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Strengthening Partnerships, Results and Innovations in Nutrition Globally

Household Consumption and Expenditure Surveys (HCES)

A Tool for Better Understanding Food and Nutrition Issues

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The USAID SPRING Project

The Food Consumption and Nutrition Information Gap: A Global Problem

- Nutritionists' gold standards: Observed-Weighed Food Record and the 24 Hour Recall survey
- But few exist
  - Expensive
  - Difficult to conduct; capacity constraints
- Most are small scale, one-time, not statistically nationally representative, of questionable generalizability

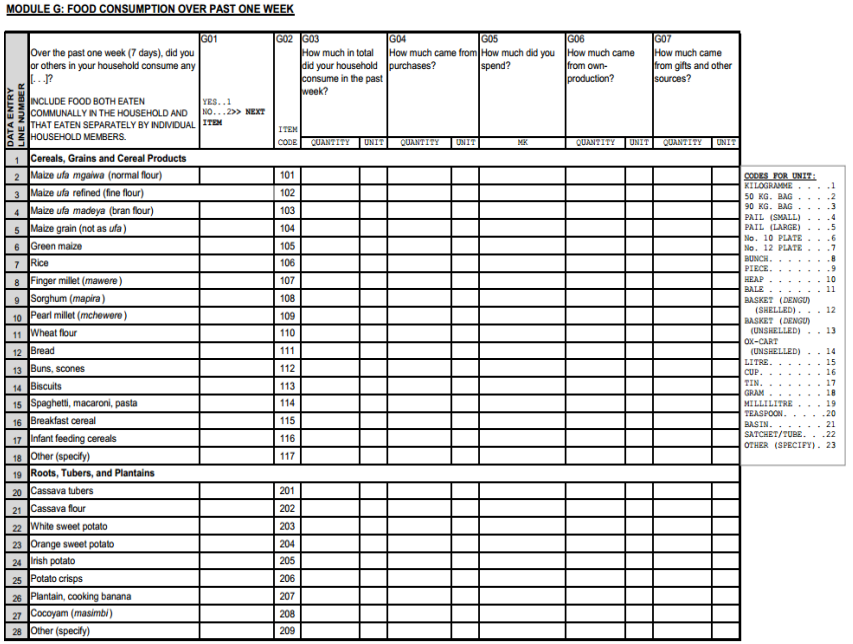
Implications of the Food Consumption and Nutrition Information Gap

- Nutrition programs are
  - being discouraged
  - being designed and implemented in a sub-optimal manner
- The prevalence of malnutrition is higher
- In an age of:
  - expectations that policies will be evidence-based,
  - where there is increased accountability and
  - increased competition for resources

…the gap slows progress in reducing malnutrition

Household Consumption and Expenditure Surveys (HCES)

- Large scale, multi-purpose, recurring HH surveys
- Generally representative at a subnational (regional or state) level
- Detailed information on household food acquisition and consumption
- Already being conducted and paid for
  - Incremental cost of analyzing the nutrient content of an already-existing HCES: ~$25,000
  - Cost of a 24HR survey (8,500 HHs) $2.3 million



