



# **MONITORING AND EVALUATING THE NUTRITION OUTCOMES OF INTERVENTIONS**

## **KEY CONCEPTS AND INDICATORS**

# Monitoring vs. Evaluation

## Monitoring

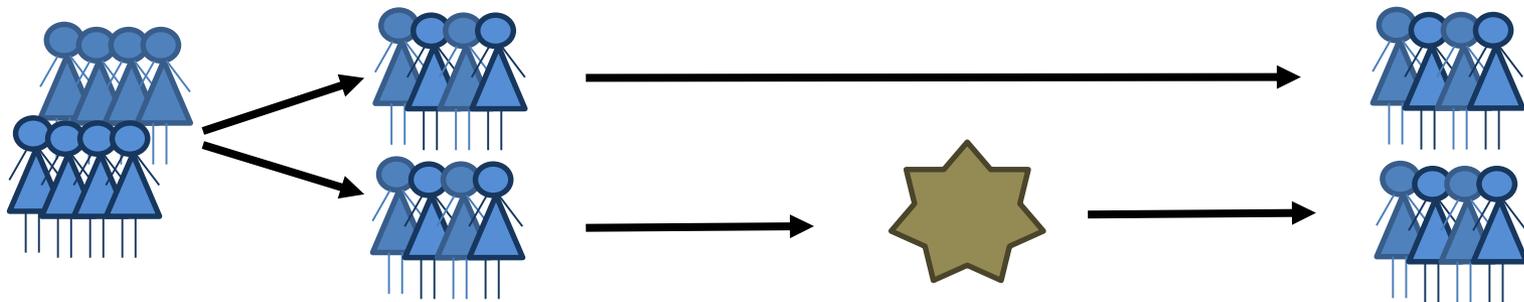
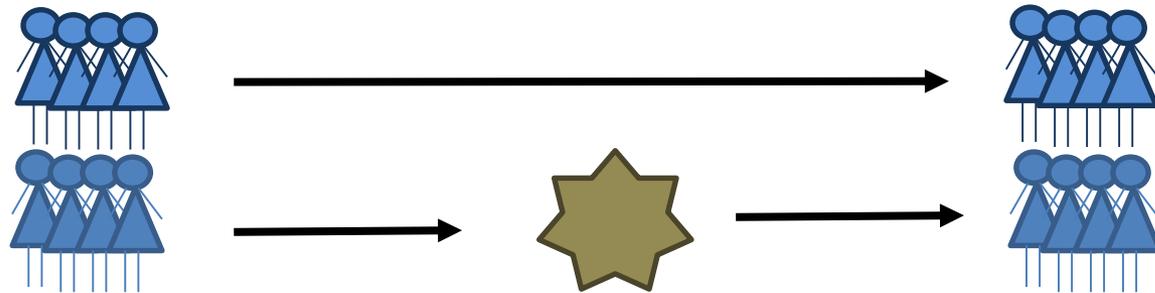
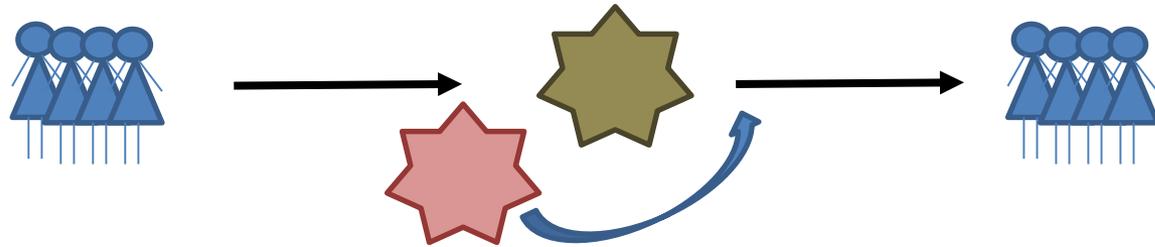
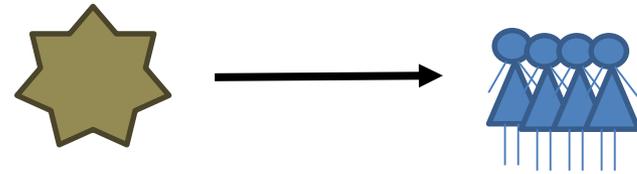
- Involves routine tracking of program performance (e.g. inputs and outputs) during program implementation
- Is a tool for management
- Feeds into an evaluation

