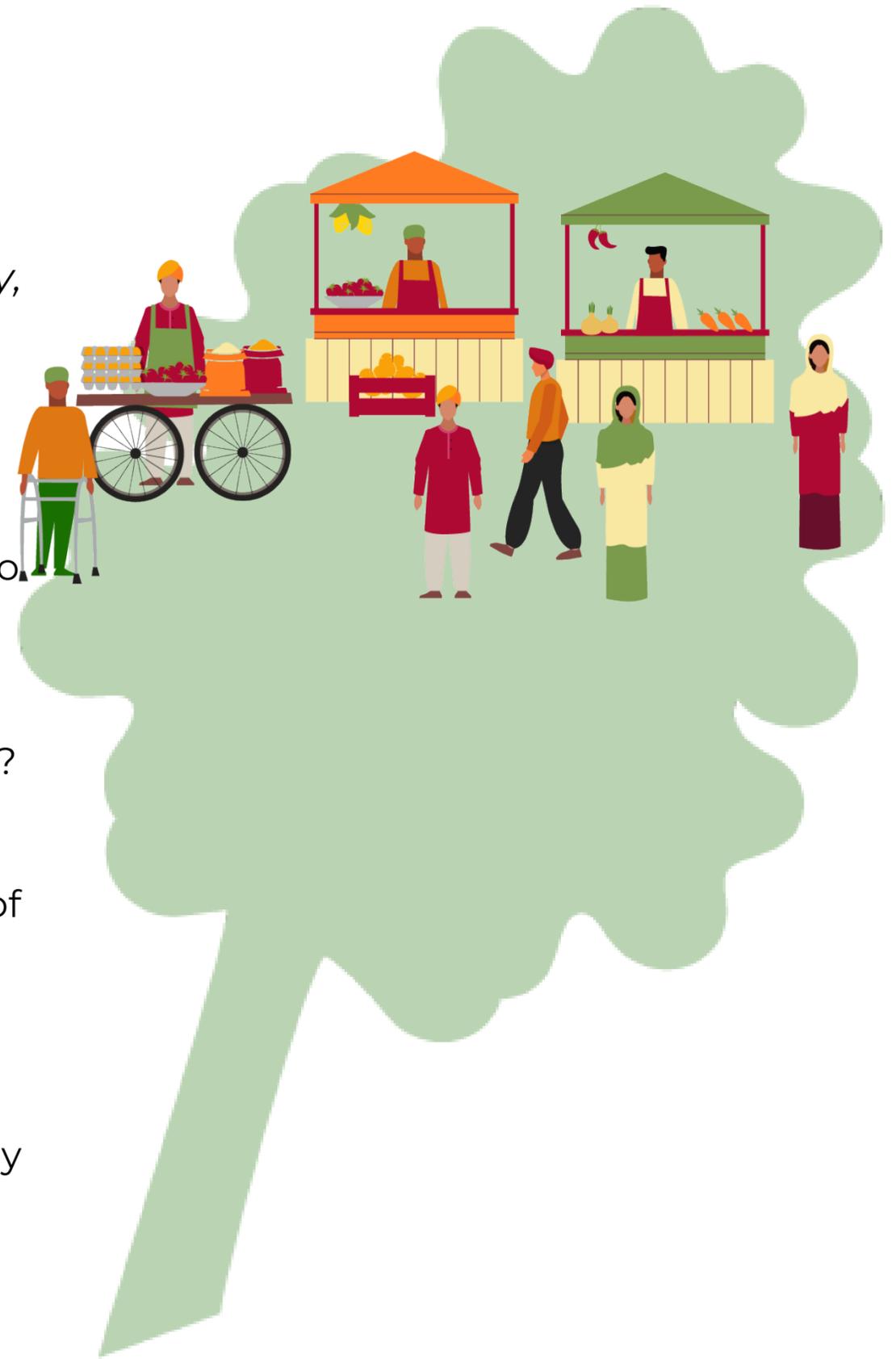


# Food Systems (1/2)

*Food systems are shaped by drivers, such as, environment (e.g. climate and biodiversity), political contexts, economies, urbanisation, communities, gender equity, culture, traditions, innovations, technology and infrastructure.*

## Six key elements sustainable development considerations are:

- **Availability** e.g. is there enough socio-culturally preferred food available, at all times, to support healthy diet choices?
- **Access** e.g. can people physically and economically access this food on a regular basis?
- **Utilisation** e.g. is the nutrient quality and food safety of available and accessible food of sufficient standard? do people have the means to use this food in ways that support uptake?
- **Stability** e.g. is the community and food system socially, politically and/or economically stable? Unstable conditions e.g., caused by conflict, violence, climate impact events, increase the vulnerability of food systems – and result in disruption.



# Food Systems (2/2)

*Food systems are shaped by drivers, such as, environment (e.g. climate and biodiversity), political contexts, economies, urbanisation, communities, gender equity, culture, traditions, innovations, technology and infrastructure.*

## **Six key elements sustainable development considerations are (cont.):**

**Agency** e.g. stakeholders, like market vendors, make their own decisions about food, and are included in food systems policy and planning decision-making processes like multistakeholder platforms

**Sustainability** e.g. food system functions in a way that ensures the health and well-being of people and planet, are able to continue to provide a diversity of food necessary for healthy diets, maintain their ability to provide food over time – supporting present and future generations food security and nutrition.



# What is a Food Environment?

A physical place where consumers make food choices about what they buy, prepare and eat.

It is where consumers food choices are influenced by cultural preferences as well as what is available, affordable, convenient and marketed well.

A Food environment can be a fresh food market or a neighbourhood comprising street food vendors, supermarkets, kiosks, and a variety of food markets.

The food environment encompasses social, cultural, economic and political dimensions.



# Food Environment and Healthy Diets

Activities can promote **sustainable, healthy diets** and help address issues like obesity, undernutrition, and climate change.

**Markets are important food environments**, especially in low-income countries and for poor urban residents. The quality of this food environment is influenced by food practices as well as the operating context of these markets – which vary, for example, by:

Infrastructure

Ownership  
(e.g., markets and  
infrastructure)

Regulatory frameworks

Availability of basic  
services (e.g., water,  
sanitation, waste  
collection)

Key facilities (e.g., cold  
storage)

Local agencies  
(e.g., market committees)

# Food Systems and Food Environments

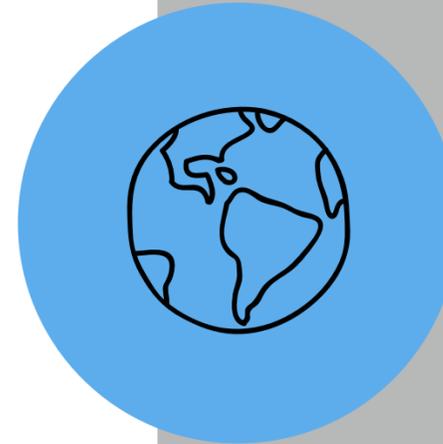
Connect People, Food and the Environment



## Health and Well-being

**Impacts what we eat:** quality and types of food influences.

**Also impacts our ability** to learn at school, to earn an income, and to be happy and healthy.



## Environmental Well-being

**Impacts what we produce, eat and waste:** damaging the environment causes climate change, loss of biodiversity and fresh water and other impacts.

This then causes problems for us as climate change, for example, makes it more difficult to produce food

insert time duration for this  
activity and if group or  
individual activity  
[approx. 25 min]

# Activity 1:

## **Identify and describe your local food environment. What foods, actors, and spaces make it up from the view of the market?**

1. Take a piece of paper and draw a circle that best represents you and your market at the center of the page
2. Think about your market and where you source your food from (how it travels to the market, what happens to food that is sold or wasted in the market)?
3. Within the market, consider: infrastructure, essential services, and food practices, and how these influence your food environment and food system relationships
4. Also consider: finance, governance and management of your market and the food system
5. Then, draw these relationships on the paper and write notes to help further explain your drawing

# Activity 1: How are you connected within your market food environment and the food system?

**What Are Your Food Sources (and types)?**



**What Happens between Source and Market?**



**Other Factors to Consider:**

Technology? Gender?  
Youth? Internally Displaced People?  
Vulnerability?



**My/Our Market**

**What Happens in the Market?**

**What Happens After Your Market?**



insert time duration for this  
activity and if group or  
individual activity  
[approx. 25 min]

# Activity 1:

## Identify and describe your local food environment. What foods, actors, and spaces make it up from the view of the market?

6. Additional questions to help further guide your mapping:

- Is the experience of the market different for different people? (e.g., women, children, displaced communities, large and smallholder farmers, low-income vendors) and in what way?
- How is food handled, stored, and talked about in the market?
- Does technology play a role in the local food environment/market? And if so, what?
- Are there innovative social practices in the market (e.g., multistakeholder market and city government decision-making platform? Childcare areas, Or women's savings groups)? And if so, what?
- Are different foods handled differently (e.g., frozen, on ice, fresh, dried, processed etc.)?  
Please explain further

# Nutrition

Healthy Diets

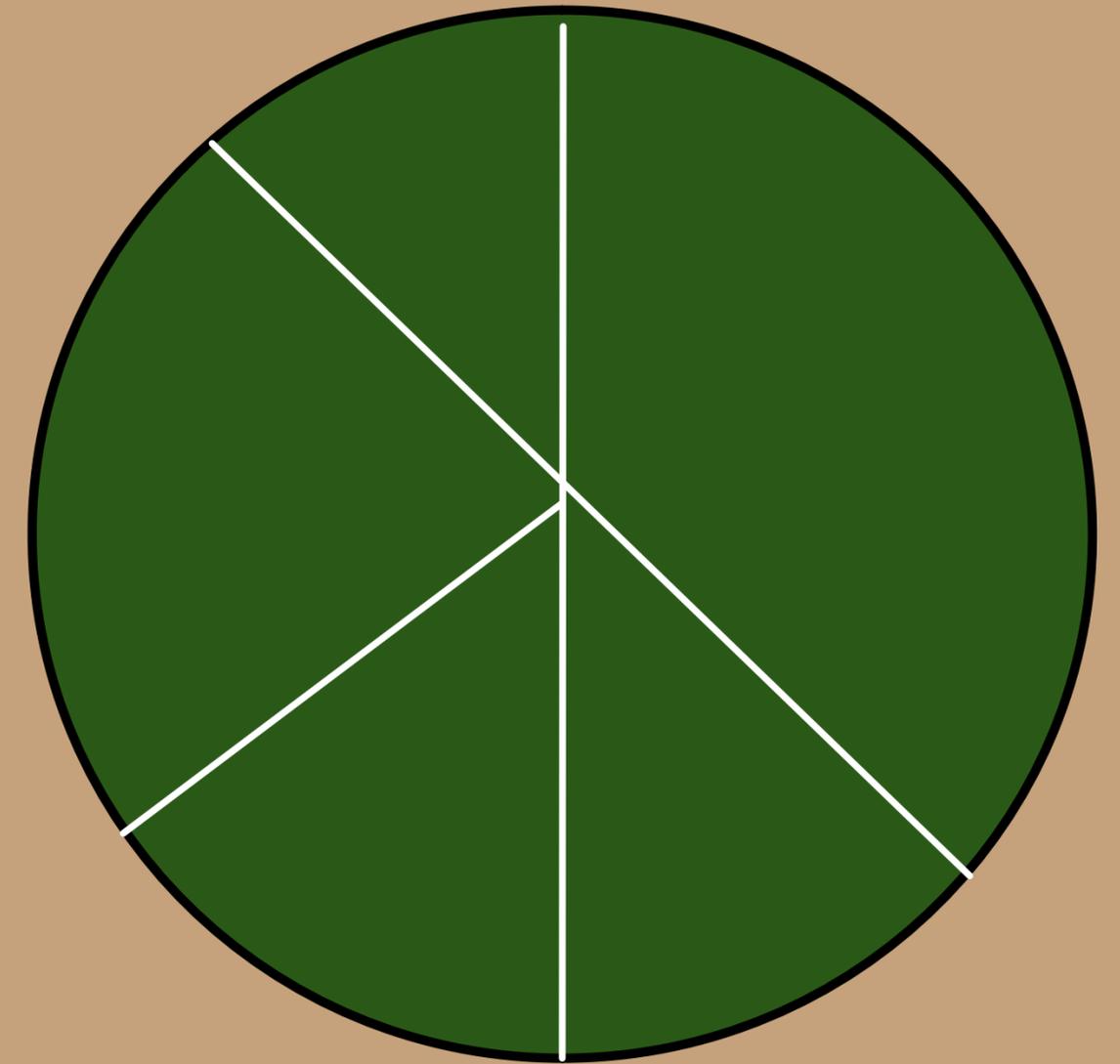


insert time duration for this activity and if group or individual activity  
[approx. 10 minutes]

# Activity 2:

## Draw your typical meal

1. Take a sheet of paper
2. Draw a plate showing a typical main meal that you usually eat
3. Add notes on or around the drawing to explain your food choices. These notes can include alternative foods you also often eat
4. Use the local names of the foods, if possible, and add the English names in brackets next to them
5. Share and explain your drawing ('plate')





# What is a Healthy Diet?

The World Health Organization (WHO) describes a healthy diet as a regular diet that provides individuals and communities with sufficient energy and nutrients for their daily needs – across life stages.

This diet:

- Includes fruits, vegetables, legumes, nuts, and whole grains
- Limits sugars, salt, unhealthy fats and ultra-processed foods
- Is food safe
- Attentive to cultural preferences
- Is critical to the health and well-being of both individuals and populations

Healthy diets come in many forms, but the four core principles of adequacy (sufficient food for energy and nutrition), balance, moderation, and diversity are the foundation of any healthy diet.