MODULE G: FOOD CONSUMPTION OVER PAST ONE WEEK

DATA ENTRY LINE NUMBER	Over the past one week (7 days), did you or others in your household consume any [...]? INCLUDE FOOD BOTH EATEN COMMUNALLY IN THE HOUSEHOLD AND THAT EATEN SEPARATELY BY INDIVIDUAL HOUSEHOLD MEMBERS.	G01 YES...1 NO...2>> NEXT ITEM	G02 ITEM CODE	G03 How much in total did your household consume in the past week? QUANTITY	G03 UNIT	G04 How much came from purchases? QUANTITY	G04 UNIT	G05 How much did you spend? MK	G06 How much came from own-production? QUANTITY	G06 UNIT	G07 How much came from gifts and other sources? QUANTITY	G07 UNIT
1	**Cereals, Grains and Cereal Products**											
2	Maize *ufa mgaiwa* (normal flour)		101									
3	Maize *ufa* refined (fine flour)		102									
4	Maize *ufa madeya* (bran flour)		103									
5	Maize grain (not as *ufa*)		104									
6	Green maize		105									
7	Rice		106									
8	Finger millet (*mawere*)		107									
9	Sorghum (*mapira*)		108									
10	Pearl millet (*mchewere*)		109									
11	Wheat flour		110									
12	Bread		111									
13	Buns, scones		112									
14	Biscuits		113									
15	Spaghetti, macaroni, pasta		114									
16	Breakfast cereal		115									
17	Infant feeding cereals		116									
18	Other (specify)		117									
19	**Roots, Tubers, and Plantains**											
20	Cassava tubers		201									
21	Cassava flour		202									
22	White sweet potato		203									
23	Orange sweet potato		204									
24	Irish potato		205									
25	Potato crisps		206									
26	Plantain, cooking banana		207									
27	Cocoyam (*masimbi*)		208									
28	Other (specify)		209									

CODES FOR UNIT:
KILOGRAMME 1
50 KG. BAG 2
90 KG. BAG 3
PAIL (SMALL) . . .4
PAIL (LARGE) . . .5
No. 10 PLATE . . .6
No. 12 PLATE . . .7
BUNCH. 8
PIECE. 9
HEAP 10
BALE 11
BASKET (*DENGU*) (SHELLED) . . 12
BASKET (*DENGU*) (UNSHELLED) . . 13
OX-CART (UNSHELLED) . . 14
LITRE. 15
CUP. 16
TIN. 17
GRAM 18
MILLILITRE . . . 19
TEASPOON. 20
BASIN. 21
SATCHET/TUBE. . .22
OTHER (SPECIFY). 23

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The Appeal of HCES

1. Food: Consumption, Expenditures & Gifts/In-kind
2. Household Composition: Number of members, age, gender, education
3. Housing Characteristics (water, sanitation)
4. Non-food expenditures, assets, employment
5. Common, but not universal modules on:
   - **Agriculture**: Amount of land owned, cultivated, types of crops planted, inputs, production levels and disposition
   - **Health** and health care use (Vitamin A and iron supplementation)
   - **Safety net programs** participation

HCES Global Coverage: Growing Numbers, Quality, Availability

- *1990 World Development Report*
  - Cross country analysis of household surveys from 22 countries, 1 per country
- *Today*
  - Household surveys cover 116 countries, an average of 6 per country
  - Latest surveys from 116 countries covers 1.2 million households, 5.5 million people

Source: Ravaillon M. Global poverty measurement: Current practices and future challenges. http://sites.nationalacademies.org/PGA/sustainability/foodsecurity/PGA_060826

HCES are Heterogeneous

- General statements are challenging to make
- What are judged to be strengths and shortcomings depend on:
  - General survey characteristics: the particular type of survey (i.e., NHBS, LSMS, HIES, HIS, etc.)
  - Country-specific characteristics: How the survey was designed and implemented in a country, and how the data was processed
  - Specific issues / applications of interest

Variation in Key HCES Characteristics

(From a sample of 74 countries)

1. Sample Size	Mean	11,958
	Median	9,555
2. Data Capture Method	Recall	54, 73%
	Diary	20, 27%
3. Recall Period	Mode	7 days (20, 27%)
	Range	3 days-12 months
4. Number of Food Items	Range	21 - 3,536
	Mean	212
	Median	146
5. Food Data	Quantity	58, 78%
	Only value	16, 22%
6. Food Sources / Acquisition Method	Purchases	73, 99%
	Consumed from own Production	52, 70%
	Gifted	34,46%

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Commonly Regarded Limitations of HCES Data for Nutrition Analysis