## Evaluation

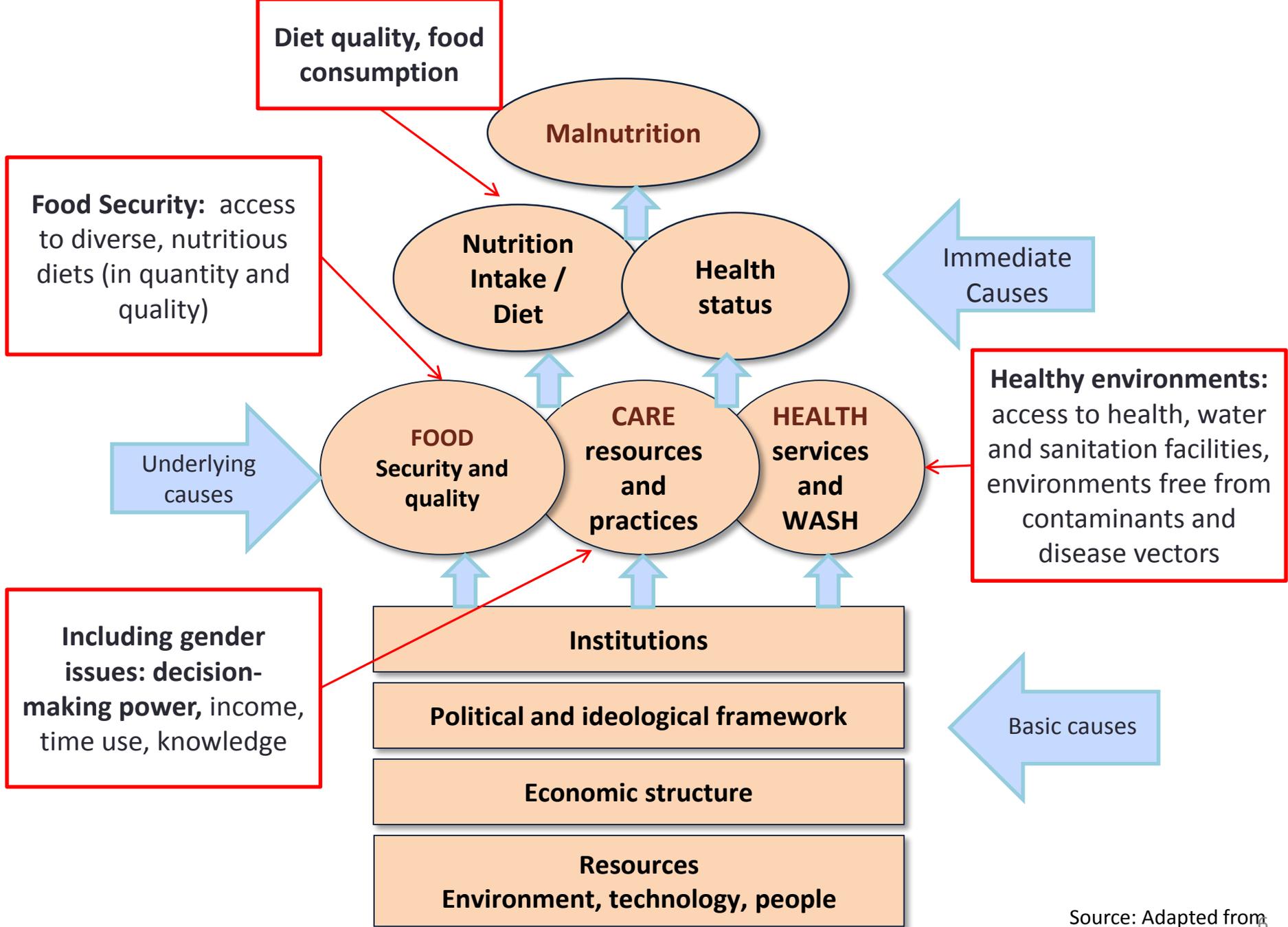
- Measures the effect of the program on outcomes and objectives
- Attempts to attribute outcomes to their causes
- May assess associated costs