Reference (8)



# What is Good Nutrition?

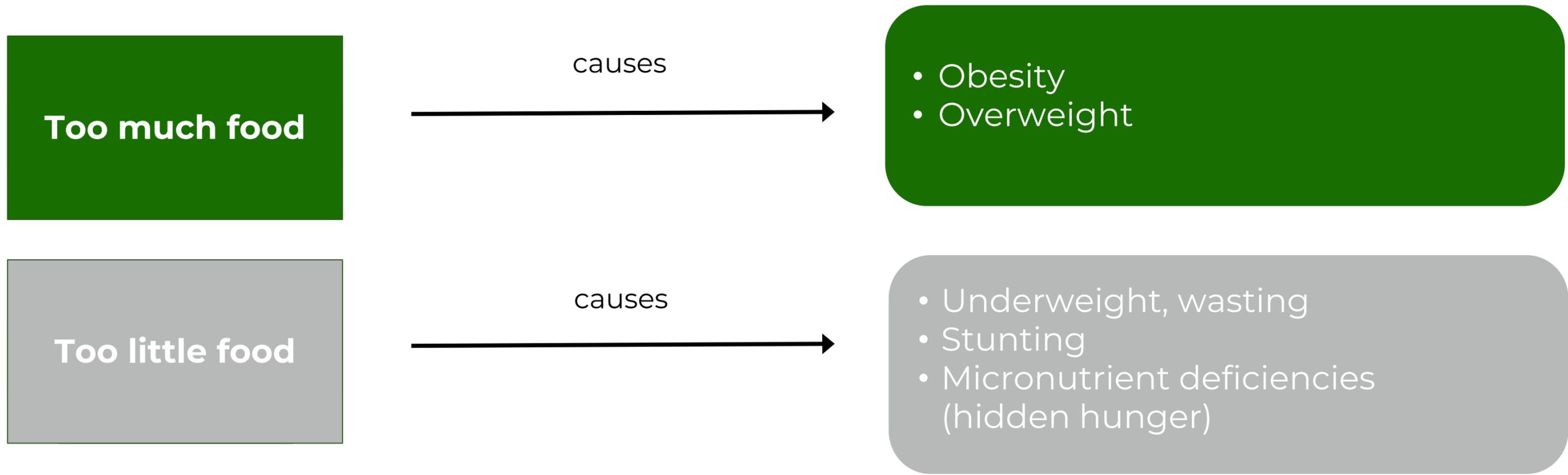


It is eating the right combination of energy and nutrient-rich foods in the right amounts to enable healthy body processes, at all times, for all people, **across different life phases** from pregnancy to children under five years of age, teenagers, young adults, and older adults. Good nutrition helps:



# What is a Bad Nutrition?

Bad nutrition, also known as malnutrition, is about having too much, too little, or an imbalance of nutrients in the body. Multiple forms of malnutrition can exist within the same family or community. For example, one family member may be overweight while another struggles with a lack of sufficient micronutrients in their routine diets.



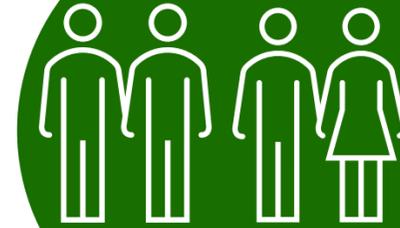
# Importance of Good Nutrition

Good nutrition enables us to lead a healthy life.



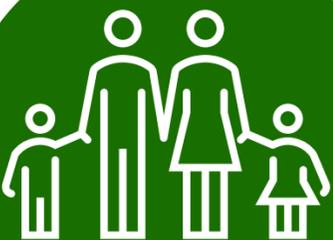
Children who are well nourished are:

1. Healthy and grow well
2. Can concentrate, remember, and perform well in school - supporting future prosperity, mental health, and aspirations



Well-nourished adolescents and adults enjoy:

1. Physical and mental health
2. Being more productive and can better pursue their goals and prosperity



A well-nourished family will:

1. Fall sick less often and spend less on medical care
2. Be more resilient

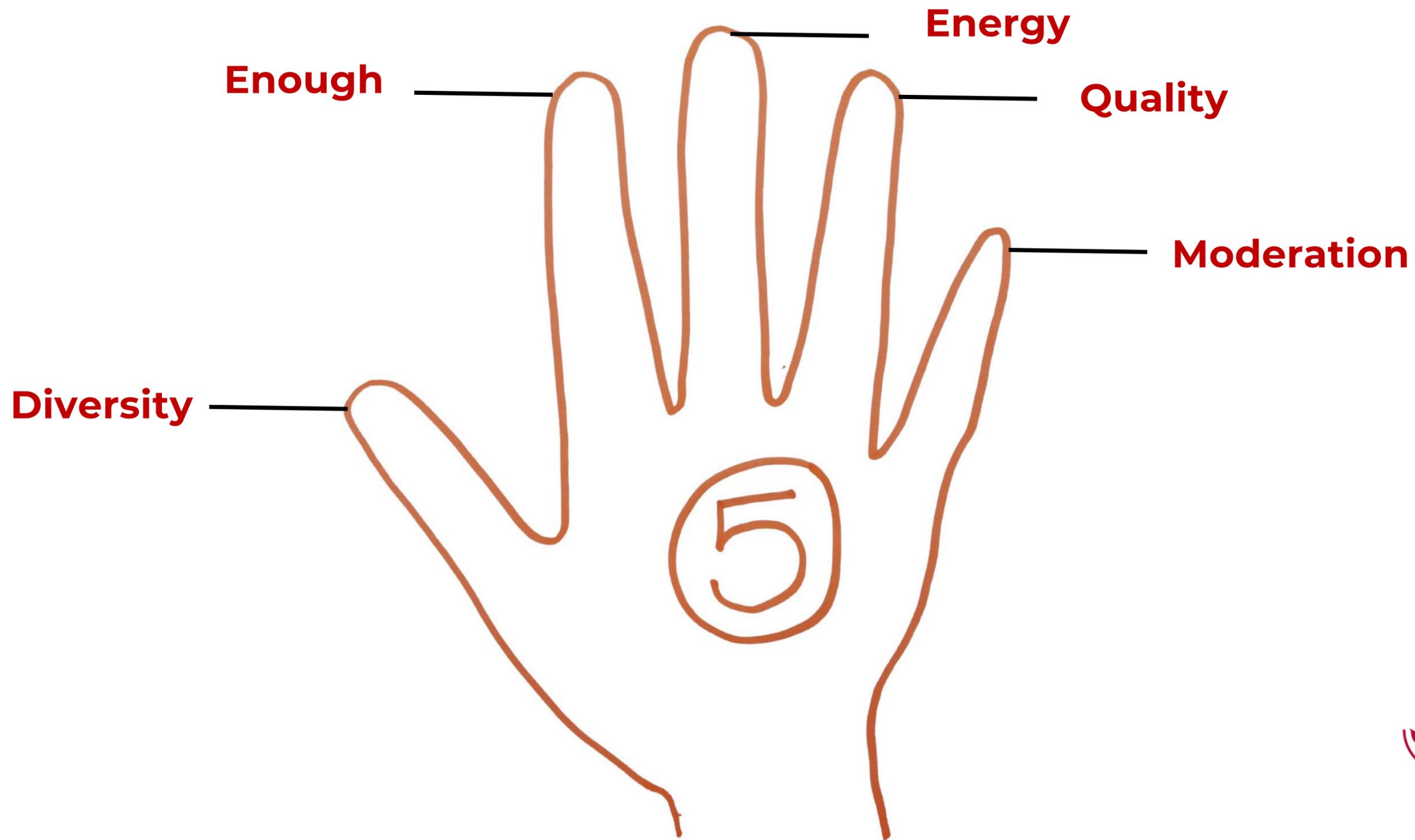


Women, especially of reproductive age, who are well nourished when they are younger have the best chance of:

1. Enjoying long and active lives
2. Giving birth to healthy babies



# The Rule of 5: Nutrition





# Rule of 5: Nutrition

## Diversity

- Every day, eat a diversity of different food groups
- Vary choices: what is available, in season, and affordable
- Celebrate healthy cultural food preferences

## Enough

- Everyone eats enough to meet their nutritional needs - per gender and life stage from - pregnancy, childhood, teenage years, adulthood, and amongst the elderly
- Meals should be eaten in correct proportions and frequency

## Energy

- Everyone should eat enough for their body's energy (fuel) needs
- Children should eat smaller amounts throughout the day to meet energy needs

## Quality

- Eat nutritious foods - think about what foods give you which vitamins and minerals
- Engage in physical activity daily

## Moderation

- Strive for balance: avoid under eating or overeating
- Significantly reduce eating processed foods
- Avoid eating foods high in sugar, salts, and fat



# Rule of 5: Nutrition

## Diversity

- Every day, eat a diversity of different food groups
- Vary choices: what is available, in season, and affordable
- Celebrate your healthy cultural preferences for food under diversity

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*



# Rule of 5: Nutrition

## Enough

- Everyone eats enough to meet their nutritional needs - per gender and life stage from pregnancy, childhood, teenage years, adulthood, and among the elderly
- Meals should be eaten in correct proportions and frequency

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*



# Rule of 5: Nutrition

## Energy

- Everyone should eat enough for their body's energy (fuel) needs
- Children should eat small amounts often to meet energy needs

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Rule of 5: Nutrition

## Quality

- Eat nutritious foods - think about what foods give you which vitamins and minerals.
- Engage in physical activity daily.

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*



# Rule of 5: Nutrition

## Moderation

- Strive for balance: avoid under eating or overeating
- Significantly reduce eating ultra processed foods
- Avoid eating foods high in sugar, salts and fat.

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Food Groups for Adults



**Grains and grain products, and all other starchy foods**



**Legumes/pulses (dried beans, peas, lentils, etc.)**



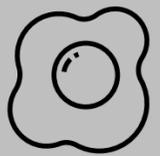
**Nuts and seeds**



**Dairy and dairy products**



**Flesh foods - beef, poultry, fish, etc.**



**Eggs**



**Dark green leafy vegetables**



**Vitamin A rich fruits and vegetables**



**Other vegetables**



**Other fruits**



# A healthy plate for people and planet

## Planetary Health Diet

Encourages consumers to eat food that is healthy for them and the wellbeing of the environment.

This diet advocates for the routine consumption of a diversity of food groups, of which half should be fruits and vegetables.

It explicitly promotes consumption of more plant-based foods and less animal-source foods.

Reference (9)



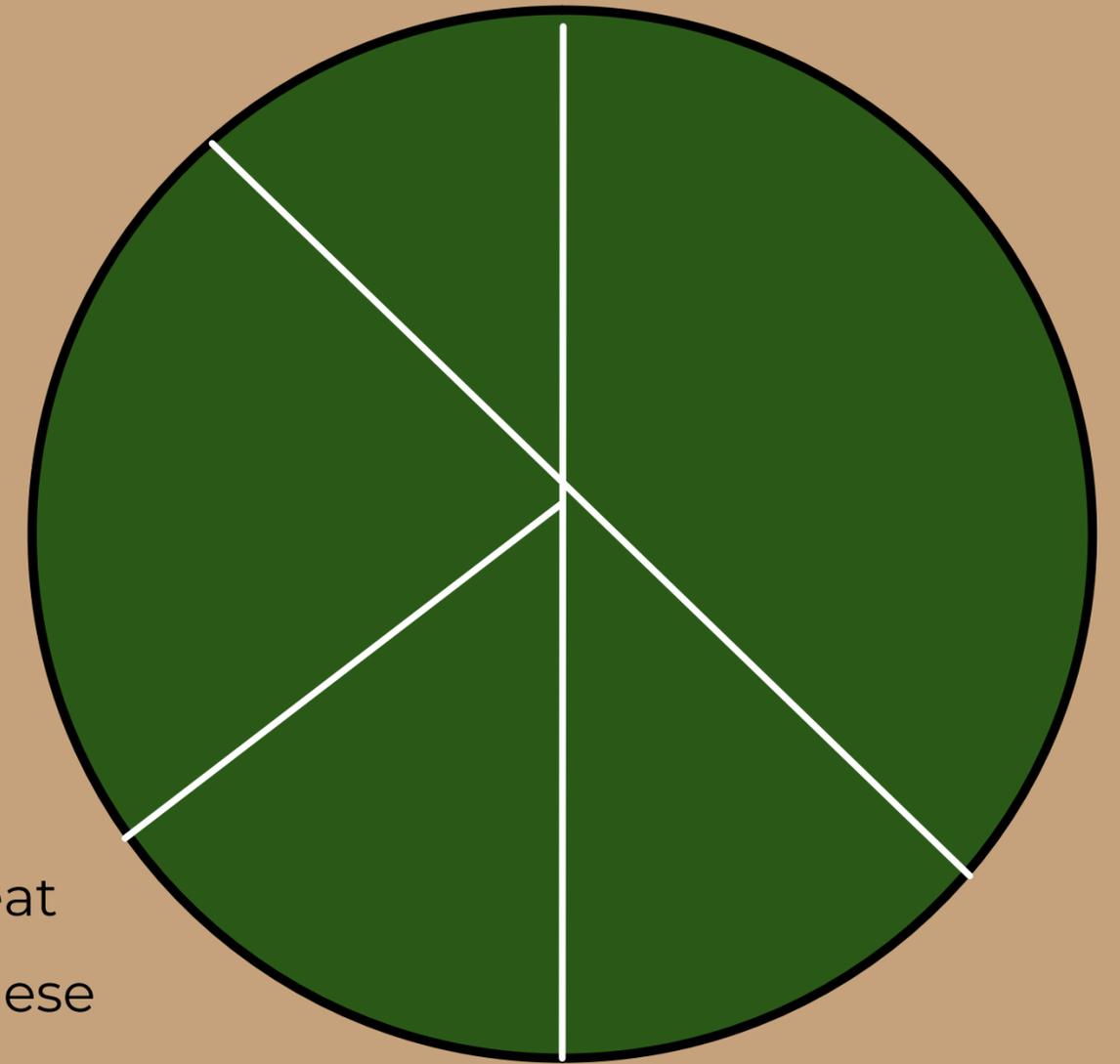
insert time duration for this activity and if group or individual activity  
[approx. 10 minutes]

## Activity 3:

# Draw a typical meal that you would prefer to eat

**If there were no limits to your food choices**

1. Take a sheet of paper
2. Draw a plate showing a typical main meal that you would prefer to eat
3. Add notes on or around the drawing to explain your food choices. These notes can include alternative food options
4. Use the local names of the foods. If possible, add the English names in brackets next to them
5. Share and explain your drawing ('plate')





insert time duration for this activity and if group or individual activity  
[approx. 5 minutes]

# Activity 4:

## Reflect on these questions

1. What prevents people from eating a healthy diet? And are these reasons the same or different across gender? Age groups? Health status? Other? Explain.
2. In your experience, do people often eat unhealthy foods that are high in salt, sugar and/or fats? And if so, why?
3. From the perspective of your role (e.g., market vendor, Department of Health official etc.) how do you view your role in supporting the availability and access to healthy diets? In your city? At home?



insert time duration for this activity and if group or individual activity\*

## Activity 5:

# Let's explore together, examples of foods for healthy diets and how they support health

- In the following slides we will explore examples of food, by food groups, that when eaten in combination in a meal, on a regular basis, can support healthy diets and healthy outcomes.
- Many of these foods are locally available. Some are available seasonally. Other foods might be sourced from longer food supply chains and others are for inspiration.

