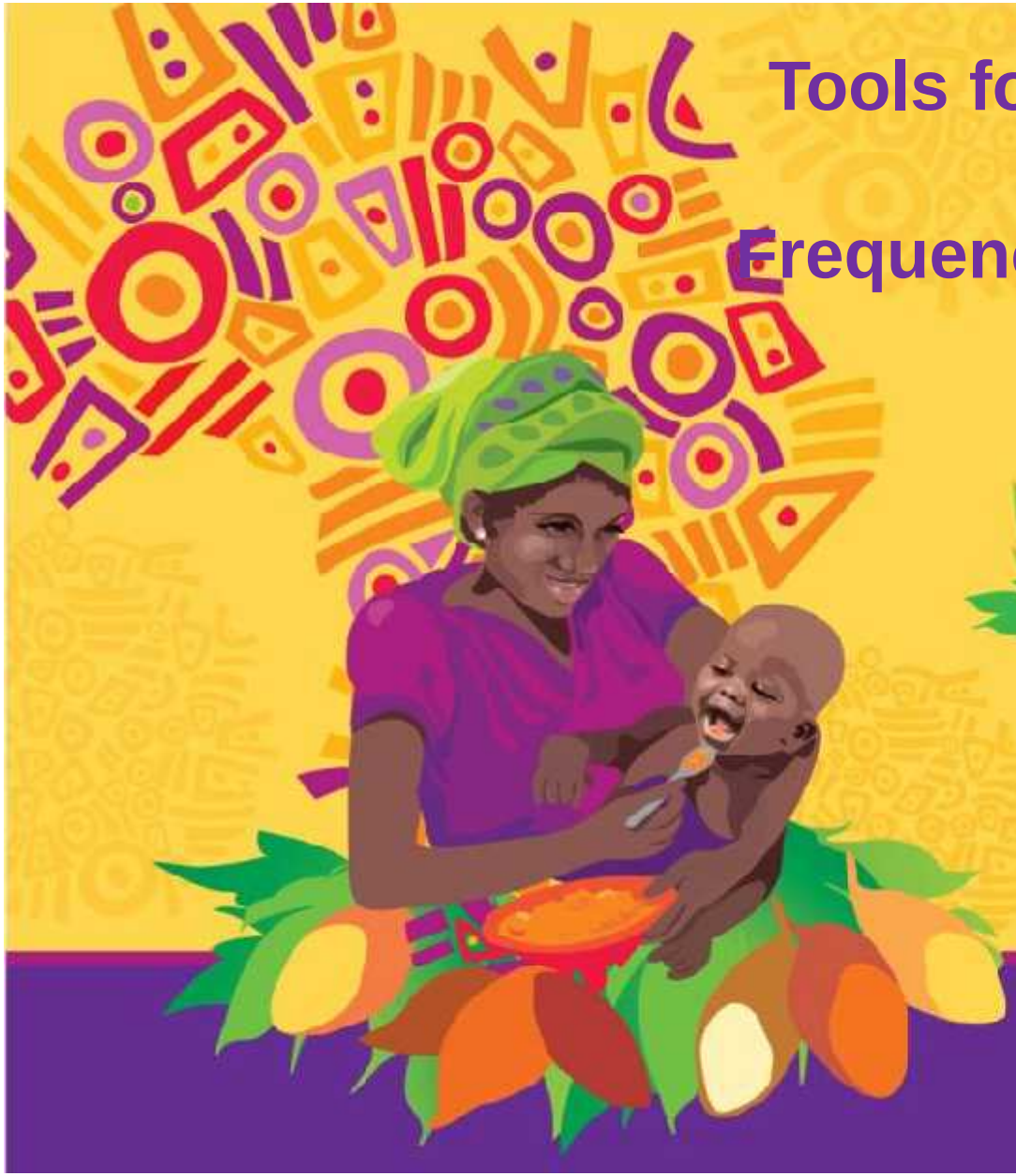
Tools for Monitoring Dietary Diversity & Frequency of Vitamin A intake