# HOW TO MEASURE IT WELL

# Evaluation designs



**WHAT TO MEASURE?**

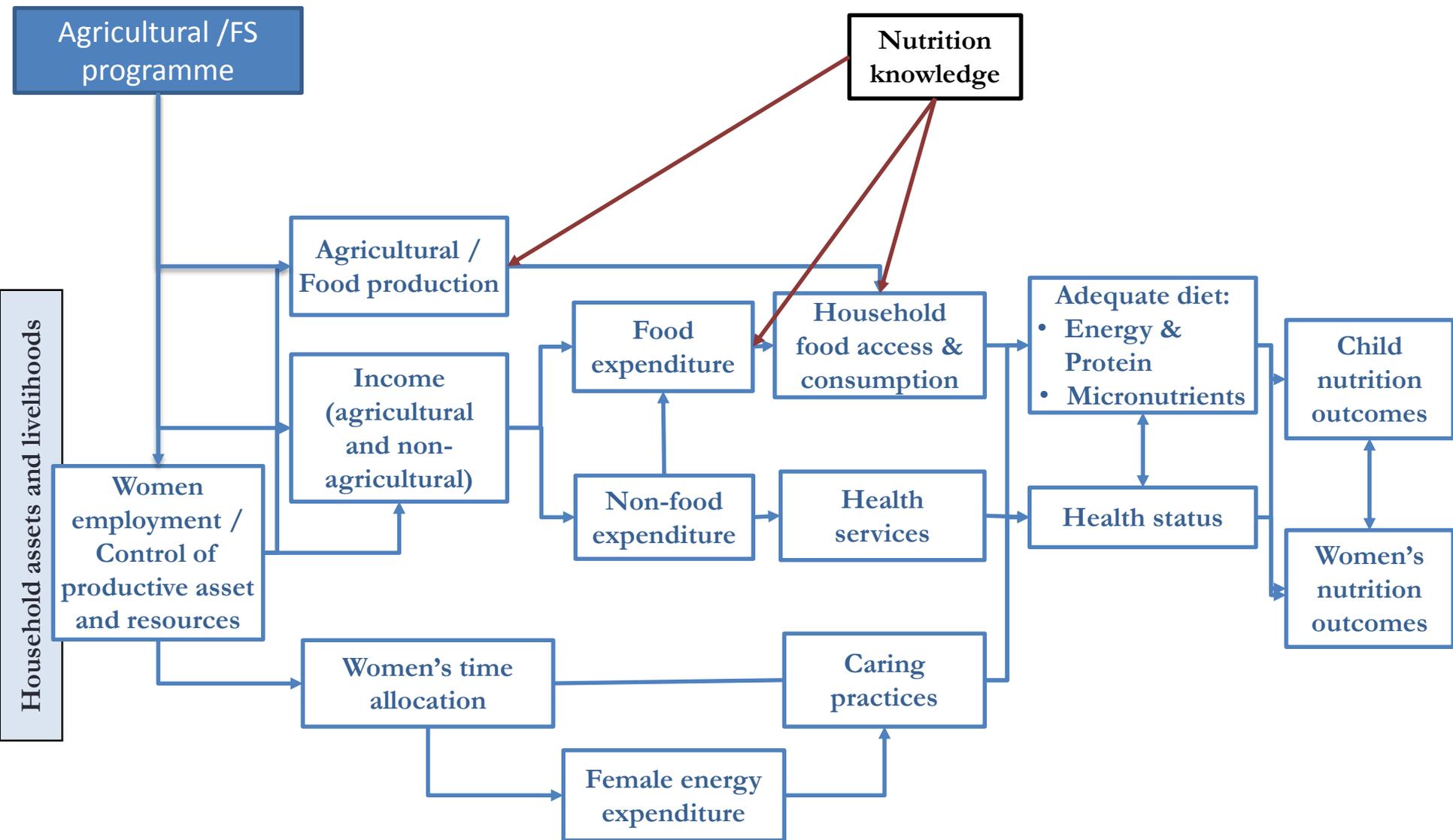


Source: Adapted from UNICEF 1990

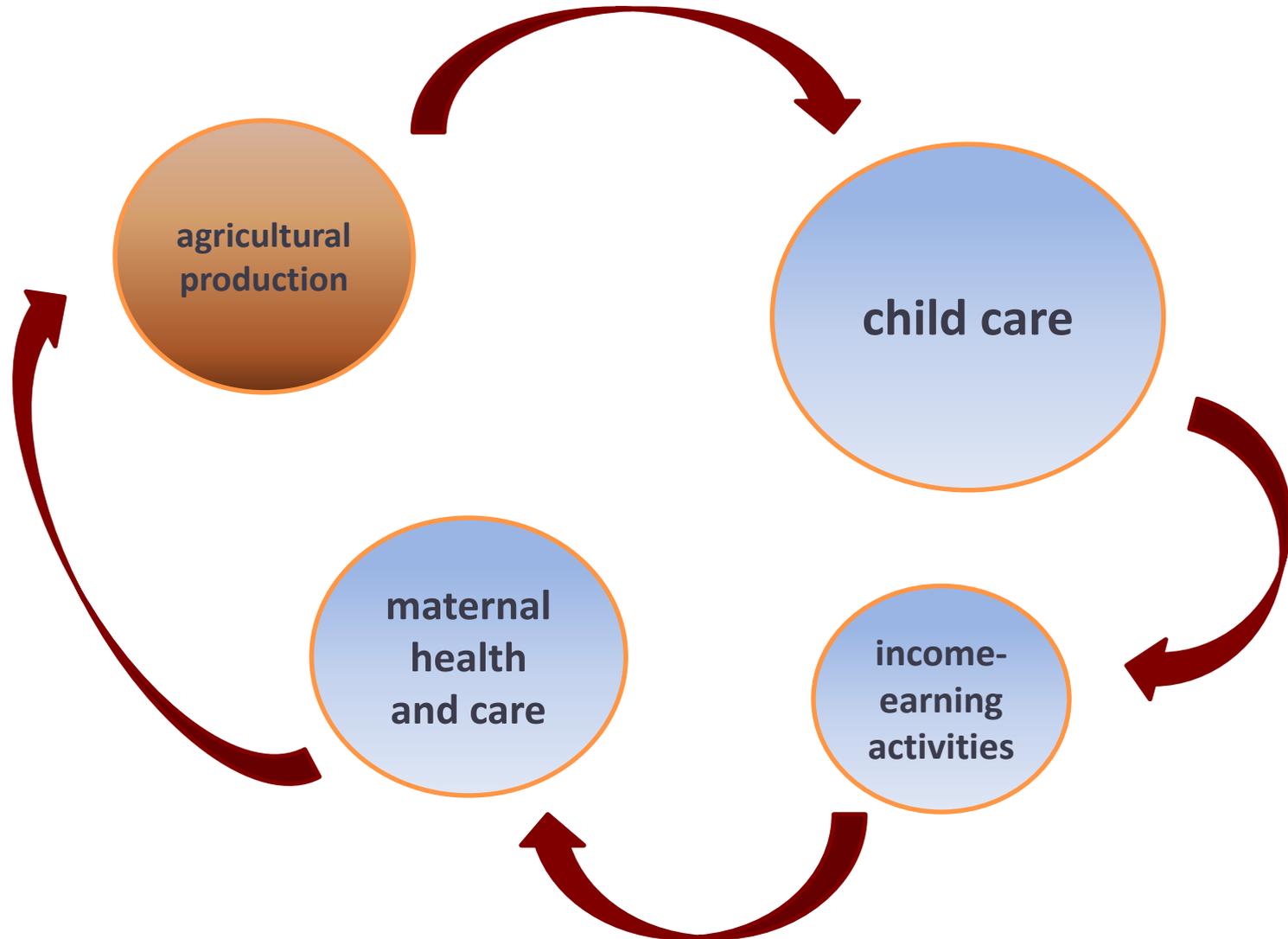
# What to measure?

- To choose indicators, projects should identify *which* of the domains they affect, and how it will lead to improved food access, diet, and/or nutrition – in other words, the **impact pathway**.
- Not all nutrition-sensitive agriculture projects will have the same impact pathway.