*\* Depending on detail and approach this Activity can take 1 – 2 hours, half a day, or a full day*



## Grains and grain products, and all other starchy foods

### Functions:

- Good sources of carbohydrates, vitamin B-complex, fiber
- Provide energy
- Fiber helps with digestion, and lowering cholesterol

### Sources:

#### Grains:

Maize, sorghum, wheat, rice, oats

#### Starchy foods:

Plantain, sweet potatoes (white fleshed), cassava

#### Grain or starch products:

Bread, porridge, pasta

Localise: add to/replace with examples of grains, starchy food etc. that are locally available, known and/or consumed

**Examples of Sources:**



**Grains and grain products, and all other starchy foods**

**[Insert local picture]**

Insert: Name of Food  
Insert: Food Type (grains, starch products, starchy food)

**[Insert local picture]**

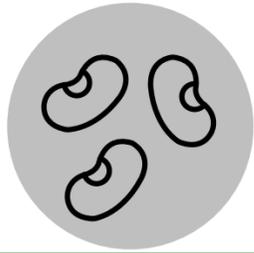
Insert: Name of Food  
Insert: Food Type (grains, starch products, starchy food)

**[Insert local picture]**

Insert: Name of Food  
Insert: Food Type (grains, starch products, starchy food)

**[Insert local picture]**

Insert: Name of Food  
Insert: Food Type (grains, starch products, starchy food)



**Legumes/pulses  
(dried beans,  
peas, lentils,  
etc.)**

### Functions:

- Good sources of protein, vitamin B2 (riboflavin) magnesium, folate, iron, soluble fiber
- Supports growth, energy and tissue repair
- Helps prevent anaemia
- Supports muscle and nerve functions

Localise: add to/replace with examples of legumes/pulses that are locally available, known and/or consumed

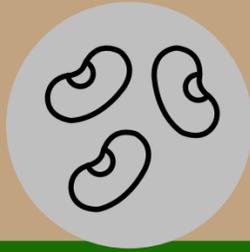
### Example of Sources:

#### Common beans:

Chickpea, cowpea, lentils, soybean,  
lima beans

#### Other Products:

Soy milk, gram flour (chickpea)



**Legumes/pulses  
(dried beans,  
peas, lentils, etc.)**

**Sources:**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type (legumes, peas,  
lentils)**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type (legumes, peas,  
lentils)**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type (legumes, peas,  
lentils)**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type (legumes, peas,  
lentils)**



## Nuts and seeds

### Functions:

- Good sources of protein, fibre, un-saturated fats, and minerals
- Helps reduce inflammation
- Reduces risk of heart disease and type 2 diabetes
- Helps with digestion

### Example of Sources:

#### Example of nuts:

Cashew, macadamia, almonds, chestnuts, peanuts (groundnuts)

#### Examples of seeds:

Sesame, sunflower, pumpkin, baobab seed

Localise: add to/replace with examples of nuts and seeds that are locally available, known and/or consumed

**Sources:**



**Nuts and seeds**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (type of nuts or seeds)**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (type of nuts or seeds)**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (type of nuts or seeds)**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (type of nuts or seeds)**



**Dairy and dairy products**

**Functions:**

- Development of healthy bones and teeth.
- Helps muscle, tissue, and metabolic function.
- Body growth, energy, and repair.
- Improves immunity.

Localise: add to/replace with examples of dairy and dairy products that are locally available, known and/or consumed

**Sources:**

**Milk**

Fresh whole, low-fat, and skimmed milk, Reconstituted powdered milk (whole or skimmed)

**Hard Cheese**

e.g., cheddar, mozzarella

**Soft cheese**

e.g., ricotta, cottage, brie

**Fermented milk**

**Yoghurt/curd**

**Sources:**



**Dairy and dairy products**

**[Insert local picture]**

Insert: Name of Food  
Insert: Food Type (dairy or dairy products)

**[Insert local picture]**

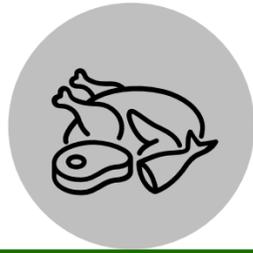
Insert: Name of Food  
Insert: Food Type (dairy or dairy products)

**[Insert local picture]**

Insert: Name of Food  
Insert: Food Type (dairy or dairy products)

**[Insert local picture]**

Insert: Name of Food  
Insert: Food Type (dairy or dairy products)



**Flesh foods -  
beef, poultry,  
fish, etc.**

### Functions:

- Good sources of quality protein and micronutrients (iron, zinc, Vitamin A, B-complex and Vitamin K)
- Supports growth, repair and functioning of immune system as well as brain development, and hormone and enzyme production
- Helps prevent anaemia

### Sources:

#### Sea foods:

Crabs, mussels, oysters, scallops, prawns, octopus

#### Fresh/Frozen/Dried/ Canned Fish:

Tuna, sardines

#### Organ meats:

Liver, kidney, heart, offal

#### Domesticated animals:

Beef, goat, lamb, pork, rabbit, poultry

Localise: add to/replace with examples of flesh foods that are locally available, known and/or consumed

#### Wild animals:

Deer, buffalo, guinea fowl, pigeon

**Sources:**



**Flesh foods -  
beef, poultry,  
fish, etc.**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type (beef, poultry, fish)**

**[Insert local picture]**

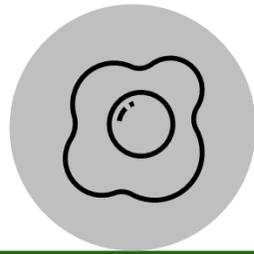
**Insert: Name of Food  
Insert: Food Type (beef, poultry, fish)**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type (beef, poultry, fish)**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type (beef, poultry, fish)**



**Eggs**

**Functions:**

- A good source of protein, vitamin B12, and saturated fats
- Supports growth and repair
- Source of energy and prevents some forms of anaemia
- Important for nerve health

Localise: add to/replace with examples of eggs that are locally available, known and/or consumed

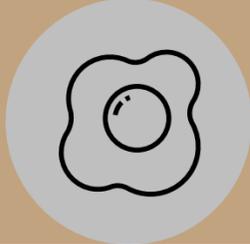
**Example of Sources:**

**Chicken Eggs**

**Guinea Fowl Eggs**

**Duck Eggs**

**Quail Eggs**



**Eggs**

**Sources:**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (a different variation of eggs made)**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (a different variation of eggs made)**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (a different variation of eggs made)**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (a different variation of eggs made)**



**Dark green leafy vegetables**

**Functions:**

- Rich sources of folate, vitamins A, C, E, and K
- Supports early fetal development
- Strengthens the immune system and improves blood circulation.
- Helps detoxify

Localise: add to/replace with examples of dark green leafy vegetables that are locally available, known and/or consumed

**Sources:**

**Beans**

**Sweet potatoes leaves**

**Moringa**

**Cassava**

**Amaranth**

**Kales**

**Pumpkin**

**Spinach**

**Stinging nettle**

**Sources:**



**Dark green leafy  
vegetables**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (type of vegetable)**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (type of vegetable)**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (type of vegetable)**

**[Insert local picture]**

**Insert: Name of Food**  
**Insert: Food Type (type of vegetable)**



### Other vitamin A rich fruits and vegetables

#### Functions:

- Good sources of vitamin A, also containing vitamin C, folate micronutrients
- Important for growth and improves immunity
- Helps eye and skin health

Localise: add to/replace with examples of Vitamin A rich , fruits and vegetables that are locally available, known and/or consumed

#### Sources:

##### Vitamin A-rich fruits:

Ripe mangoes, ripe papaya

##### Vitamin A-rich vegetables:

Carrots, pumpkin, orange-fleshed squash



**Other vitamin A rich fruits and vegetables**

**Sources:**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type**

**[Insert local picture]**

**Insert: Name of Food  
Insert: Food Type**

**Other vegetables****Functions:**

- Rich in micronutrients, fiber, bioactive compounds (phenolics, flavonoids)
- Helps with digestion and may help prevent some diseases
- Lowers bad cholesterol
- Anti-inflammatory properties

Localise: add to/replace with examples of vegetables that are locally available, known and/or consumed

**Sources:****Asparagus****Eggplant****Lettuce****Cauliflower****Celery****Onion****Cabbage****Cucumber****Okra****Green pepper****Tomato****Green peas and beans**



**Other vegetables**

**Sources:**

**[Insert local picture]**

Insert: Name of Food  
Insert: Food Type

**[Insert local picture]**

Insert: Name of Food  
Insert: Food Type

**[Insert local picture]**

Insert: Name of Food  
Insert: Food Type

**[Insert local picture]**

Insert: Name of Food  
Insert: Food Type

**Other fruits****Functions:**

- Good sources of Vitamin C, E, K fiber, various micronutrients
- Helps digestion and to reduce free radicals in the body
- Have anti-aging properties

Localise: add to/replace with examples of fruits that are locally available, known and/or consumed

**Sources:**

Apple

Cherries

Oranges

Banana

Cranberry

Guava

Blueberry

Dates

Jackfruit

Figs

Lemon

Kiwi



Other fruits

Sources:

[Insert local picture]

Insert: Name of Food  
Insert: Food Type

[Insert local picture]

Insert: Name of Food  
Insert: Food Type

[Insert local picture]

Insert: Name of Food  
Insert: Food Type

[Insert local picture]

Insert: Name of Food  
Insert: Food Type



# Types of Vitamins

## Fat-soluble Vitamins

These vitamins need **fat** to help them be absorbed into the body. Examples of fat-soluble vitamins are:

- Vitamin A
- Vitamin D
- Vitamin E
- Vitamin K

They can be stored by/in the body for use later as needed.

## Water- soluble Vitamins

These vitamins need **water** to be absorbed into the body:

- Vitamin C
- Vitamin B

They are easily absorbed and can pass through the body as waste.



insert time duration for this activity and if group or individual activity\*

## Activity 6:

# Let's explore together the variety of vitamins and minerals needed for a healthy diet

- In the following slides we will explore examples of food, by type of vitamin and mineral, and how these can support healthy diets and healthy outcomes.
- A lack of essential vitamins and/or minerals in our diets can cause 'hidden hunger' (micronutrient deficiencies).

*\* Combined with Activity 5 the duration of this activity - depending on detail and approach - in total can take 1 – 2 hours, half a day, or a full day*



# Vitamins

Type	Function	Signs of Deficiency	Natural Source
Vitamin A	<ul style="list-style-type: none"> <li>Growth and Development</li> </ul>	<ul style="list-style-type: none"> <li>Skin Problems</li> <li>Dry Eyes</li> <li>Poor Sensory Abilities</li> </ul>	<p><b>[Insert picture of local examples of Vitamin A foods]</b></p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-top: 10px;">Insert: Name of Food</div>
Vitamin C	<ul style="list-style-type: none"> <li>Collagen Formation</li> <li>Anti-oxidant</li> <li>Helps with Iron Absorption</li> </ul>	<ul style="list-style-type: none"> <li>Scurvy/ Bleeding Gums</li> <li>Swollen Joints</li> <li>Slowly healing wounds</li> </ul>	<p><b>[Insert picture of local examples of Vitamin C foods]</b></p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-top: 10px;">Insert: Name of Food</div>
Vitamin D	<ul style="list-style-type: none"> <li>Bone Health</li> </ul>	<ul style="list-style-type: none"> <li>Soft Bones</li> <li>Rickets</li> </ul>	<p><b>[Insert picture of local examples of Vitamin D foods]</b></p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-top: 10px;">Insert: Name of Food</div>

References (22, 23)



# Vitamins

Type	Function	Signs of Deficiency	Natural Source
Vitamin E	<ul style="list-style-type: none"> <li>• Circulation and Protection from Free Radicals</li> </ul>	<ul style="list-style-type: none"> <li>• Inability to absorb Fat</li> </ul>	<p><b>[Insert picture of local examples of Vitamin E foods]</b></p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-top: 10px;">Insert: Name of Food</div>
Vitamin K	<ul style="list-style-type: none"> <li>• Blood Coagulation</li> </ul>	<ul style="list-style-type: none"> <li>• Excessive Bleeding</li> </ul>	<p><b>[Insert picture of local examples of Vitamin K foods]</b></p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-top: 10px;">Insert: Name of Food</div>
Vitamin B Complex (B1, B2, B3, B6 and 12)  <small>References (22, 24)</small>	<ul style="list-style-type: none"> <li>• Energy Production</li> <li>• Nervous System Immunity</li> <li>• Iron Absorption</li> </ul>	<ul style="list-style-type: none"> <li>• Poor Appetite</li> <li>• Depression</li> <li>• Cracked Lips</li> <li>• Diarrhea</li> <li>• Risk: Stomach Cancer</li> </ul>	<p><b>[Insert picture of local examples of Vitamin B foods]</b></p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-top: 10px;">Insert: Name of Food</div>