SASHA

Sweetpotato Action for Security and Health in Africa

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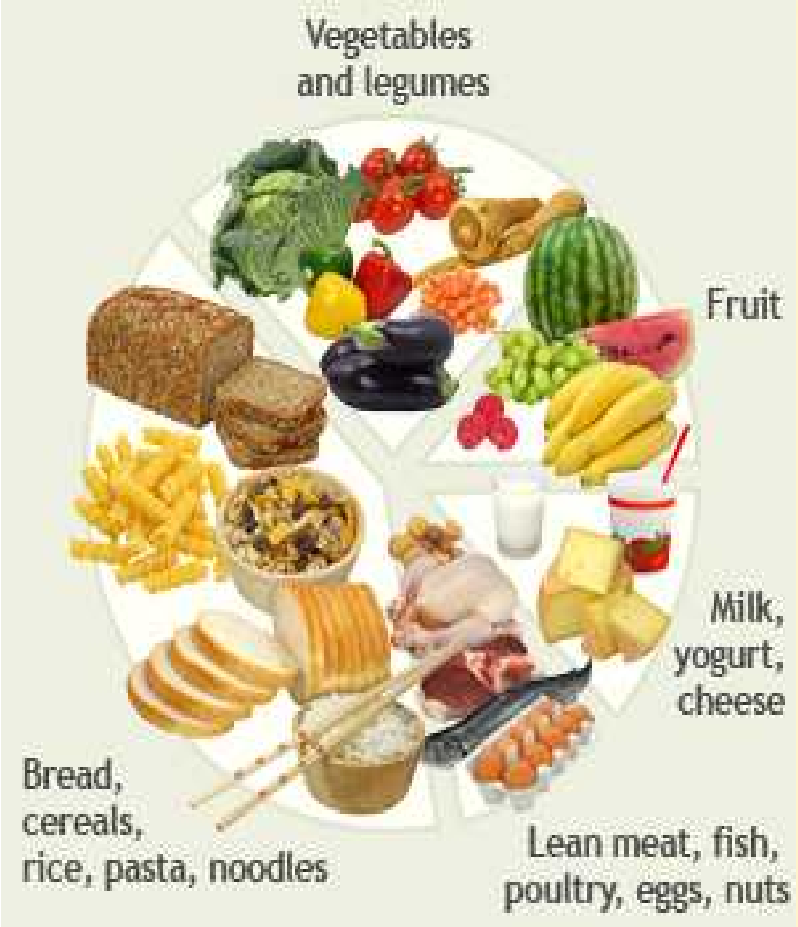
OBJECTIVE



- **Review the different DD indicator measures**
- **Present a simple tool for collecting food groups consumed in the previous night or day to be used to measure Dietary Diversity Scores (HDDS, WDDS, IYCF, MDD-W) indicators**
- **Introduce a special food group category for *Biofortified crops***
- **When to collect dietary diversity data…**

Rational

- Households, women of reproductive age, and young children are at high risk of inadequate micronutrient intakes.
- Diets of the poor are dominated by staple foods, which often supply 60-70% of their calories *but fail to provide adequate quantities of micronutrients.*
- Comparative information on diet quality is scarce, and quantitative data on nutrient intakes are expensive and difficult to gather.
- Simplified *diet diversity* indices using major food groups correlate with more detailed consumption data

Food consumption indicators

A. **Dietary Diversity Scores (24 hours recall)**
B. **Frequency of Vitamin A rich food intake (7 days recall)**

A. Dietary diversity

Dietary Diversity Scores (DDS) **are qualitative measures of food consumption that reflect access to a variety of foods.**

DDS can serve as proxies for nutrient adequacy of the diet of individuals

Definition and type of dietary diversity

A. Household dietary diversity (HDDS, 12 points): is the number of unique food groups (not quantity) consumed by household members over a given period…

…the economic ability of a household to access a variety of food

B. ***Individual Dietary Diversity Score (IDDS, 7 points)*** is meant to reflect the nutritional quality of the diet for a specific individual.

Definition of dietary diversity….

C. *Infant and Young Child Feeding Minimum Diet Diversity Score (IYCF MDD, 7 points):* is focused on the quality of diet for children 6-23 months of age

D. Minimum Dietary Diversity for Women of Reproductive Age (MDD-W, 10 points)

- *MDD-W is a dichotomous indicator to measure if woman eat at least 5 out of 10 defined food groups*
- *A proxy for assessing the adequacy of micronutrient intakes*

Dietary diversity considering Biofortified food as separate food group

Dietary diversity scores can be adjusted to include additional food groups of interest

Generate additional food group that considering Biofortified crops only (OFSP, protein rich beans….)

What happen to dietary diversity during HUNGER period?

Increase, Decrease, will not be affected

When to collect DD data

Depends on the Objective…

- **To assess the food security situation of the rural, agriculture based communities: Period of greatest food shortage, immediately prior to the main harvest or immediately after emergency**

- **To monitor the food security/ nutrition programs (repeated DDS measures required to assess the impacts of intervention, conducted at the same time of the year as the baseline to avoid seasonal differences).**

- **Seasonality may affect indicators (food security, nutrition, health and DDS) patterns and hence the proportion women with MDDS-W can varies.**

DON'T COMPARE MDD-W from different seasons adjust seasonality using survey data.