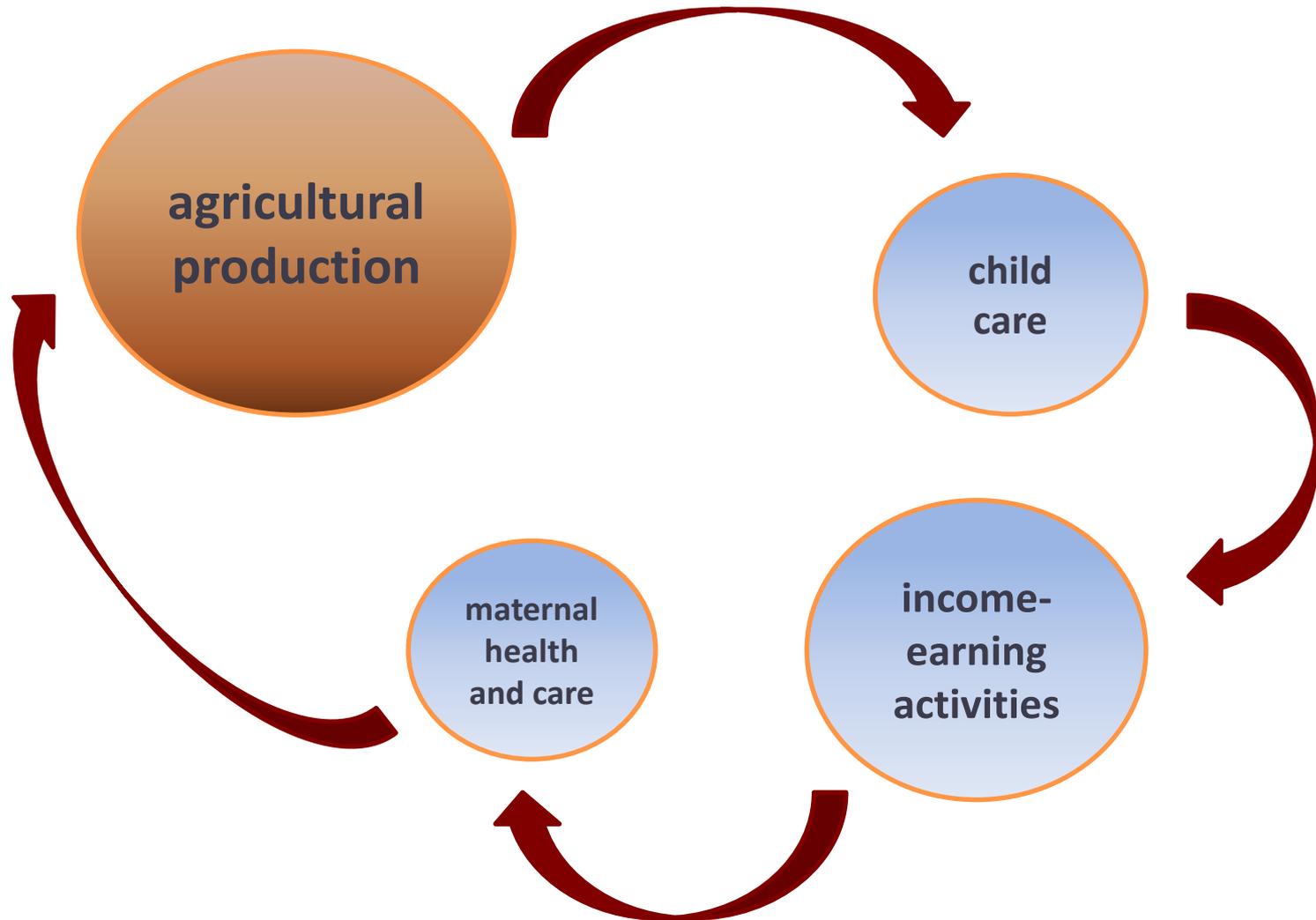
# Pathways from agriculture to nutrition