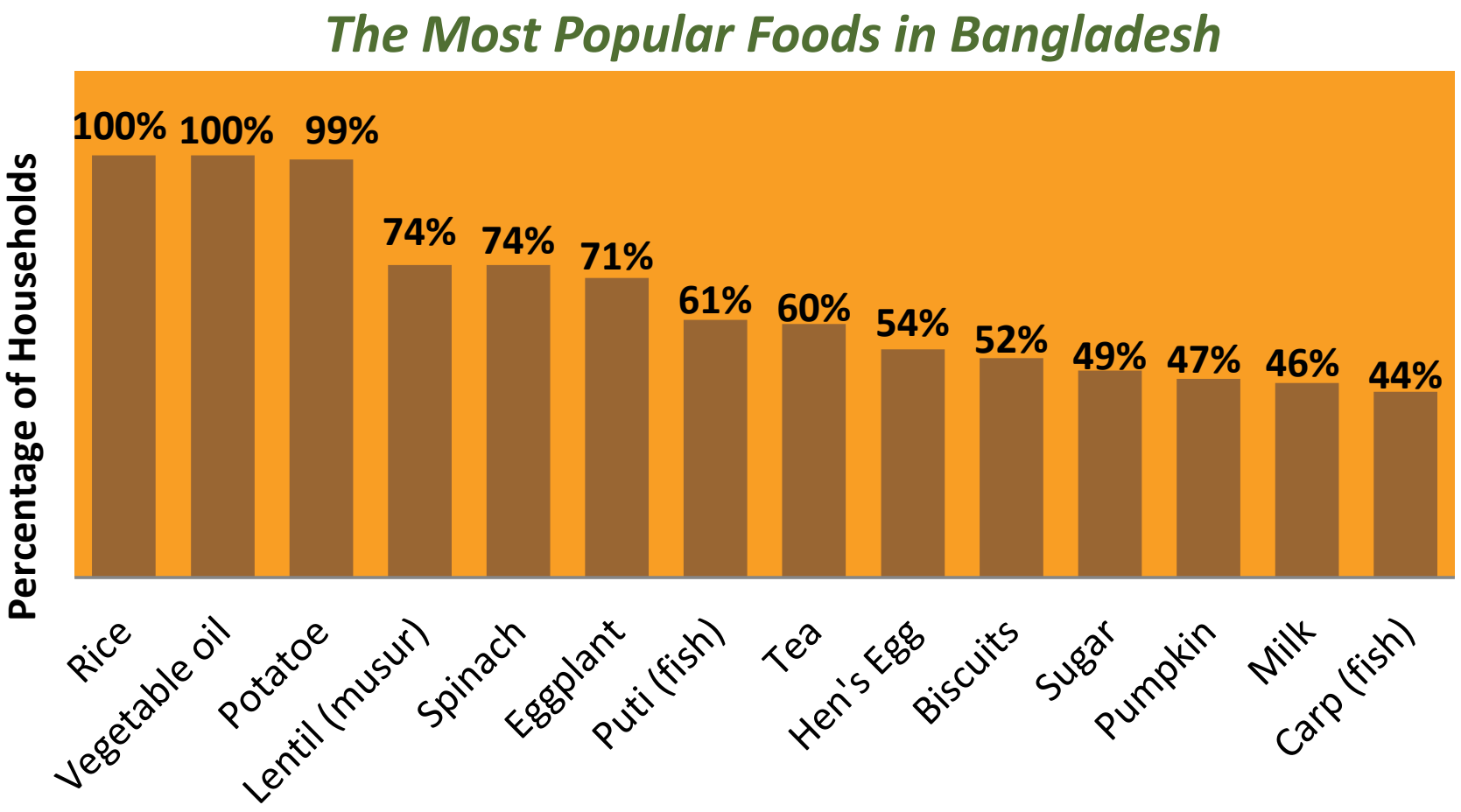
1. A mixture of food acquisition and food consumption = availability or "apparent food consumption"
2. Food consumed away from home is inadequately captured
3. Units of measurement not always standardized
4. Food lists and food list categories can vary enormously in terms of how inclusive they are

HCES Limitations

5. Food items may not be specific enough to enable unambiguously matching to a Food Composition Table entry—making caloric and nutrient intake estimation imprecise
6. Unit of analysis: Household level data, not individual level
   - To analyze individual nutrition status it is necessary to make assumptions about the intra-household food distribution

SPRING is working to better understand the significance of these shortcomings and how to ameliorate them.