Constructing Dietary Diversity

Main groups in the questionnaire		10 Food Groups in the MDD-W	7 Food Groups in the IYCF-MDD
1	Foods made from grains	1. Grains, white roots and tubers, and plantains	1. Grains, roots and tubers
2	White roots and tubers and plantains		
3	Pulses (beans, peas and lentils)	2. Pulses (beans, peas and lentils)	2. Legumes and nuts
4	Nuts and seeds	3. Nuts and seeds	
5	Milk and milk products	4. Dairy	3. Dairy product
6	Organ Meat	5. Meat, poultry and fish	4. Flesh foods (meat, fish, poultry, organ meat)
7	Meat and Poultry		
8	Fish and Seafood		
9	Eggs	6. Egg	5. Egg
10	Dark green leafy vegetables	7. Dark green leafy vegetables	6. Vitamin A rich fruits and vegetables
11	Vitamin A rich vegetables, roots and tubers	8. Other vitamin A rich fruits and vegetables	
12	Vitamin A rich fruits		
13	Other vegetables	9. Other vegetables	7. Other fruits and vegetables
14	Other fruits	10. Other fruits	

HOUSEHOLD & IDDS

HDDS Food Groups (0-12)	IDDS (Children) (Score: 0-8)
1. Cereals	1. Grains, roots or tubers
2. Roots and tubers	2. Vitamin A-rich plant foods
3. Vegetables	3. Other fruits or vegetables
4. Fruits	4. Meat, poultry, fish, seafood
5. Meat, poultry, offal	5. Eggs
6. Eggs	6. Pulses/legumes/nuts
7. Fish and seafood	7. Milk and milk products
8. Pulses/legumes/nuts	8. Foods cooked in oil/fat
9. Milk and milk products	
10. Oils/ fats	
11. Sugar/honey	
12. Miscellaneous	

B. Frequency of Vitamin A rich food intake

What are the special food types consumed in your country?

(e.g. Ugali, Red palm oil,…?)

Which group did these foods fit?

HKI-Frequency of Vitamin A rich food intake

	Food group
1	MAIN STAPLE (MAIZE, SORGHUM, RICE, CASSAVA, IRISH POTATO, SWEETPOTATO, YAM, COOKING BANANA, ETC.)?
2	WHOLE CHILLIES OR HOT PEPPER?
3	DARK GREEN LEAVES OF ANY KIND?*
4	PUMPKIN LEAVES?*
5	SWEETPOTATO LEAVES?*
6	AMARANTHUS LEAVES?*
7	RED PALM OIL?*
8	MILK OR MILK PRODUCT (CHEESE, YOGHURT)?
9	CARROTS?*
10	RIPE MANGO, FRESH OR JUICE?*
11	PUMPKIN OR ORANGE SQUASH?*
12	RIPE PAPAYA (FRESH OR JUICE)?*
13	WHEAT/BISCUITS/COOKIES/BREAD?
14	WHITE-FLESHED SWEETPOTATO?
15	ORANGE-FLESHED SWEETPOTATO (OFSP)?*
16	YELLOW-FLESHED SWEETPOTATO?*
17	EGGS WITH YOLK?**
18	ANY FRESH FISH (WITH INTACT LIVER)?**
19	LIVER - FROM ANY ANIMAL OR BIRD (E.G. CHICKEN) OR FISH?**
20	MEAT FROM COW/PIG/SHEEP/RABBIT/RAT/WILD ANIMAL?
21	BUTTER?**
22	COD LIVER OIL?**
23	FOOD FRIED IN OIL OR WITH OIL?
24	PASSION FRUIT (OR OTHER PLANT SOURCE HIGH IN VITAMIN A)*
25	VITAMIN A FORTIFIED MARGARINE (BLUEBAND) OR OIL?**
26	CHICKEN OR OTHER FOWL?
27	WEANING FOOD FORTIFIED WITH VITAMIN A, LIKE CERELAC (FORTIFIED PAKAGED CEREAL)?**
28	INFANT FORMULA (E.G. NAN, ETC) FORTIFIED WITH VITAMIN A?**
29	COCONUT, COOKING OIL (VEGETABLE OR GHEE)?
30	ANY SUGAR TO WHICH VITAMIN A HAS BEEN ADDED?

Computing incidence of VAD… HKI approach

A=Animal Score= Eggs + Fish with Liver intact + Liver + Butter + Cod Liver Oil + Fortified Weaning Foods + Fortified Margarine + Fortified Sugar + Fortified Infant Formula

B=Plant Score = (Dark Green Leafy Vegetables + Carrots + Ripe Mango + Pumpkin or Orange Squash + Ripe Papaya + Yellow Sweetpotato + Orange-fleshed Sweetpotato + Red Palm Oil + Passion Fruit)/6

C=A+B= Total Score = Animal Score + Plant Score.