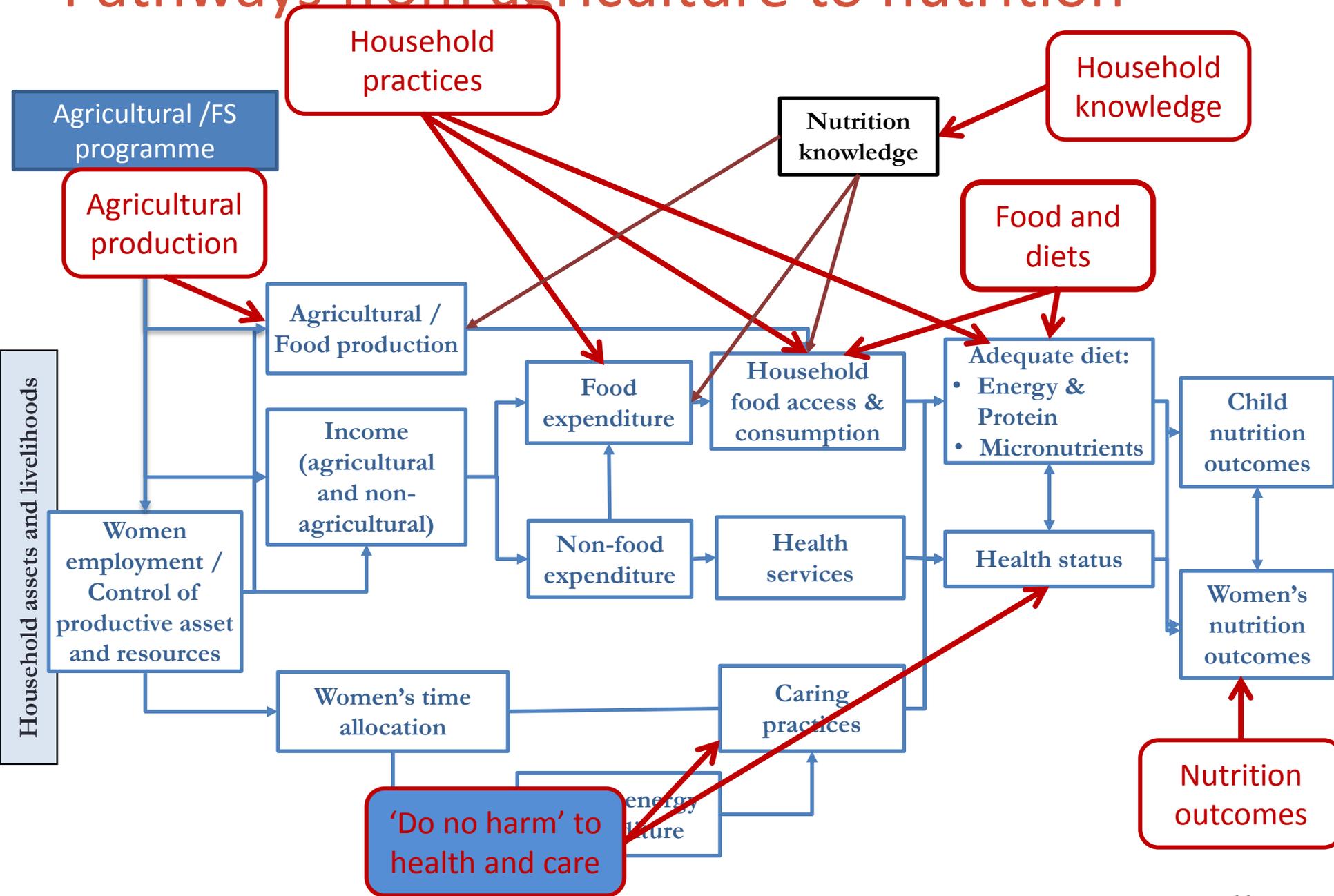
# The zero-sum game



# The zero-sum game

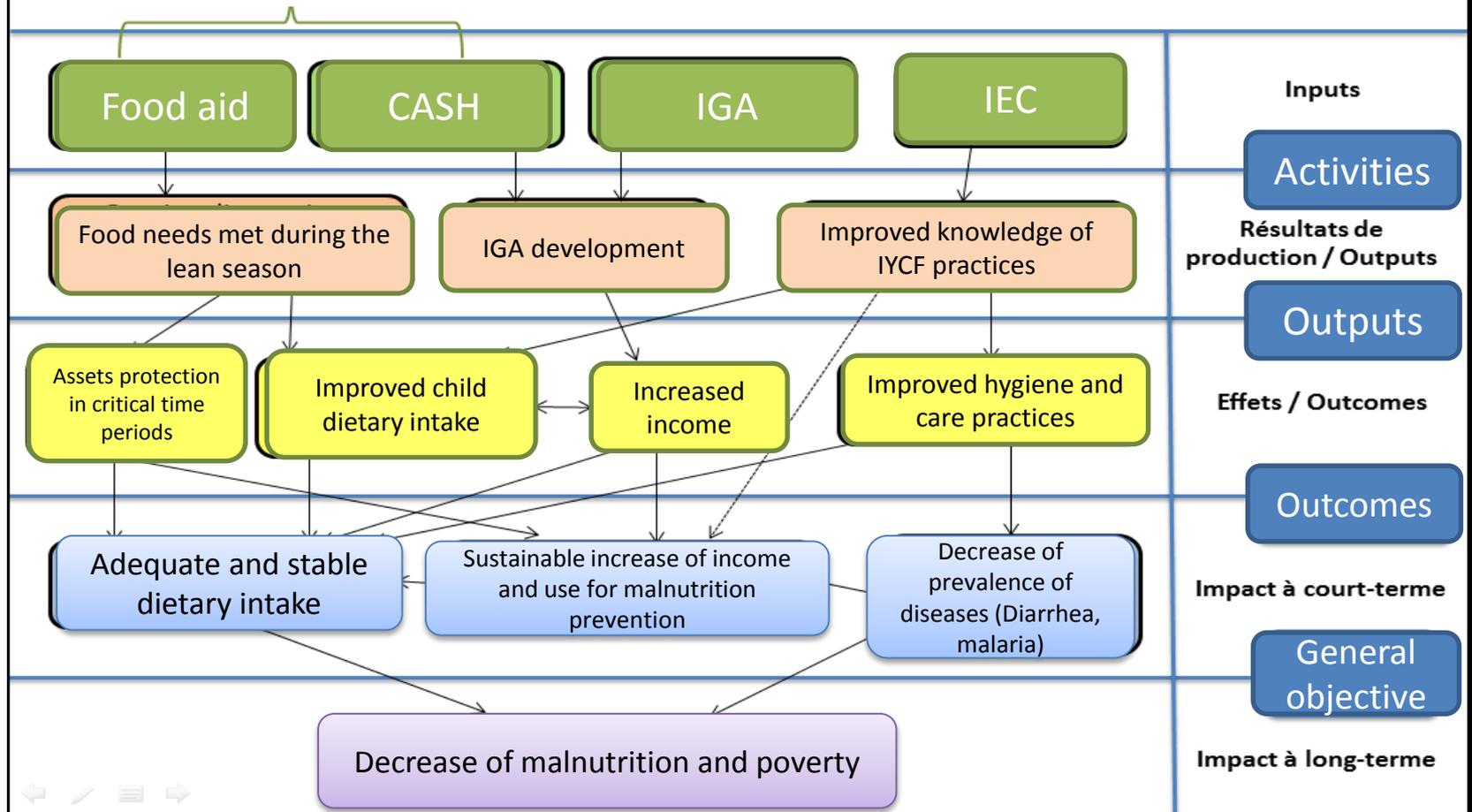


# Pathways from agriculture to nutrition



# IMPACT PATHWAY – ACF project

## Safety nets



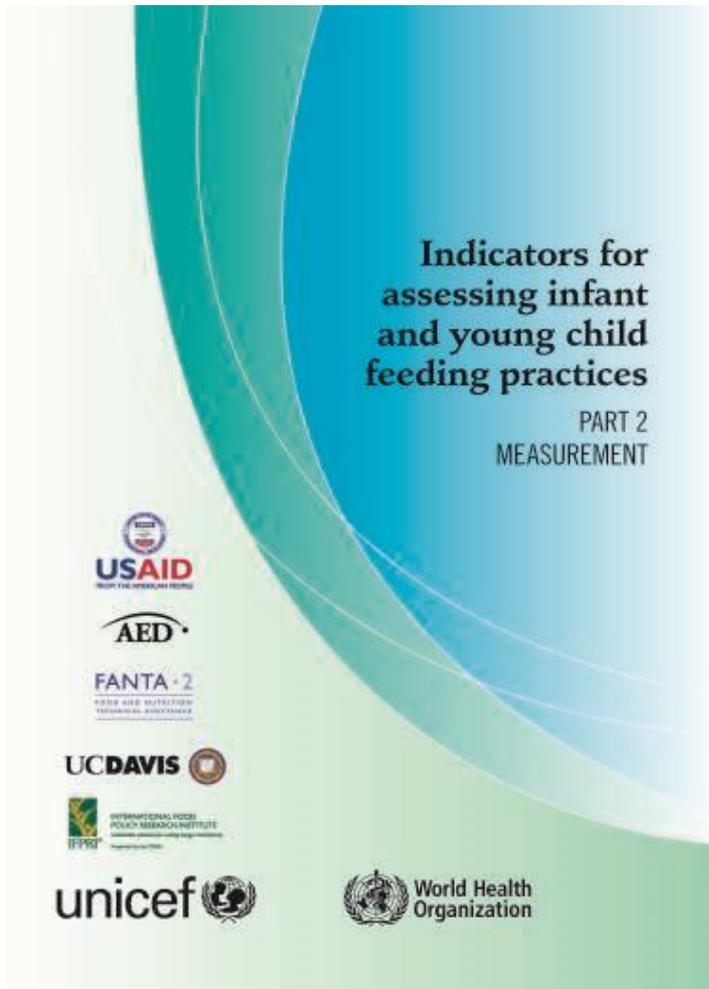
# Key nutrition-sensitive indicators

| Type of measure  | Indicators   | Mode of Collection |
|--|--|--------------------|
| Diet – Individual level                                      | <p>Minimum Dietary Diversity scores for women (MDD-W)</p> <p>Minimum Dietary Diversity scores for young children (MDD age 6-24 months)</p> | Household survey   |
| <p>Food access – Food consumption</p> <p>Household level</p> | <p>Household dietary diversity score (HDDS)</p> <p>Food Consumption score (FSC)</p>  | Household survey   |
| Food availability and diversity on-farm                      | <p>Production of target nutrient-rich foods</p> <p>Diversity of crops and livestock produced</p>   | Household survey   |

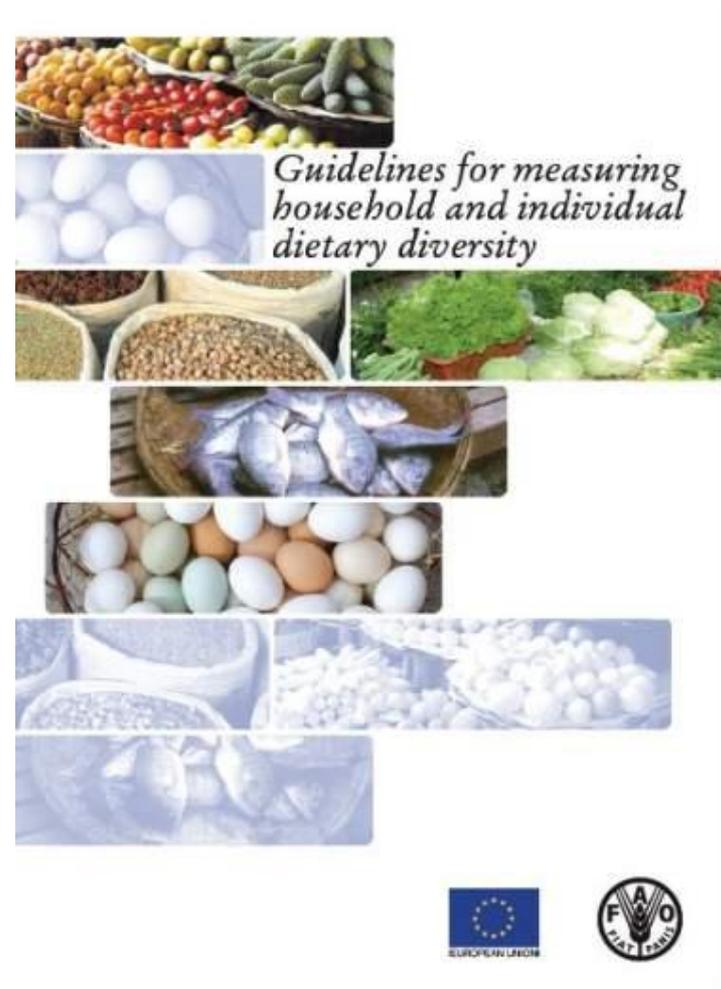
# Key nutrition-sensitive indicators

| Type of measure                               | Indicators  | Mode of Collection   |
|---|---|--|
| Food environment in market                    | Availability and prices of targeted nutrient-rich foods                               | Market / Price Information System when they exist; Rapid market survey |
| Women's empowerment                           | Women's Empowerment in Agriculture Index, Time-use survey, and/or Qualitative inquiry | Household survey and/or qualitative process                            |
| Nutrition and food safety knowledge and norms | (indicators will be project-specific)   | Household survey and/or qualitative process                            |
| Natural resource management                   | Access to improved drinking water sources   | Household survey   |