HCES, a Tool for Understanding Food and Nutrition Issues: *Diet and Dietary Patterns*



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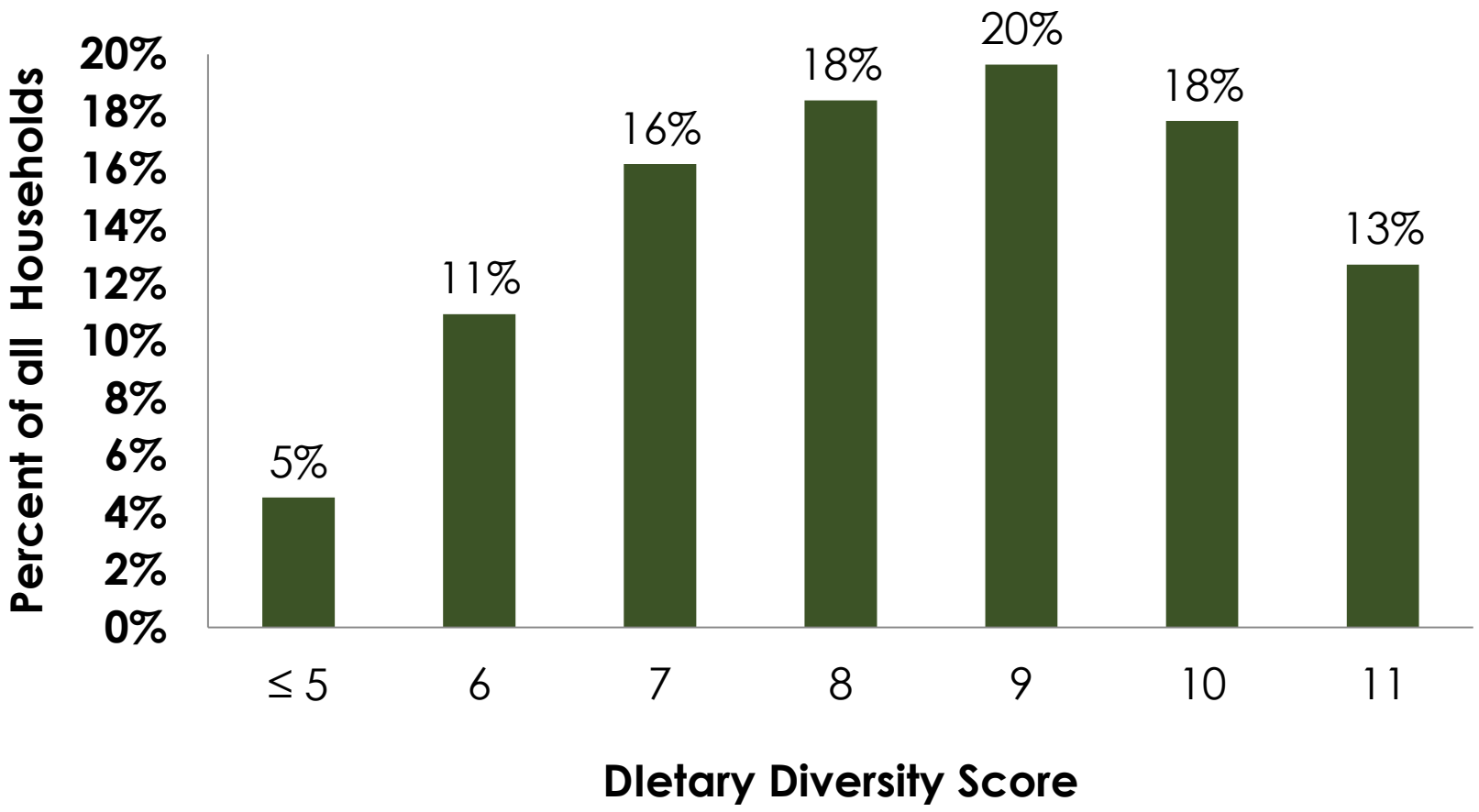
Bangladesh Households' Dietary Diversity Scores