- **Vitamin A deficiency is community health problem:**

if A<= 4 or C<=6.

- If at least 70% of the communities surveyed (11 out of 15) have a VAD problem, then the entire survey area probably has a VAD problem of public health significance.

5 simple steps to estimate DDS in STATA …

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……Steps to generate DDS in STATA

1.use /…./RW_DDS.dta, clear

2. quietly foreach x of varlist u01a-u16a {

replace `x'= . if `x' ==8|`x'==9

}

Break

3. rename u01a CEREALS

….

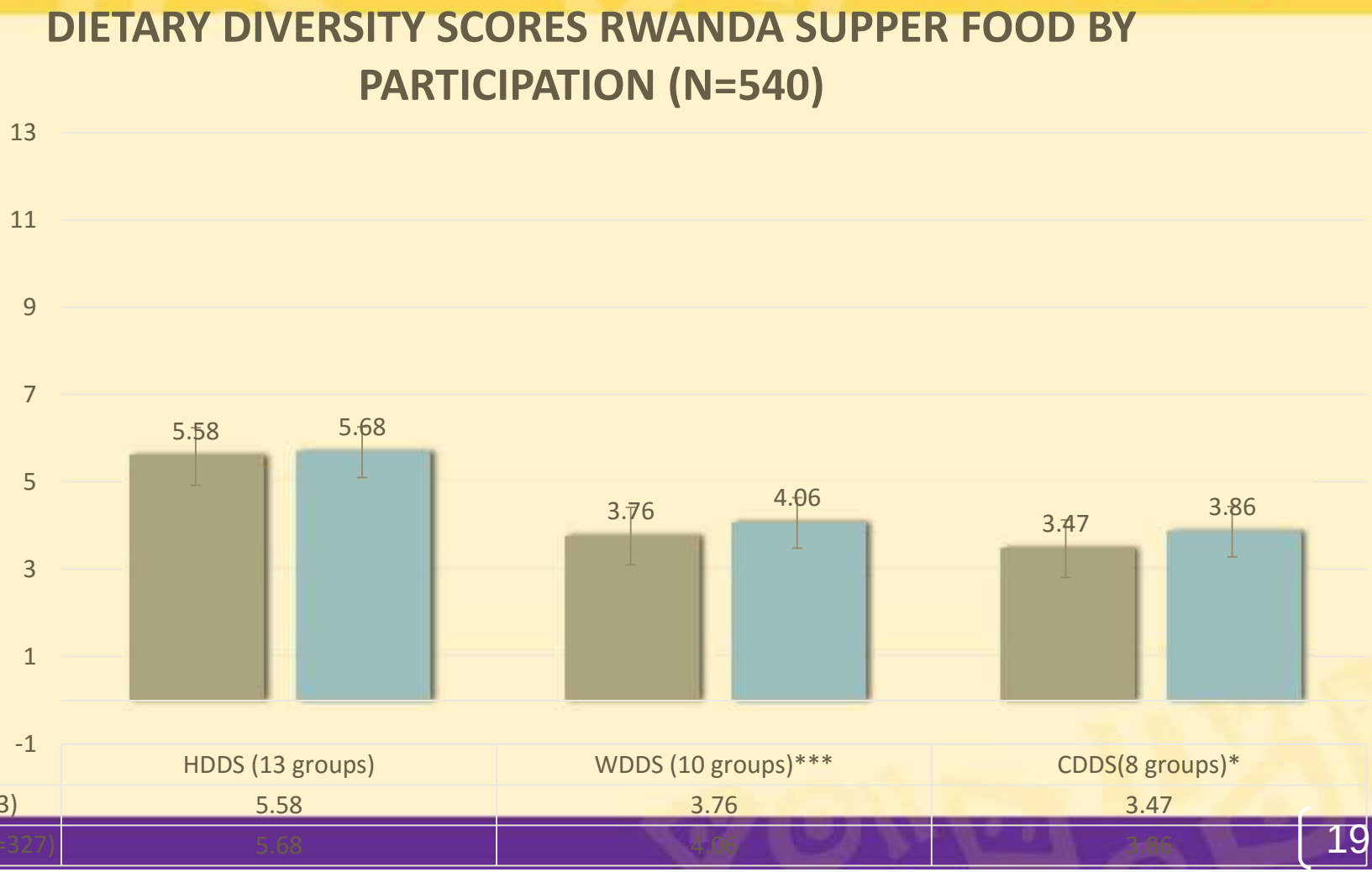
4. gen MDD_StarchyStaples=0

replace WDD_StarchyStaples=1 if CEREALS==1|White_Roots_Tuber==1

…..

5. egen MDD_W = rsum(MDD*)

Result -case study Rwanda Supper Food



Practical session