# WHO IYCF indicators: Child DD



# FAO guidelines: Adult (and HH) DD



# Example

- To assess Availability of and access to a year-round supply of diverse and micronutrient-rich plant and animal source foods at household level = **production diversity (and purchase)**
- Infant and young child feeding (IYCF) indicators among children 0-23 months of age = **Dietary Diversity + care**
- Preventive and curative health practices and nutrition knowledge among mothers = **health and knowledge**

# Summary

- There are different designs for impact evaluations, which provide different levels of certainty about attribution of impact to the program itself
- Monitoring is a vital management tool which should be undertaken in any program

# Summary

- If an program aims to be nutrition-sensitive, it must measure impact on nutrition or the intended pathways to nutrition
- There are different pathways through which interventions can address the causes of malnutrition
- Your M&E system should help monitor and evaluate these pathways throughout project implementation
- Important to measure the potential negative impacts/unexpected outcomes and external factors of our intervention on nutrition (do no harm)

# Summary

- What a program measures will depend on the program aims
- Stunting is a good impact indicator of multisectoral long-term programmes but not for emergency or resilience programmes
- For Food Security interventions, important to measure impact at least on household food consumption, if possible individual because nutrition is about individuals and considering the individual level is the only way to understand maternal and child nutrition

# Indicators

# Diet quality – Individual level

- Why to use: to understand if limited food access or income has impacted diet quality
- No easy indicator currently exists that can capture diet quality holistically in its entirety. E.g.: MDD-W, IYCF (Minimum Dietary Diversity), IDDS
- MDD-W: validated as an indicator of micronutrient adequacy among women of reproductive age, relatively easy to administer, but it does not capture dietary quality completely.