### Minerals

Type	Function	Natural Source
Iron and Potassium	<ul style="list-style-type: none"> <li>• Helps keep the blood healthy and to carry oxygen to the body's cells to avoid anemia</li> <li>• Helps growth and overall body wellbeing</li> </ul>	<p><b>[Insert picture of local examples of food rich in iron and/or potassium]</b></p> <div data-bbox="2402 776 2898 904" style="border: 1px solid black; background-color: #f8d7da; padding: 5px; text-align: center;">           Insert: Name of Food         </div>
Calcium, Phosphorous and Fluorine	<ul style="list-style-type: none"> <li>• Helps to strengthen bones and teeth</li> </ul>	<p><b>[Insert picture of local examples of food rich in calcium, phosphorous and flourine]</b></p> <div data-bbox="2402 1253 2898 1380" style="border: 1px solid black; background-color: #f8d7da; padding: 5px; text-align: center;">           Insert: Name of Food         </div>
Iodine and Sodium	<ul style="list-style-type: none"> <li>• Helps to provide proper functioning of the thyroid gland and nervous system</li> </ul>	<p><b>[Insert picture of local examples food rich in iodine and sodium]</b></p> <div data-bbox="2402 1639 2898 1767" style="border: 1px solid black; background-color: #f8d7da; padding: 5px; text-align: center;">           Insert: Name of Food         </div>

References (22, 24)



insert time duration for this activity and if group or individual activity  
[approx. 5 – 10 minutes]

# Activity 7:

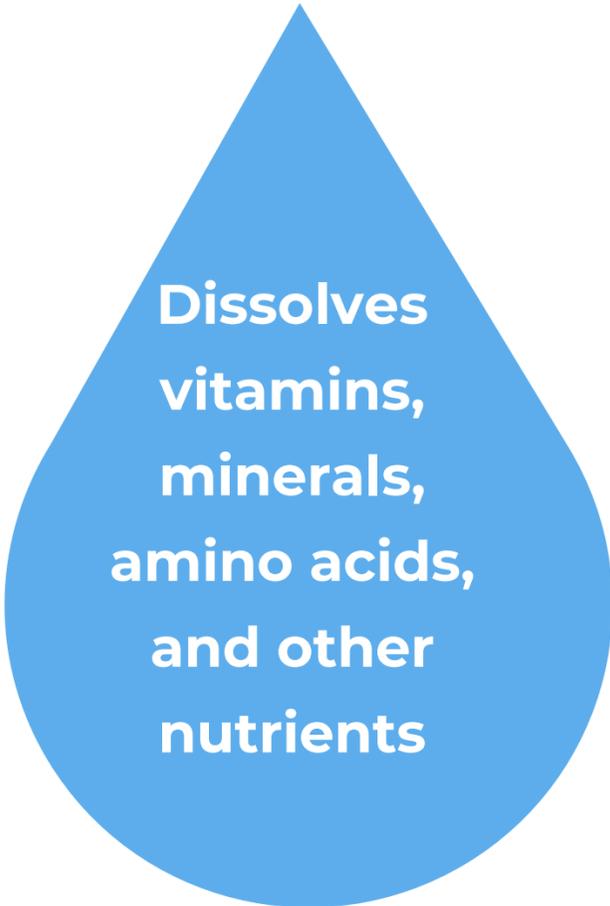
## Reflect on these questions

1. Have you seen anyone who is suffering from vitamin and/or mineral deficiencies – in the market? Your community? At home?
2. From the position of your role (e.g., a market vendor, market committee member, Department of Health official, etc.), how can you help consumers eat healthier diets? Is this an important role you play already - and why? Are there limits to what you can do? If so, what?



# What's in Your Water?

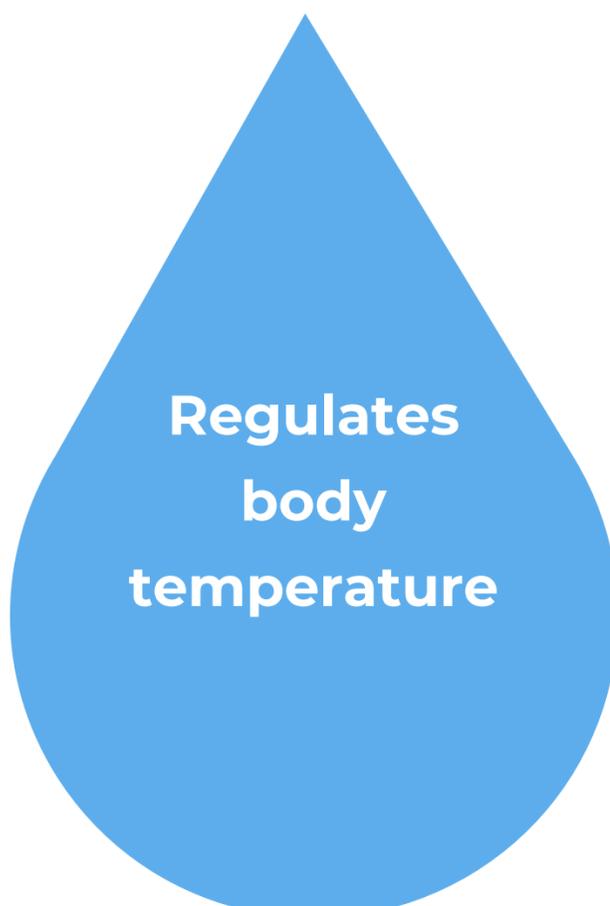
Did you know that 1/2 to 3/4 of the human body is water? It also does the following:



Dissolves  
vitamins,  
minerals,  
amino acids,  
and other  
nutrients



Helps keep  
joints healthy



Regulates  
body  
temperature



Carries  
nutrients,  
from food, to  
the body's  
cells and  
carries waste  
away from  
your body

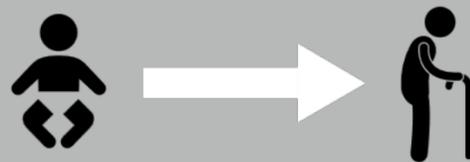


# What more do we know? about the importance of water and health

The body cannot  
store water

Drink water every day

Different amounts of  
water are needed for  
different life stages  
and gender e.g. some  
people need more or  
less water each day



Important to  
consume about 2  
liters (8 cups) of  
water daily

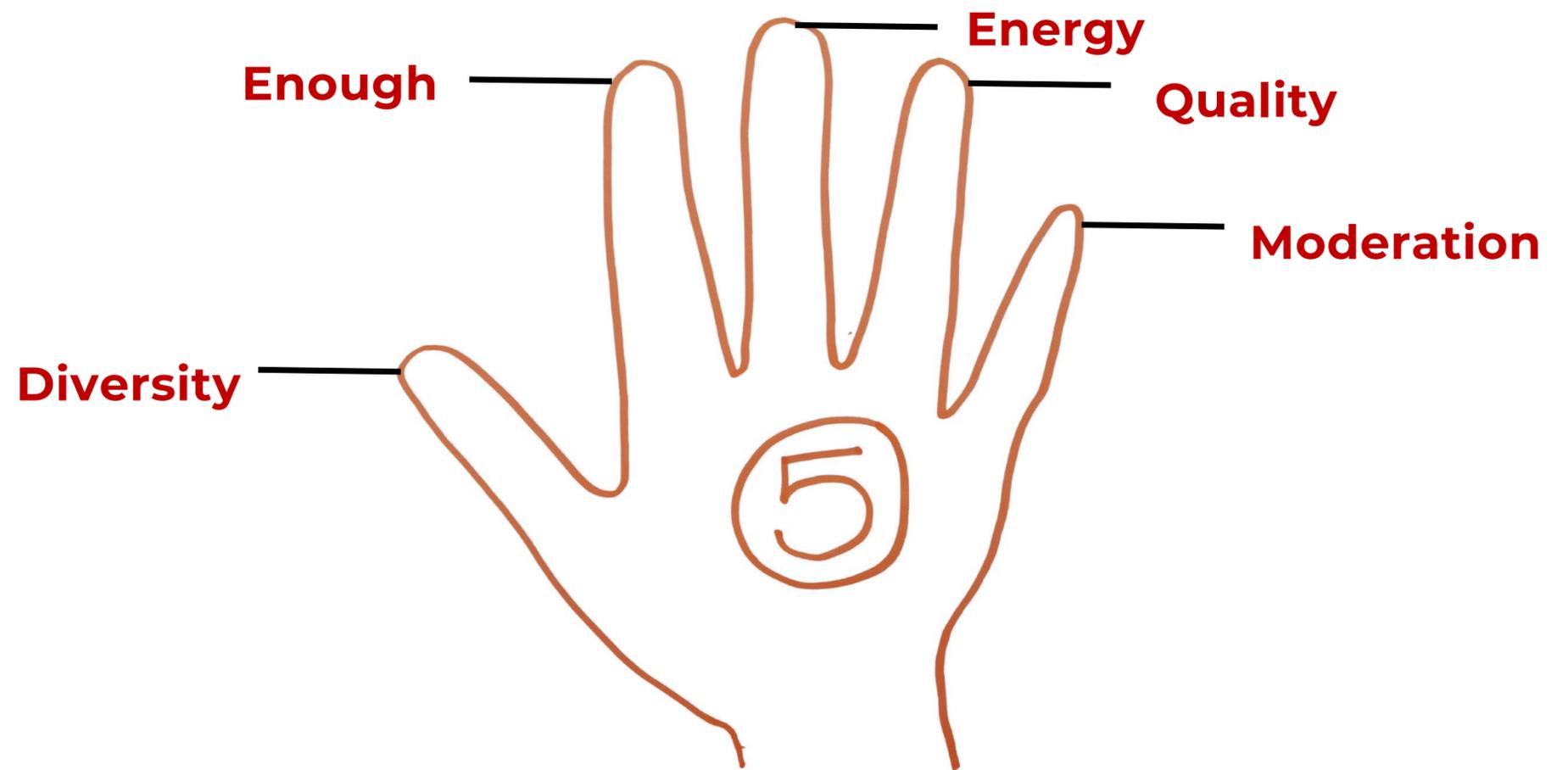
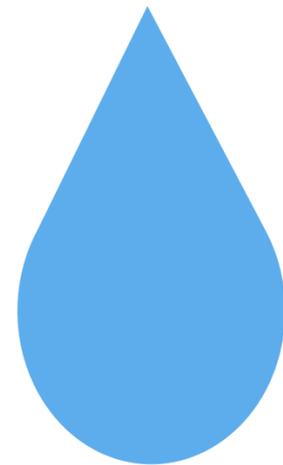
More water may be  
required in hot  
weather

Dehydration can happen  
when the body's fluids  
are low

Dehydration can be life-  
threatening, especially to  
babies, children, and the  
elderly