# MDD-W (Minimum Dietary Diversity – Women)

| What it measures   | Population                              | Data collection   | Data analysis  |
|--|---|---|--|
| A partial measure of dietary quality, which reflects nutrient adequacy and dietary diversity | Women of reproductive age (15-49 years) | Data are collected on the foods and beverages consumed in the previous 24 hours which are aggregated into 10 distinct food groups. Does not require quantitative food intake. | Several indicators can be derived from the basic data, including (i) proportion of women who consume 5 or more food groups out of ten, (ii) mean dietary diversity score, (iii) proportion of women consuming any specific food group such as animal source foods. |

**VALIDITY:** validated as an indicator of micronutrient adequacy among women of reproductive age.

**CUT-OFF:** Women who consume foods from at least 5 out of 10 food groups have a higher likelihood of micronutrient adequacy.

**METHODOLOGY:** Standardized methodology for data collection and analysis is currently being developed [www.fao.org/food/nutrition-assessment/women](http://www.fao.org/food/nutrition-assessment/women)

# Minimum Dietary Diversity – Young Children

| What it measures  | Population             | Data collection   | Data analysis  |
|---|------------------------|---|--|
| A partial measure of dietary quality, which reflects nutrient adequacy and dietary diversity, and feeding practices | Children under 2 years | Same as above. The guidelines recommend open recall but DHS uses a list | Proportion of children 6–23 months of age who receive foods from 4 or more food groups (of 7).<br>It is recommended that the indicator be further disaggregated and reported for the age groups: 6–11 mos, 12–17 mos and 18–23 mos |

**VALIDITY:** Consumption of foods from at least 4 food groups out of 7 on the previous day would mean the child had a high likelihood of consuming at least one animal-source food and at least one fruit or vegetable that day, in addition to a staple food (grain, root or tuber)

**CUT-OFF (Available):** The cut-off of at least 4 of the above 7 food groups because it is associated with better quality diets for both breastfed and non-breastfed children.

**METHODOLOGY (Standardized) :** This indicator is published by a large technical stakeholder group (WHO, UNICEF, USAID, AED, FANDA, UC Davis, IFPRI)

# IDDS - Individual Dietary Diversity Score

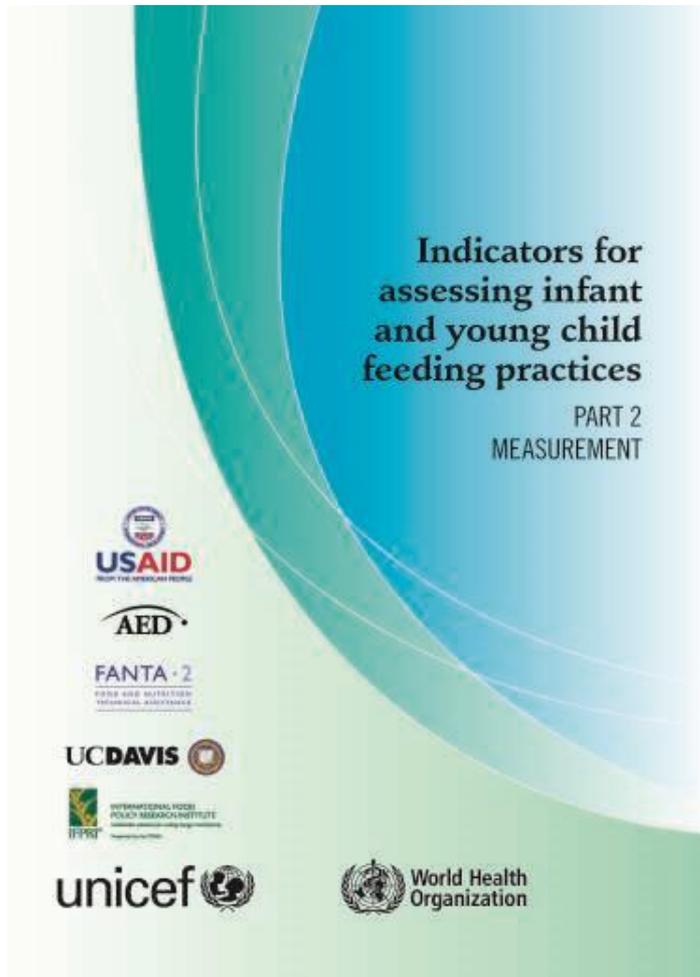
| What it measures   | Population                        | Data collection  | Data analysis                                   |
|--|-----------------------------------|--|---|
| A partial measure of dietary quality, which reflects nutrient adequacy and dietary diversity | Usually children over age 2 years | Consists of either an 8-question list (one for each food group), or a qualitative 24-hour food list (i.e. what did the child eat yesterday, without amounts) | Sum score – can calculate a mean or percentiles |

**VALIDITY:** not been validated as a measure of micronutrient adequacy, but it has been defined by FANTA. It has been used for children age 2-14 years, which is an age range that lacks a validated indicator of dietary diversity.

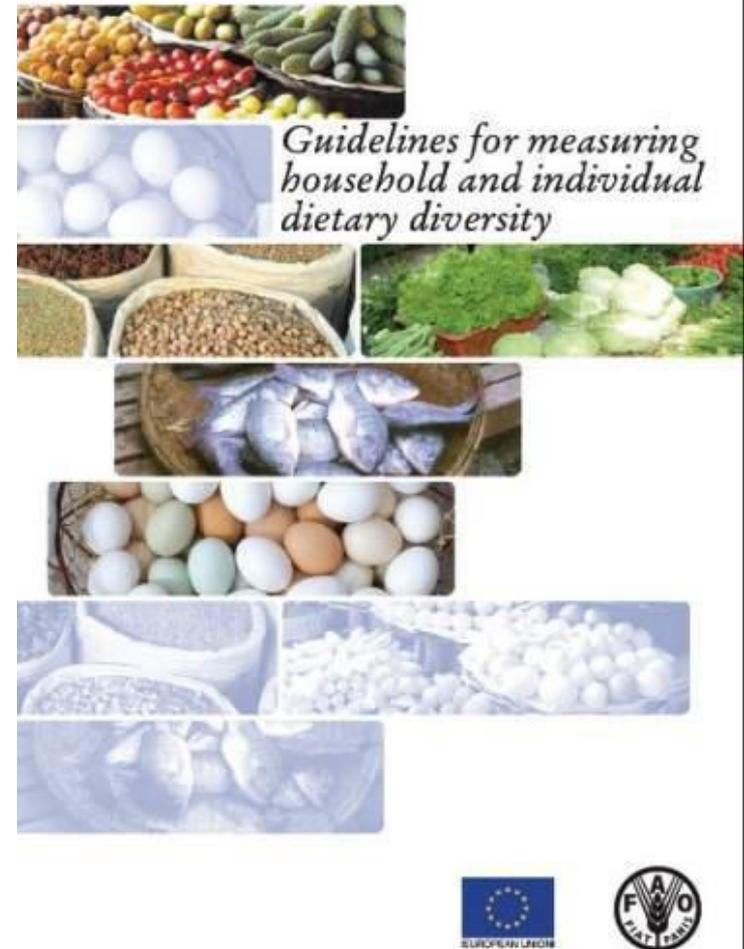
**CUT-OFF:** No cut-off is defined in this indicator.

**METHODOLOGY:** Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide (Version 2). FANTA. <http://www.fantaproject.org/monitoring-and-evaluation/household-dietary-diversity-score>

# WHO IYCF indicators: Child DD



# FAO guidelines: Adult and (HH) DD



# Household access to food

## Food Consumption Score (FCS)

- The **frequency weighted diet diversity score** is a score calculated using the frequency of consumption of different **food groups consumed by a household during the 7 days** before the survey.
- An acceptable **proxy indicator** to measure caloric intake and diet quality at household level, giving an indication of food security status of the household if combined with other household access indicators.
- It is a **composite score** based on **dietary diversity, food frequency,** and **relative nutritional** importance of different food groups.
- used primarily by the World Food Programme

## Household Dietary Diversity Scale (HDDS)

- Dietary diversity represents the **number of different foods or food groups consumed** over a given reference period
- similar to the FCS, **but usually with a 24-hour recall** period without frequency information or weighted categorical cut-offs
- It is a proxy measure for **HH food access to diverse foods**
- Number of **food groups examined: 12**
- Target: **household** (HDDS)
- widely promoted by FAO and USAID (FANTA).

# Food groups and weights in FCS and HDDS

| Food Group   | Food Items belonging to group  | Food groups           | Weight for FCS |
|--|--|-----------------------|----------------|
| 1. Cereals and grain:                                | Rice, pasta, bread / cake and / or donuts, sorghum, millet, maize,   | 1. Cereals and Tubers | 2              |
| 2. Roots and tubers:                                 | potato, yam, cassava, sweet potato, taro and / or other tubers   |                       |                |
| 3. Legumes/nut:                                      | beans, cowpeas, peanuts, lentils, nut, soy, pigeon pea and / or other nuts   | 2. Pulses             | 3              |
| 4. Orange vegetables (vegetables rich in Vitamin A): | carrot, red pepper, pumpkin, orange sweet potatoes,  | 3. Vegetables         | 1              |
| 5. Green leafy vegetables,;                          | spinach, broccoli, amaranth and / or other dark green leaves, cassava leaves   |                       |                |
| 6. Other vegetables:                                 | onion, tomatoes, cucumber, radishes, green beans, peas, lettuce, etc.  |                       |                |
| 7. Orange fruits (Fruits rich in Vitamin A):         | mango, papaya, apricot, peach  | 4. Fruit              | 1              |
| 8. Other Fruits:                                     | banana, apple, lemon, tangerine  |                       |                |
| 9. Meat:   | goat, beef, chicken, pork (meat in large quantities and not as a condiment)  | 5. Meat and fish      | 4              |
| 10. Liver, kidney, heart and / or other organ meats  |  |                       |                |
| 11. Fish / Shellfish:                                | fish, including canned tuna, escargot, and / or other seafood (fish in large quantities and not as a condiment)  |                       |                |
| 12. Eggs   |  |                       |                |
| 13. Milk and other dairy products:                   | fresh milk / sour, yogurt, cheese, other dairy products (Exclude margarine / butter or small amounts of milk for tea / coffee)   | 6. Milk               | 4              |
| 14. Oil / fat / butter:                              | vegetable oil, palm oil, shea butter, margarine, other fats / oil  | 7. Oil                | 0.5            |
| 15. Sugar, or sweet:                                 | sugar, honey, jam, cakes, candy, cookies, pastries, cakes and other sweet (sugary drinks)  | 8. Sugar              | 0.5            |
| 16. Condiments / Spices:                             | tea, coffee / cocoa, salt, garlic, spices, yeast / baking powder, lanwin, tomato / sauce, meat or fish as a condiment, condiments including small amount of milk / tea coffee. | Condiments            | 0              |
|  |  | CSB                   | 2.5            |