# A healthy plate for people and planet





# Food Hygiene and Safety

For Healthy People

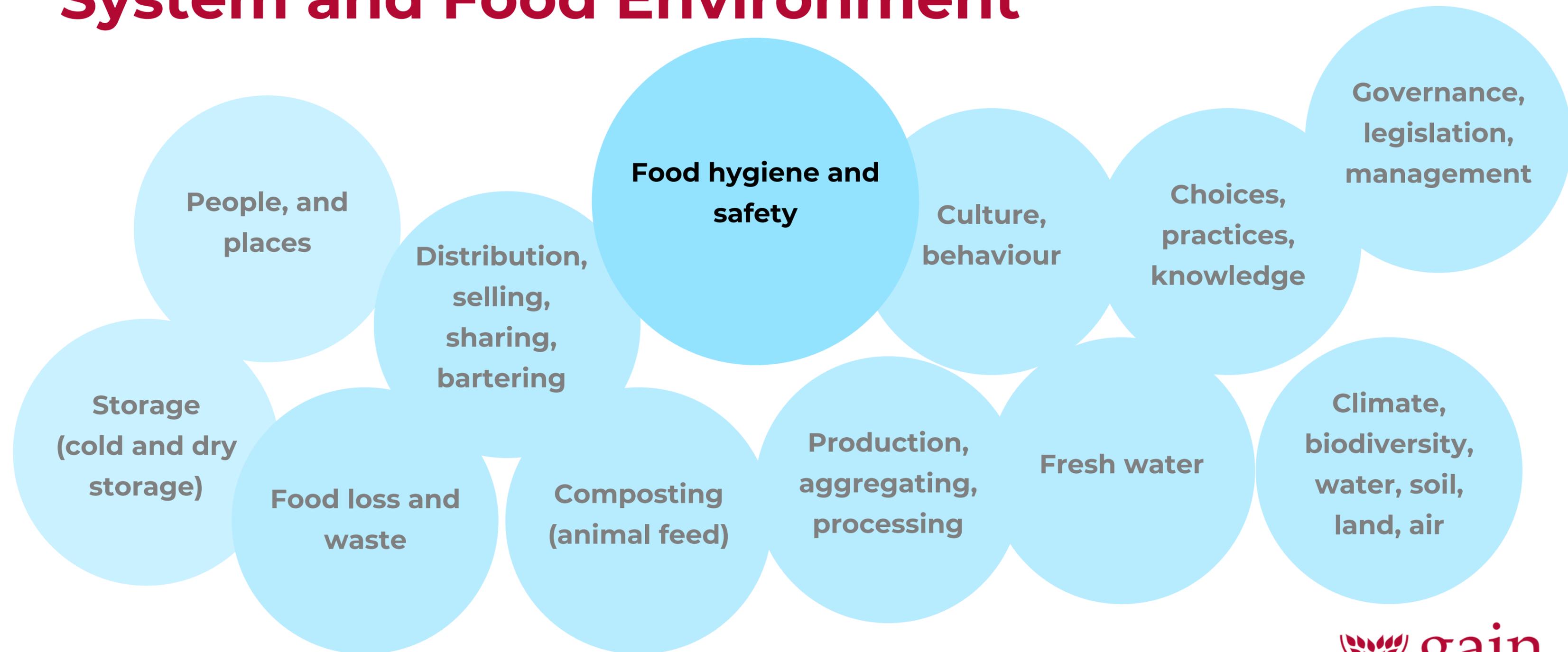
# Food Hygiene and Safety

Safe food in the markets needs more than policy and regulation

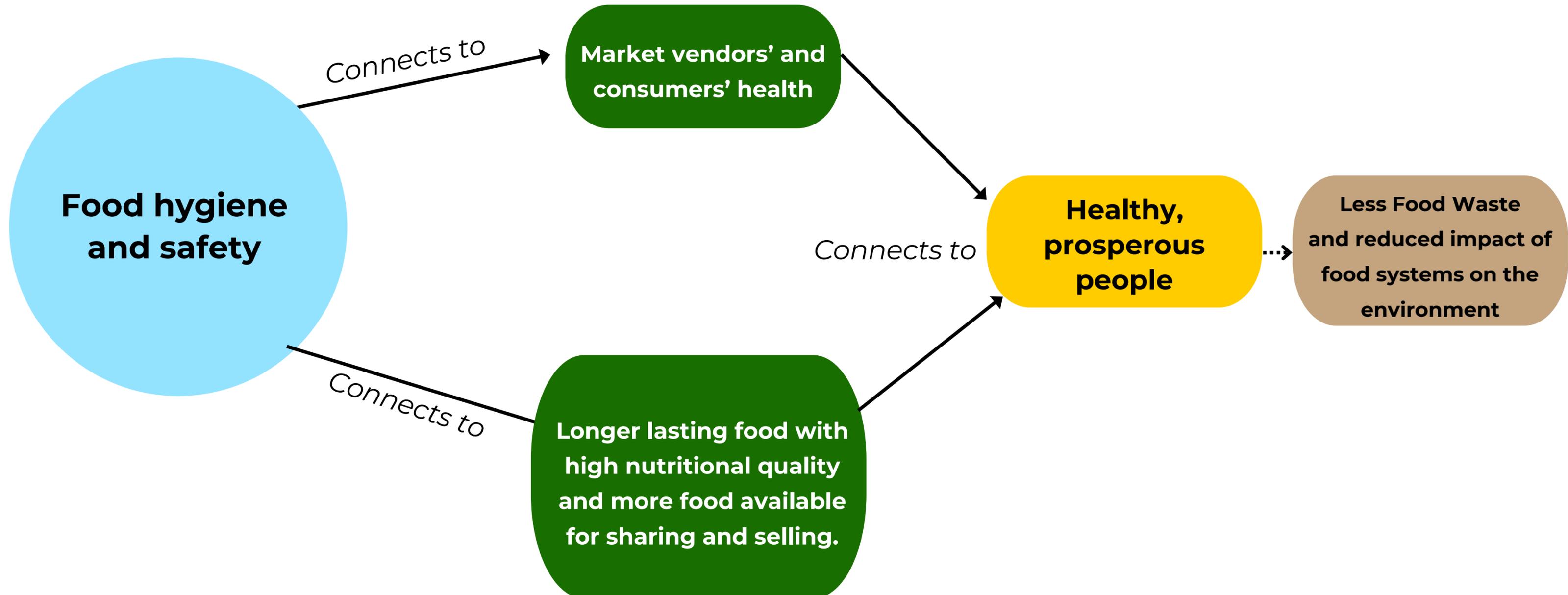
Key infrastructure (e.g., water taps, drainage, dry and cool rooms), un-interrupted basic services (e.g., WASH) and food hygiene practiced by trained vendors supports food safety – everyday in the market.



# Food Hygiene and Safety is part of the Food System and Food Environment



# Food Hygiene and Safety



insert time duration for this activity and if group or individual activity  
[approx. 15 minutes]

## Activity 8:

# Applying a food hygiene and safety lens to your food environment

1. Let's add another layer of information to the food environment map/plate diagram you drew and made notes on, in Activity 1 (Slides 14-16).
2. Use the Activity 1 map you made. If there is too much information on there already take another piece of paper for this activity but keep referencing what you drew and wrote about in Activity 1.
3. Use a different colour pen to draw and make notes about food hygiene and safety.



insert time duration for this activity and if group or individual activity  
[approx. 15 minutes]

## Activity 8:

# Applying a food hygiene and safety lens to your food environment

4. To guide your mapping, ask yourselves these questions:
- From food supply to the daily routines in the market, where and when do food hygiene and safety considerations occur?
  - In what way are these considerations evident or not (e.g., as best practice, opportunities, challenges)?
  - Who plays a role and is responsible for food hygiene and safety – when, how and where?
  - Is food hygiene and safety different for different people? (e.g., women, children, displaced communities, large and smallholder farmers, low-income vendors)



# The Burden of Foodborne Illnesses

Eating unsafe food risks contracting more than 200 different diseases (diarrhea, cancer)

1 in 10 people (600 million people worldwide) becoming ill after consuming contaminated food

420,000 annual deaths, loss of over 33 million healthy life-years

125,000 deaths of children below the age of 5

insert time duration for this activity and if group or individual activity  
[approx. 5 – 10 minutes]

# Activity 9:

## Reflect on these questions

1. In your view, what is unsafe food? Also think about: when does food that is safe for people to eat become unsafe? And why?
2. What is the relationship between food hygiene and safe food?
3. From the position of your role (e.g., a market vendor, market committee member, Department of Health official, etc.) how can you help ensure food safety? Is this an important role you play - and why? and Are there limits to what you can do? If so, what?

# What Makes a Safe Food Environment? (1/2)

## Transport



- ✓ Vehicles are safe for the foods transported in them (e.g., meat versus vegetables)
- ✓ Food is protected from poor weather conditions
- ✓ Food is kept safe from contamination
- ✓ Crates, sacks and containers that are used to transport food are clean

References (25, 26)

## Storage



- ✓ Store/cool rooms are clean
- ✓ Store food according to their food specific requirements
- ✓ Do not store food items with non-food items
- ✓ Make sure where you store food is free from pests, pollutants and disease
- ✓ Do not place food directly on the floor

## Technology



- ✓ Cashless payment methods can help avoid food contamination
- Examples:

Insert local examples of cashless payment methods

# What Makes a Safe Food Environment? (2/2)

## Display and Packaging

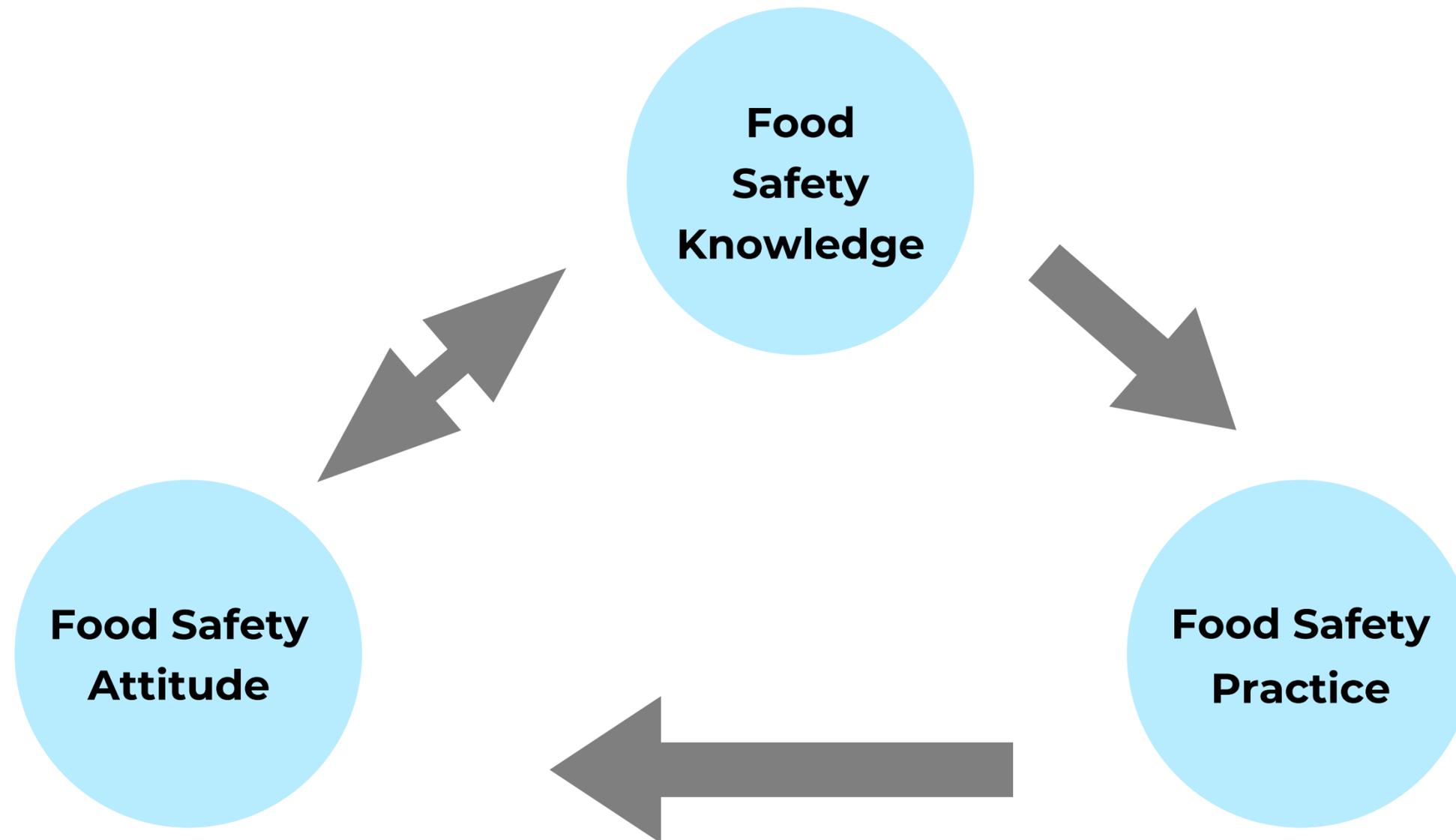
- ✓ Display food in a way that avoids contamination
- ✓ Avoid food exposure to poor weather conditions
- ✓ Food should not be placed directly on the ground
- ✓ Packaging materials should be clean and suitable for your food type

## Processing & Preparation

- ✓ Clean food working space where daily operations occur
- ✓ Clean equipment and utensils
- ✓ Clean and safe water - and access to sanitation
- ✓ Vendors must have good personal hygiene and be medically fit
- ✓ All food waste should be safely and properly handled

# Food Safety

## Culture, Daily Best Practices and Accountability



Safe food does not harm people when used and eaten the way it was intended for use

Important: learn, question, and share information about food safety - from farms and fisheries to market and homes

# What Happens after Food is sold?

## Consumption

## Reducing Food Waste

## Food Waste



**Direct:** food is eaten at home



Food recovery and redistribution e.g., food banks



Valorising food waste e.g., animal feeds, compost



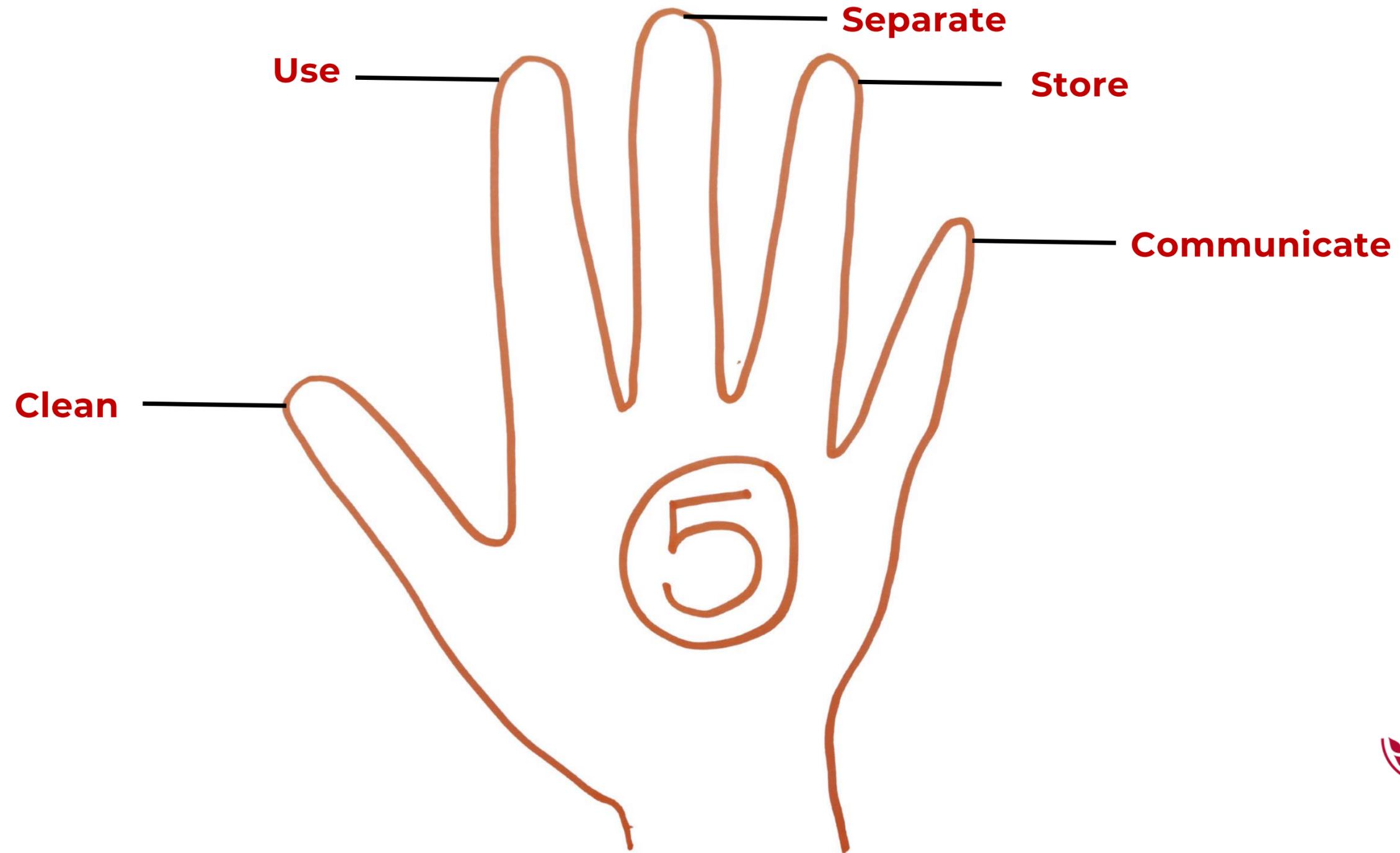
**Indirect** 'consumption' via onward sale to kiosks, other markets, last mile vendors, and institutions (e.g., schools, hospitals) – where food is then eaten



Final waste disposal



# The Rule of 5: Food Hygiene and Safety



# Rule of 5: Food Hygiene and Safety

## Clean

- Keep everything clean from hands to cloths, utensils, surfaces, general food area, cooking items like bowls, storage containers and have foods covered.

## Use

Cook food  
above 70°C

- Before handling, use, and storage: wash fruits, vegetables, and fish with clean, safe water
- Only drink safe water.
- Use food like meat, fish, milk and eggs within the food safe, time period. This includes cold meats like smoked ham and stored leftovers.
- Reheat leftovers before eating; and only reheat once.

## Separate

- Keep separate different types of raw food like meat, fish and vegetables.
- Keep raw food separate from smoked, dry and cooked food.
- Use separate utensils on different food.
- Store different food types separately, based on room temperature, cool/cold room needs and storage containers.

# Rule of 5: Food Hygiene and Safety

## Store

- Store different types of food safely according to best practice
  - e.g., some will be fine at room temperature, other foods need a cool room at about 5°C, others need colder temperatures
  - all foods can only be stored for a certain amount of time after which they become unsafe to eat

## Communicate

- Ask suppliers and transporters:
  - How safe is the food?
  - Did they safely use chemical fertilizer and herbicides ?
  - How did the care for animals used in animal sourced products?
  - Were best hygiene practices and food safety standards followed in harvesting? And storage?
- Even if they don't have traceability or lack of enforced law, these questions help you, the consumer and help create an environment of compliance
- Share information about food safety e.g., other vendors, and consumers

# Rule of 5: Food Hygiene and Safety

## Clean

- Keep everything clean from hands to cloths, utensils, surfaces, general food area, cooking items like bowls, storage containers and have foods covered.

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Rule of 5: Food Hygiene and Safety

## Use

- Before handling, use and storage: wash fruits, vegetables, and fish with clean, safe water.
- Only drink safe water.
- Cook food above 70°C.
- Use food like meat, fish, milk and eggs within the food safe, time period. This includes cold meats like smoked ham and stored leftovers.
- Reheat leftovers before eating and only reheat once.

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Rule of 5: Food Hygiene and Safety

## Separate

- Keep different types of raw food separate - like meat, fish, and vegetables.
- Keep raw food separate from smoked, dry and cooked food.
- Use separate utensils on different foods.
- Store different food types separately, based on room temperature, cool/cold room needs, and storage containers.

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Rule of 5: Food Hygiene and Safety

## Store

- Store different types of food safely according to best practice
  - e.g., some will be fine at room temperature, other foods need a cool room at about 5°C, others need colder temperatures.
  - Remember all foods whether fresh or frozen can only be stored for a certain amount of time after which they become unsafe to eat.

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Rule of 5: Food Hygiene and Safety

## Communicate

- Ask suppliers:
  - How safe is their produce?
  - How safe was their use of fertilizer? Chemical herbicides? Animal care? Harvesting? Storage?
- Even if they don't have traceability or lack of enforced law, these questions help you, the consumer and help create an environment of compliance.
- Ask similar questions to middle SMEs including transporters and processors.
- Share information about food safety with fellow vendors, committee members and consumers.

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# How to “Be Clean” and Hygienic <sup>(1/2)</sup>

## Clean

- Keep everything clean from hands to cloths, utensils, surfaces, general food area, cooking items like bowls, storage containers and have foods covered where relevant e.g., coughing and flies on some fresh foods



## Wash Your Hands!

Wash your hands for at least **20 seconds** and preferably with clean water and soap:

- Do so often and especially between working with different foods like vegetables vs. fish vs. meat
- After using the bathroom and handling dirty things, including cash money

# How to “Be Clean” and Hygienic <sup>(2/2)</sup>

## Clean

- Keep everything clean: hands, cloths, utensils, surfaces, general food area, cooking items like bowls, storage containers; cover foods where relevant.

## Being Hygienic

- Don't handle food with uncovered hands that have open sores, or after wiping your nose with a cold (wash hands first!)
- Don't smoke around food
- Don't spit
- Wear a mask if unwell

## Good personal hygiene leads to clean vendor spaces

Insert a local or context relevant photograph/pictures.

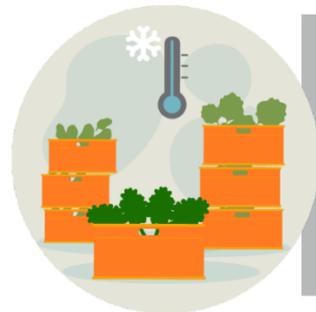
Insert title in beige box to describe the photograph/picture

*Example: Title*

# Clean Markets



Clean, everyday:  
Food outlets and market stalls



Floors, surfaces, cutting boards, dry  
store and cool rooms, and crates  
must be kept clean



Wash and dry utensils after each use  
with clean water

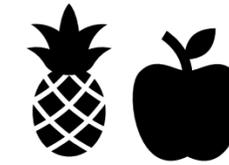


Use suitable cleaning method/s that  
can remove dirt and residue like oil



Keep rubbish/waste area clean and tidy  
and remove daily  
(this also helps keep the market  
pest and disease free)

# Separate and Handle Food



## Separate

- Keep separate different types of raw foods like meat, fish and vegetables.
- Keep raw food separate from smoked, dry, and cooked food.
- Use separate utensils on different food.
- Store different food types separately e.g., at room temperature in an airtight container or in a cool room

## Handle Before Use

- Wash fruits, vegetables, and fish before eating raw, cooking, or storing
- Drink safe water
- Cook food above 70°C
- Use food like meat, fish, milk, and eggs within the food-safe period

# Storing Food

## Store

- Store different types of food safely according to scientific standards and best practice

**Keep different food types in the best quality for as long as possible**

**Label foods**  
e.g., food type, source, best before date, how to store

**Use clean, reusable containers and packaging**  
single-use packaging is not ideal



# Communicating Food Safety



## Ask questions and observe handling and quality of food!

- Is this food safe to eat?
- Where does the food you buy and eat come from (source/supplier)?
- How is the food transported?
- How was it stored?
- Does the colour or smell of the food seem right?
- Does the vendor or kiosk have a current food safety compliance certificate?

insert time duration for this activity and if group or individual activity  
[approx. 5 – 10 minutes]

# Activity 10:

## Reflect on these questions

Now that you have learnt more about food hygiene and safety in the market and as part of the wider food system:

1. How can you be a part of a clean, hygienic and food safe market?

Critically reflect on this question, from the view of:

- a) your role (e.g., market vendor, market committee member, Department of Health/ Environment/ Water, Sanitation and Health/other etc.); and
- b) your gender
- c) your culture

# Food Waste

Reduced Waste for People and Planet

insert time duration for this activity and if group or individual activity  
[approx. 15 minutes]

# Activity 11:

## Applying a food waste lens to your food environment

1. Let's add another layer of information to your food systems map (Activity 1).
2. Use the Activity 1 map you made. If there is too much information on there already take another piece of paper for this activity but keep referencing what you drew and wrote about in Activity 1.
3. Use a different colour pen to draw and make notes about food hygiene and safety.



insert time duration for this activity and if group or individual activity  
[approx. 15 minutes]

# Activity 11:

## Applying a food waste lens to your food environment

4. To guide your mapping, ask yourselves these questions:

- From food supply to the daily routines in the market, where and when do food hygiene and safety considerations occur?
- In what way are these considerations evident or not (e.g., as best practice, opportunities, challenges)?
- Who plays a role and is responsible for food hygiene and safety – when, how and where?
- Is food hygiene and safety different for different people (e.g., women, children, displaced communities, large and smallholder farmers, low-income vendors)?





insert time duration for this activity and if group or individual activity  
[approx. 5-10 minutes]

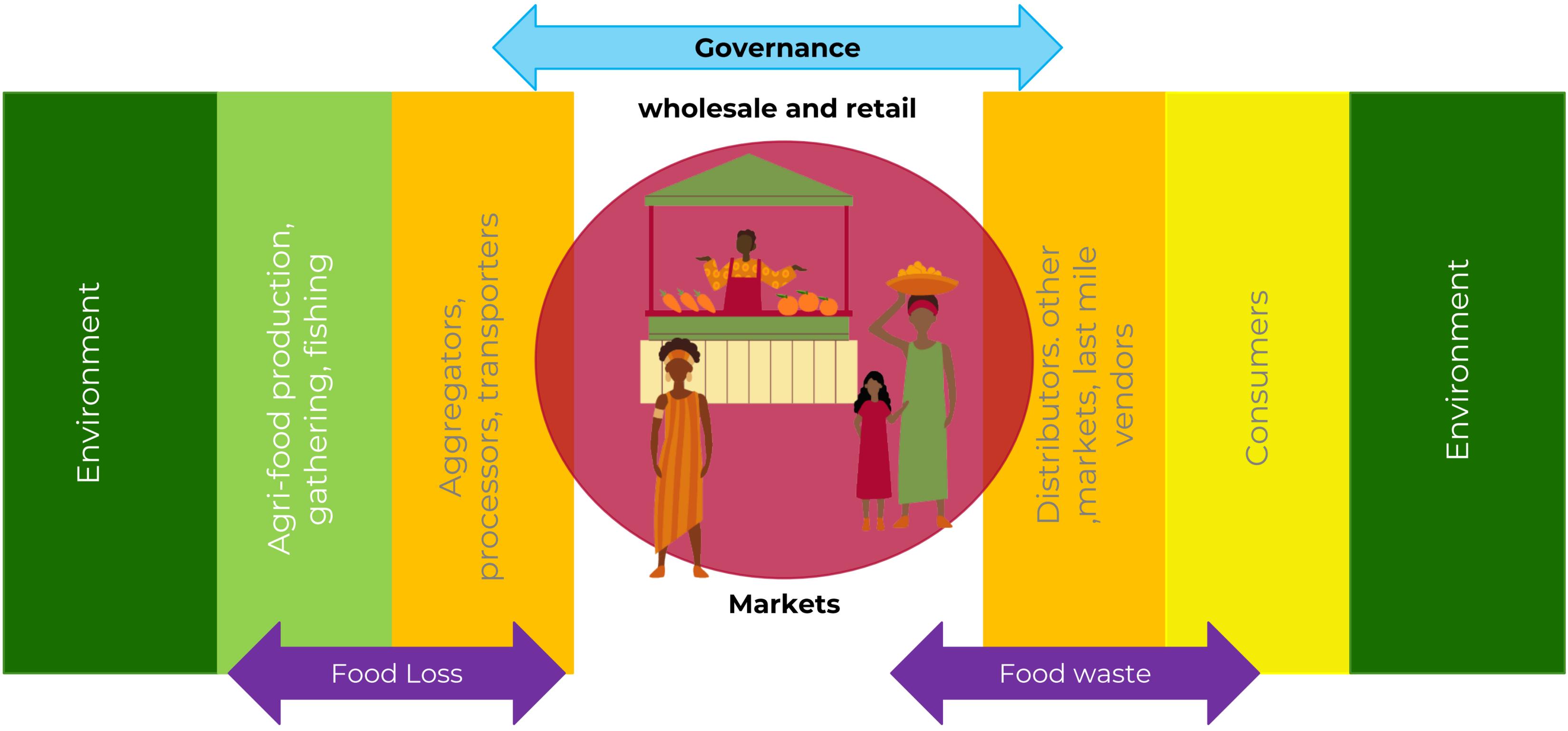
# Activity 12:

## Reflect on these questions

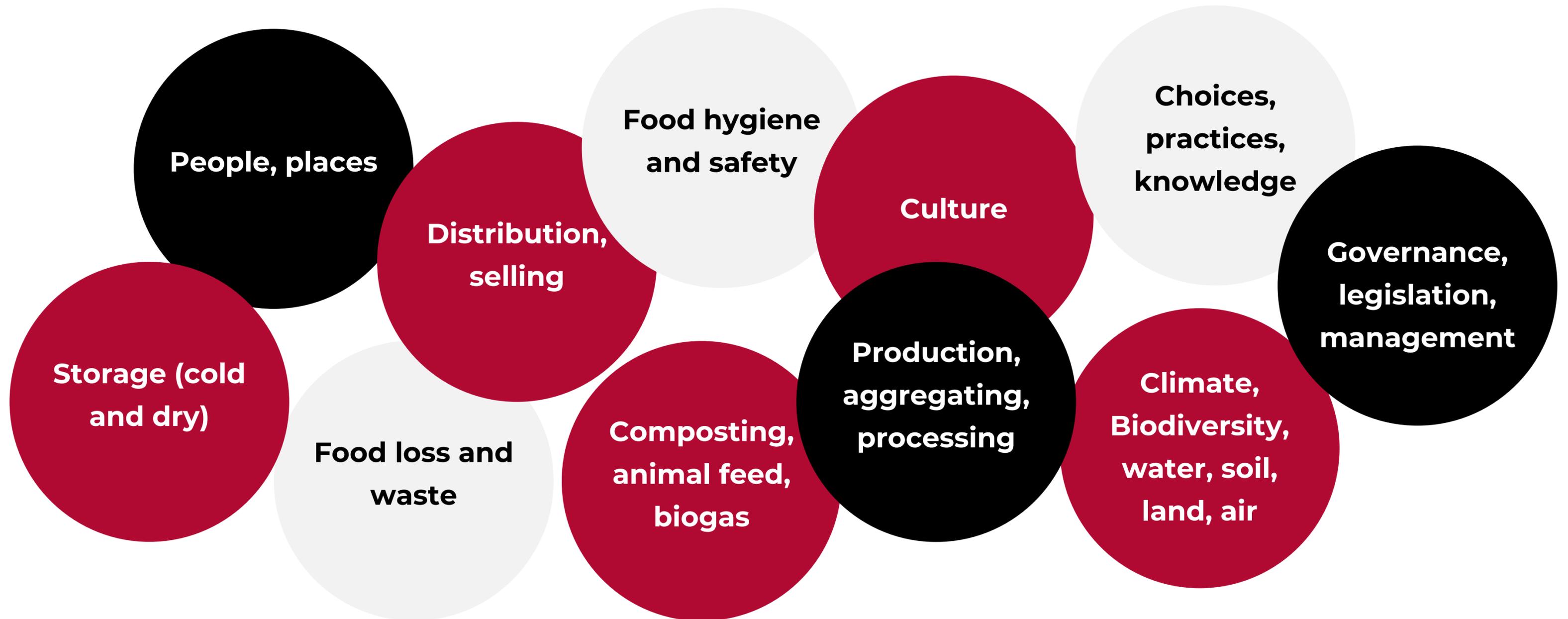
At what point does food become waste which should not be eaten by people?

1. Describe in what ways, that you know of if food is edible for people and when it isn't and has become wasted food?
2. How do you define food waste?

# Where and how do we waste food?

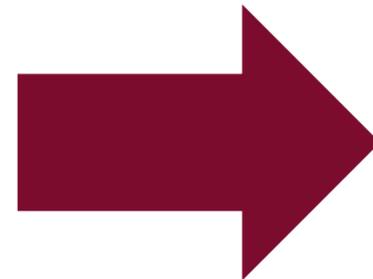


# Food is lost and wasted across the Food System



# What is Food Waste?

**Food that is produced and gathered for human consumption that is then not eaten**



## **Wastes:**

- Planet resources e.g., water, biodiversity, land
- Farmers' and vendors' potential income
- Time, effort and investment in growing, transporting, storing and selling food
- Opportunities to better distribute food especially to those suffering from food insecurity and malnutrition

## **Contributes to:**

- Climate change through Greenhouse Gas Emissions

# Food Loss and Waste (FLW)

FLW refers to all food produced for human consumption that is not consumed by humans

## FOOD LOSS

Food loss occurs between 'on farm' and fisheries and before it arrives at the places where it will be sold and eaten.

The quantity and/ or quality of food decreases from the time it is produced to right before it enters places for sale and consumption.

## FOOD WASTE

Food waste happens in the places where people sell, buy and eat food e.g., in markets, supermarkets, restaurants and homes.

Food quality and quantity decreases to a point at which it is considered subjectively and/or scientifically to no longer be fit for human consumption.

# Do You Know the extent of your

[Country or City Name]'s **Food Waste?**

Most of the food lost and wasted occurs:

[Insert where? On farm and between farm and market (Food Loss) and/or  
in the markets and consumer homes (Food Waste)]

[Insert primary reason/s for food waste  
(e.g., lack of cool rooms in markets)]

is the main source of food waste.

# What drives increasing volumes of Food Waste?

● Too much food relative to what can be distributed and eaten

● Consumers' buying, preparation, eating and storage habits

● Pest and disease spoilage

● Barriers to alternate food waste solutions e.g., compost businesses

● Poor hygiene - handling of foods

● Lack of Infrastructure e.g., WASH and cool rooms

● Lack of/irregular supply of essential basic services e.g., water, energy



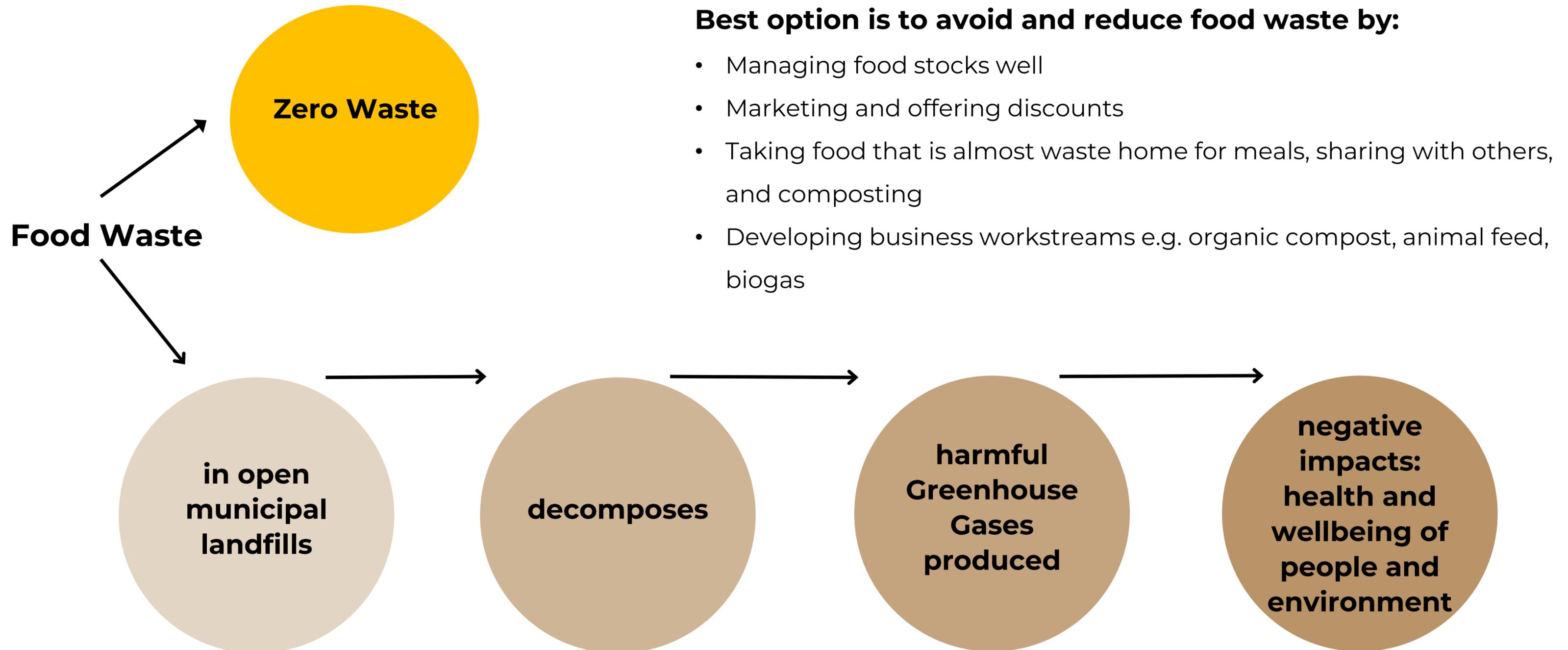


Insert a photograph/picture of food waste in a local market.

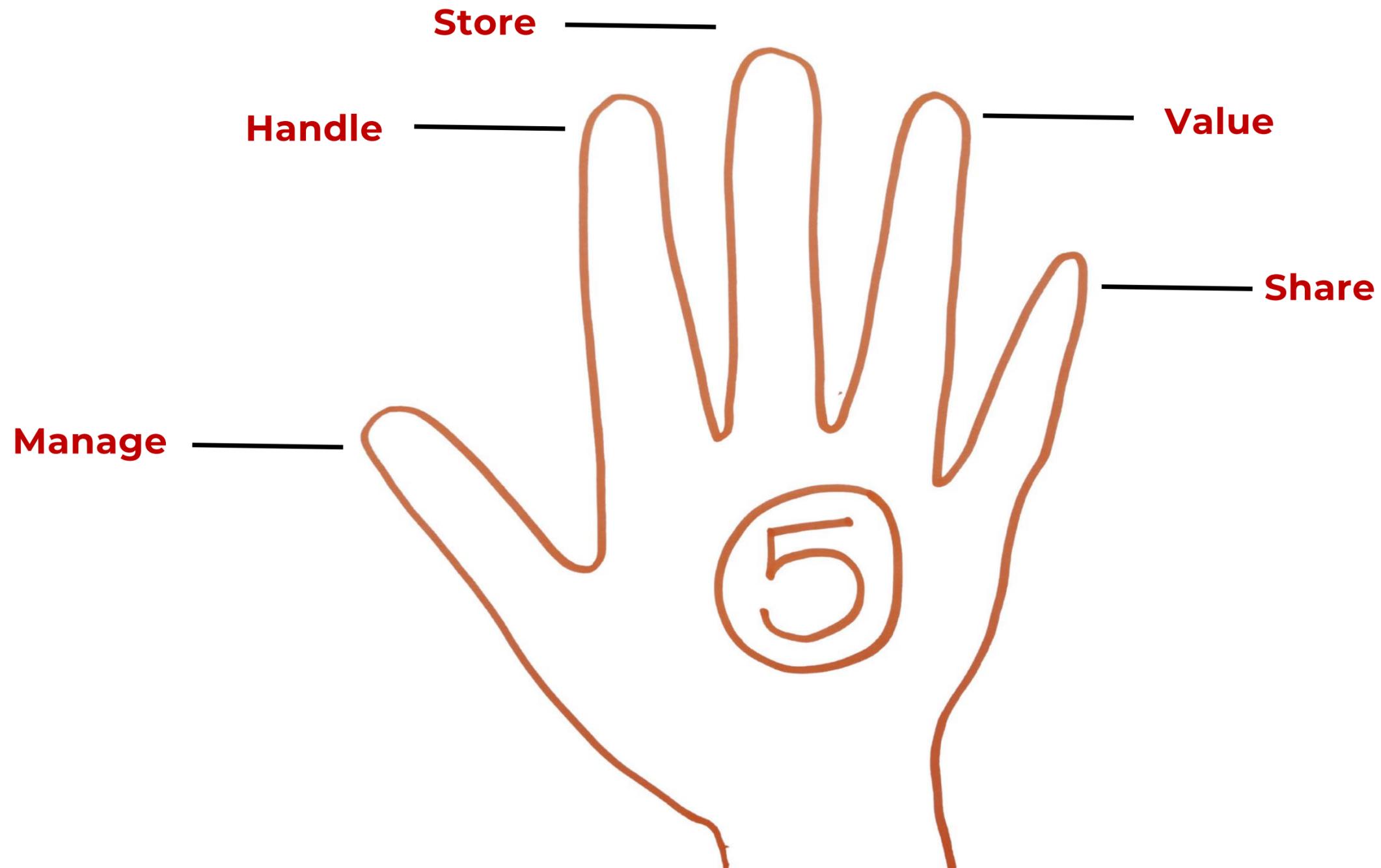
Insert title in beige box to describe the photograph/picture

*Example Title:*

# Challenges linked to Food Waste



# The Rule of 5: Reducing Food Waste



# Rule of 5: Reducing Food Waste

## Manage

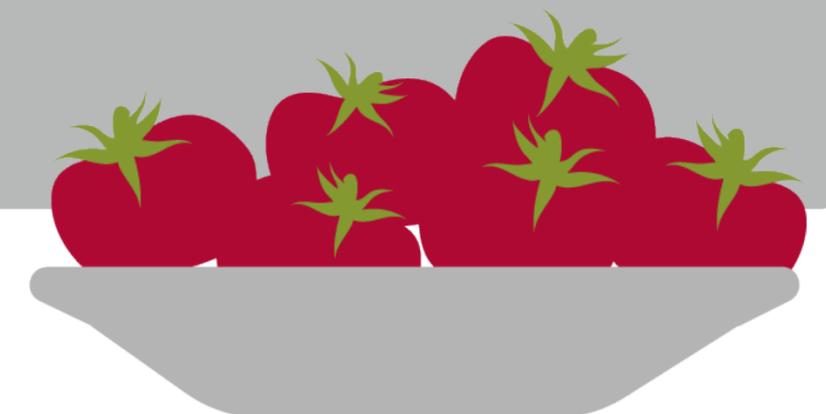
- Balance: amount bought to sell and eat with current stock
- Learn more: how much you usually sell to consumers every day/week and season
- Think: about relationship between nutrition, food waste and your income.

## Handle

- Handle food carefully and hygienically
- Remember: different food types need different care e.g. fruits and vegetables are highly perishable, and easily spoil on hot days and with poor handling

## Store

- Store food correctly based on best practices and requirements for different food types



# Rule of 5: Reducing Food Waste

## Value

- Find value in avoiding and reducing food waste e.g., share food before it spoils, use as compost

## Share

- Think creatively about the business of selling food in the market and the wellbeing of the environment
- Inspiration:
  - cooking tomatoes before they spoil beyond the point of what is safe for people to eat. Tomato soup or tomato, onion and garlic cooked products can then be sold
  - discount food prices
  - exchange or barter food before spoil point
  - share with food banks and solidarity community tables
  - Sell to food waste handlers for animal feed, energy, or compost

# Rule of 5: Reducing Food Waste

## Manage

- Balance: food purchases with sales, stored stocks and own consumption
- Learn more and innovate: with food storage, preservation methods e.g., solar dried fish, additional income streams e.g., cooking food, discount hours, compost
- Think: how do your food practices and decisions link to nutrition, your business and avoiding unsafe food and food waste.

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Rule of 5: Reducing Food Waste

## Store

- Store food correctly based on best hygiene practices and requirements of different food types

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Rule of 5: Reducing Food Waste

## Handle

- Handle food carefully and correctly.
- Different food types need different care e.g., fruits and vegetables are highly perishable and don't handle high temperatures and rough handling well.

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Rule of 5: Reducing Food Waste

## Value

- Find value in food waste: avoid or reduce food waste by sharing with others, offering discount prices, using and/or selling old food as animal feed, heating or compost

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Rule of 5: Reducing Food Waste

## Share

- Think creatively about the business of selling food in the market and the wellbeing of the environment: before food spoils – cook, offer discount food prices, barter, share with food banks and solidarity tables, sell food waste for compost and other

Insert a local or context relevant photograph/pictures.

Insert title in beige box to describe the photograph/picture

*Example Title:*

# Maintain Nutritional Value of Food

## Healthy Diets and Income

Insert a context relevant photograph / pictures in circles below and add descriptive title in beige boxes

### Store foods properly

Keep: perishable foods cool; dry foods dry; and other foods in airtight containers

*Example: title*

### Put vegetables in fridge vegetable drawer

or cool box/ cool area of the house or market

*Example: title*

### Wash or scrub vegetables

rather than peeling

*Example: title*

# Maintain Nutritional Value of Food

## Healthy Diets and Income

Insert a context relevant photograph /pictures in circles below and add descriptive title in beige boxes

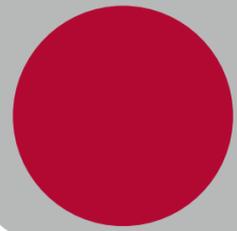
**Use outer leaves of vegetables**  
e.g., cabbage or lettuce unless brown

*Example: Title*

**Cook vegetables: steam, roast, grill**  
e.g., boil vegetables, then save the vegetable water for soup stock

*Example: Title*

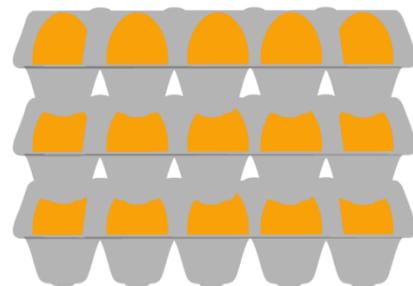
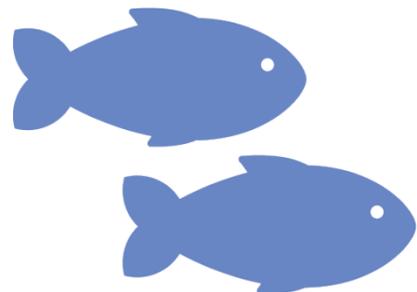
# Perishable Foods and Non-Perishable Foods



## Perishable Foods

Have a short shelf life. Also impacted by conditions like heat and lack of cool storage. Generally, **MUST** be eaten within a few days (sometimes 2 – 3 weeks e.g., eggs) - unless cooked, frozen, dried or other preservation method used.

Examples: fresh fish, milk, eggs, vegetables and fruit.



## Non-Perishable Foods

Can be stored for longer than a few days. **BUT** all foods eventually need to be eaten within a safe time-period including tinned food.

Examples: tinned fish, dried beans, lentils, flour.



# Store: Food and Food Waste <sup>(1/4)</sup>

## Cereals, bread, flour, and rice

### **Bread**

room temperature  
(or fridge)

### **Cereals**

room temperature  
in containers, or  
sacks raised above  
the floor e.g.,  
shelves, on a crate

### **Uncooked Rice and Flour**

room temperature  
and in a sealed  
packet or container

Insert a context relevant photograph /pictures and add descriptive title in beige box

*Example Title:*

# Store: Food and Food Waste (2/4)

## Fresh Vegetables

Most vegetables:  
Stored at **low temperatures**  
(around 5°C)

Root vegetables  
e.g., potatoes:  
Store at **room temperature**

Tomatoes can be  
stored at **room temperature** for a  
short time

Insert a context relevant photograph /pictures and add descriptive title in beige box

*Example Title:*

# Store: Food and Food Waste <sup>(3/4)</sup>

## Fresh Fruits

All fresh fruits need to be stored in a cool area, away from **direct sunlight**

Fruits can be spoilt when placed close to some foods and can absorb odours from other foods  
**keep separate**

Bananas give off a gas that makes other fruits and vegetables ripen quickly



Insert a context relevant photograph /pictures and add descriptive title in beige box

*Example Title:*

# Store: Food and Food Waste (4/4)

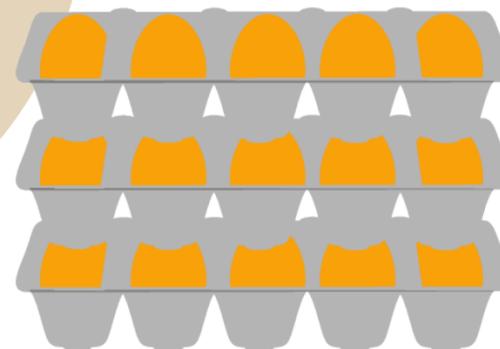
## Milk, Eggs and Meat

### **Fresh milk:**

store in the fridge  
or cool box

### **Eggs:**

store in at room  
temperature or in  
the fridge (when:  
high temperatures)



### **Fresh Meat:**

store only a few days  
in the fridge or cool  
box; otherwise  
freeze immediately

Insert a context relevant  
photograph /pictures and  
add descriptive title in  
beige box

*Example Title:*

insert time duration for this activity and if group or individual activity  
[approx. 10 minutes]

# Activity 13:

## Reflect on these questions

Now that you have learnt more about food waste in the market:

1. How can you help reduce the amount of food that becomes food waste?
2. What opportunities exist for you and others to make income - from food that is about to become waste or that is wasted - in ways that are also environmentally friendly?

Critically reflect on this question, from the view of:

- a) your role (e.g., market vendor, market committee member, Department of Health/Environment/Water, Sanitation and Health/other etc.)
- b) your gender
- c) your culture

# Concluding Comments

And Feedback

insert time duration for this  
activity and if group or  
individual activity  
[approx. 5-10 minutes]

# Activity 14:

## End of Training Feedback Questionnaire

# THANK-YOU

Insert:

- i) names of design and/or delivery partners; and
- ii) where relevant Logos e.g., city government emblem, non-government organization logo



# REFERENCES

1. Food and Agriculture Organization of the United Nations. In brief, to the State of Food and Agriculture 2021: Making Agrifood Systems More Resilient to Shocks and Stresses. Rome: FAO; 2021. DOI: <https://doi.org/10.4060/cb7351en>
2. Hofman M, Trevenen-Jones A. Wet markets in Southeast Asia and access to healthy diets. *Front Sustain.* 2024; 5:1320959. doi: 10.3389/frsus.2024.1320959.
3. Trevenen-Jones A, Nel R, Sutarjadi E, Hafsari Purwindah R. Food systems governance and the public sector: an overview. Global Alliance for Improved Nutrition (GAIN). Working Paper #47. Geneva, Switzerland, 2025. DOI: <https://doi.org/10.36072/wp.47>
4. Kennedy E, Webb P, Block S, Griffin T, Mozaffarian D, Kyte R. Transforming food systems: the missing pieces needed to make them work. *Current Developments in Nutrition.* 2021; (1):nzaa177.
5. HLPE. Food security and nutrition: building a global narrative towards 2030. Rome: High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security; 2020.
6. Downs SM, Ahmed S, Fanzo J, Herforth A. Food environment typology: advancing an expanded definition, framework, and methodological approach for improved characterization of wild, cultivated, and built food environments toward sustainable diets. *Food Secur.* 2020; 9:532. doi: 10.3390/foods9040532.
7. Fanzo J, Bellows AL, Spiker ML, Thorne-Lyman AL, Bloem MW. The importance of food systems and the environment for nutrition. *The American Journal of Clinical Nutrition.* 2021;113(1):7-16.
8. World Health Organization, Food and Agriculture Organization. What are healthy diets? Joint statement by the Food and Agriculture Organization of the United Nations and the World Health Organization. Geneva: WHO/FAO; 2024. DOI: <https://doi.org/10.4060/cd2223en>

## REFERENCES

9. Rockström J, Thilsted SH, Willett WC, Gordon LJ, Herrero M, Hicks CC, Mason-D'Croz D, Rao N, Springmann M, Wright EC, Agustina R. The EAT–Lancet Commission on healthy, sustainable, and just food systems. *The Lancet*. 2025;406(10512):1625
10. Breewood H. What is malnutrition? (Food source: building blocks). Food Climate Research Network. 2018.
11. UNICEF. The state of the world's children 2019. Children, food and nutrition: growing well in a changing world. New York: UNICEF; 2019.
12. Norris SA, Frongillo EA, Black MM, Dong Y, Fall C, Lampl M, Liese AD, Naguib M, Prentice A, Rochat T, Stephensen CB. Nutrition in adolescent growth and development. *The lancet*. 2022;399(10320):172-84.
13. Mathers JC. Impact of nutrition on the ageing process. *British Journal of Nutrition*. 2015;113(S1):S18-22.
14. Marshall NE, Abrams B, Barbour LA, Catalano P, Christian P, Friedman JE, Hay Jr WW, Hernandez TL, Krebs NF, Oken E, Purnell JQ. The importance of nutrition in pregnancy and lactation: lifelong consequences. *American journal of obstetrics and gynecology*. 2022;226(5):607-32.
15. World Health Organization. Healthy diet. [Internet]. n.d. Available from: <https://www.who.int/news-room/fact-sheets/detail/healthy-diet>
16. Poutanen KS, Kårlund AO, Gómez-Gallego C, Johansson DP, Scheers NM, Marklinder IM, Eriksen AK, Silventoinen PC, Nordlund E, Sozer N, Hanhineva KJ. Grains—a major source of sustainable protein for health. *Nutrition reviews*. 2022; 80(6):1648-63.
17. Juul F, Bere E. Ultra-processed foods—a scoping review for Nordic Nutrition Recommendations 2023. *Food & nutrition research*. 2024 Apr 24;68:10-29219.

## REFERENCES

18. Pal M, Molnár J. The role of eggs as an important source of nutrition in human health. *Int J Sci Food Agric.* 2021;5(1):180-182. doi: 10.26855/ijfsa.2021.03.023
19. Archi G, Bijendra S, Charupriya C. Green leafy vegetables source of nutrients: A review. *Pharm. Innov. J.* 2020;9(9):540-2.
20. Carazo A, Macáková K, Matoušová K, Krčmová LK, Protti M, Mladěnka P. Vitamin A update: forms, sources, kinetics, detection, function, deficiency, therapeutic use and toxicity. *Nutrients.* 2021;13(5):1703.
21. Alemu TT. Nutritional contribution of fruit and vegetable for human health: A review. *Int. J. Health Policy Plann.* 2024;3:1-9.
22. Andrès E, Lorenzo-Villalba N, Terrade JE, Méndez-Bailon M. Fat-soluble vitamins A, D, E, and K: review of the literature and points of interest for the clinician. *Journal of Clinical Medicine.* 2024;13(13):3641.
23. Rafeeq H, Ahmad S, Tareen MB, Shahzad KA, Bashir A, Jabeen R, Shehzadi I. Biochemistry of fat-soluble vitamins, sources, biochemical functions and toxicity. *Haya: The Saudi Journal of Life Sciences.* 2020;5(6):188-96.
24. Rafeeq H, Basit I, Jabeen R, Shehzadi I, Shafique K, Tariq S, Naseer QUA, Raheem HM. Biochemistry of water-soluble vitamins, sources, biochemical functions, and toxicity. 2020;3(10):215–220. DOI: 10.36348/sjlb.2020.v03i10.003.
25. Global Alliance for Improved Nutrition. Leveraging consumer demand to drive food safety improvements in traditional markets: FTF EatSafe's research & implementation results. 2024.

## REFERENCES

26. Global Alliance for Improved Nutrition. Food safety training manual for vendors in a traditional vegetable market. 2024
27. Kamboj S, Gupta N, Bandral JD, Gandotra G, Anjum N. Food safety and hygiene: A review. International journal of chemical studies. 2020; 8(2):358-68.
28. Nordhagen S, Lambertini E, DeWaal CS, McClafferty B, Neufeld LM. Integrating nutrition and food safety in food systems policy and programming. Global Food Security. 2022; 32:100593.
29. DeWaal CS, Trevenen-Jones A. Guidelines for food hygiene in traditional markets: improving access to safe, healthy foods and livelihoods. Global Alliance for Improved Nutrition (GAIN). Discussion Paper #17. Geneva, Switzerland, 2025. DOI: <https://doi.org/10.36072/dp.17>
30. Havelaar AH, Kirk MD, Torgerson PR, Gibb HJ, Hald T, Lake RJ, Praet N, Bellinger DC, De Silva NR, Gargouri N. World Health Organization global estimates and regional comparisons of the burden of foodborne disease in 2010. PLoS Med.
31. World Health Organization. Food Safety. [Internet]. n.d. Available from: <https://www.who.int/news-room/fact-sheets/detail/food-safety>
32. Global Alliance for Improved Nutrition. Consumer-facing interventions to improve food safety perceptions and practices in low- and middle-income countries: a review. A USAID EatSafe Project report. 2020.

## REFERENCES

33. HLPE. Food losses and waste in the context of sustainable food systems. A report by the High-Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. Rome: HLPE; 2014.
34. Borma A. Food waste—a global problem. *SEA Pract Appl Sci*. 2017;(15):353-62.
35. Foti VT, Sturiale L, Timpanaro G. An overview of food waste phenomenon: By problem to resource. *Calitatea*. 2018; 19(S1):232-40.
36. United Nations Environment Programme. Food waste index report 2024. Nairobi: UNEP; 2024.
37. FAO. Global food losses and food waste – extent, causes and prevention. Rome: FAO; 2011.
38. Ishangulyyev R, Kim S, Lee SH. Understanding food loss and waste—why are we losing and wasting food?. *Foods*. 2019 Jul 29;8(8):297.
39. Thyberg KL, Tonjes DJ. Drivers of food waste and their implications for sustainable policy development. *Resources, Conservation and Recycling*. 201; 106:110-23.