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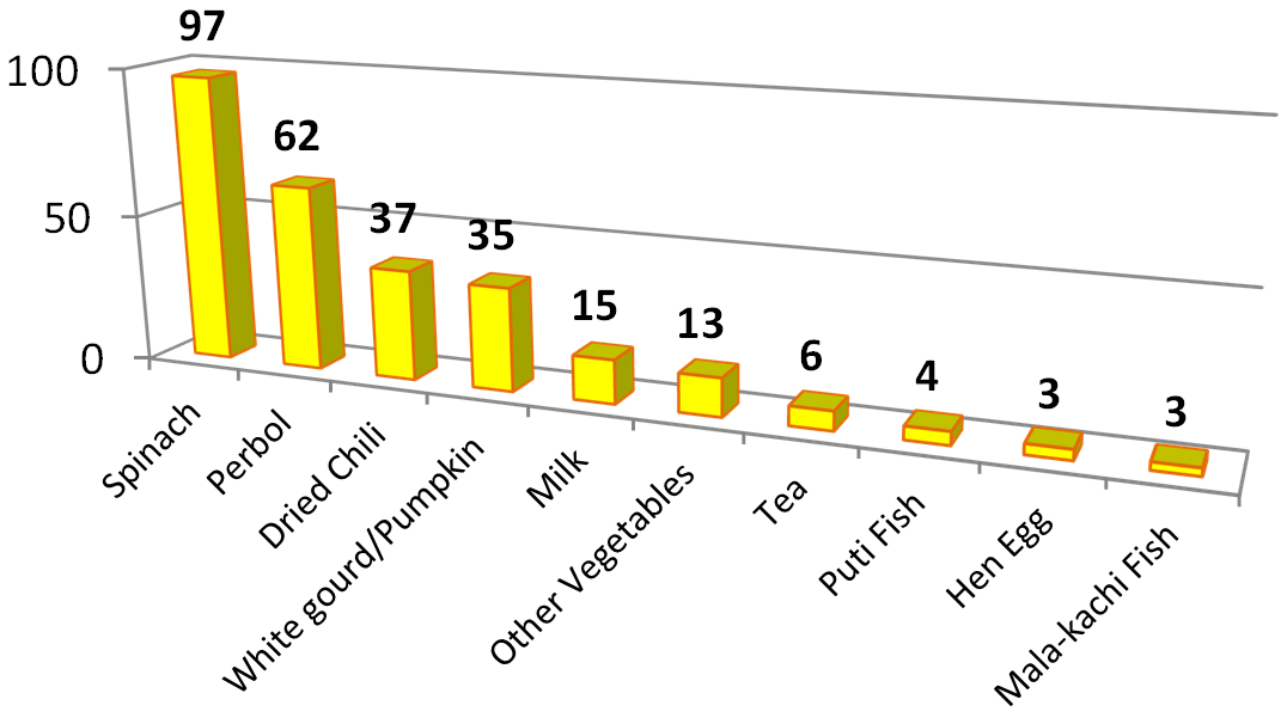
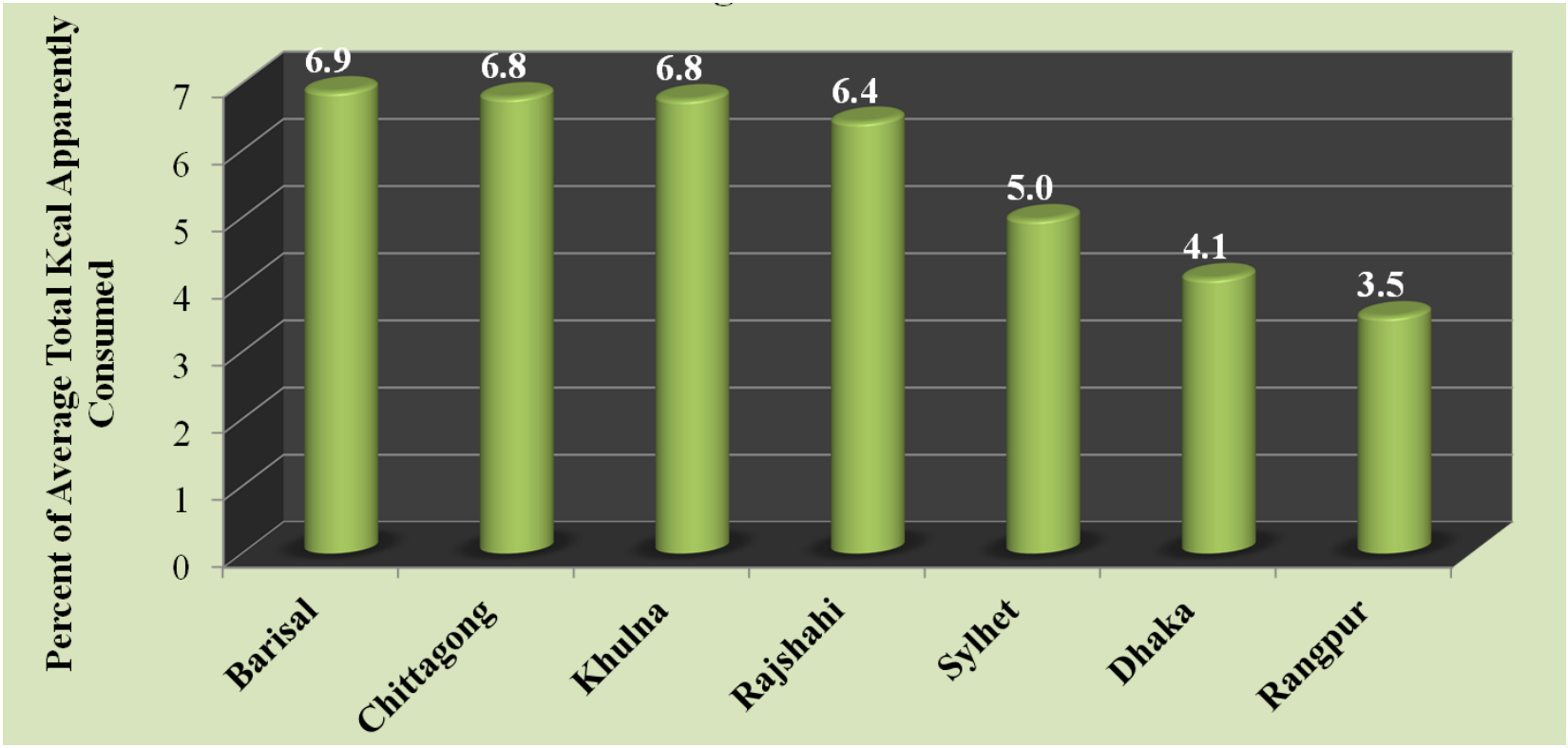
HCES, a Tool for Understanding Food and Nutrition Issues: *Key Sources of Nutrients*

Food Sources of Vitamin A in Bangladesh (µg/p/day)



HCES, a Tool for Understanding Food and Nutrition Issues: *Regional Variations*

Wheat Flour as a Source of Average Total Daily Energy, Bangladesh



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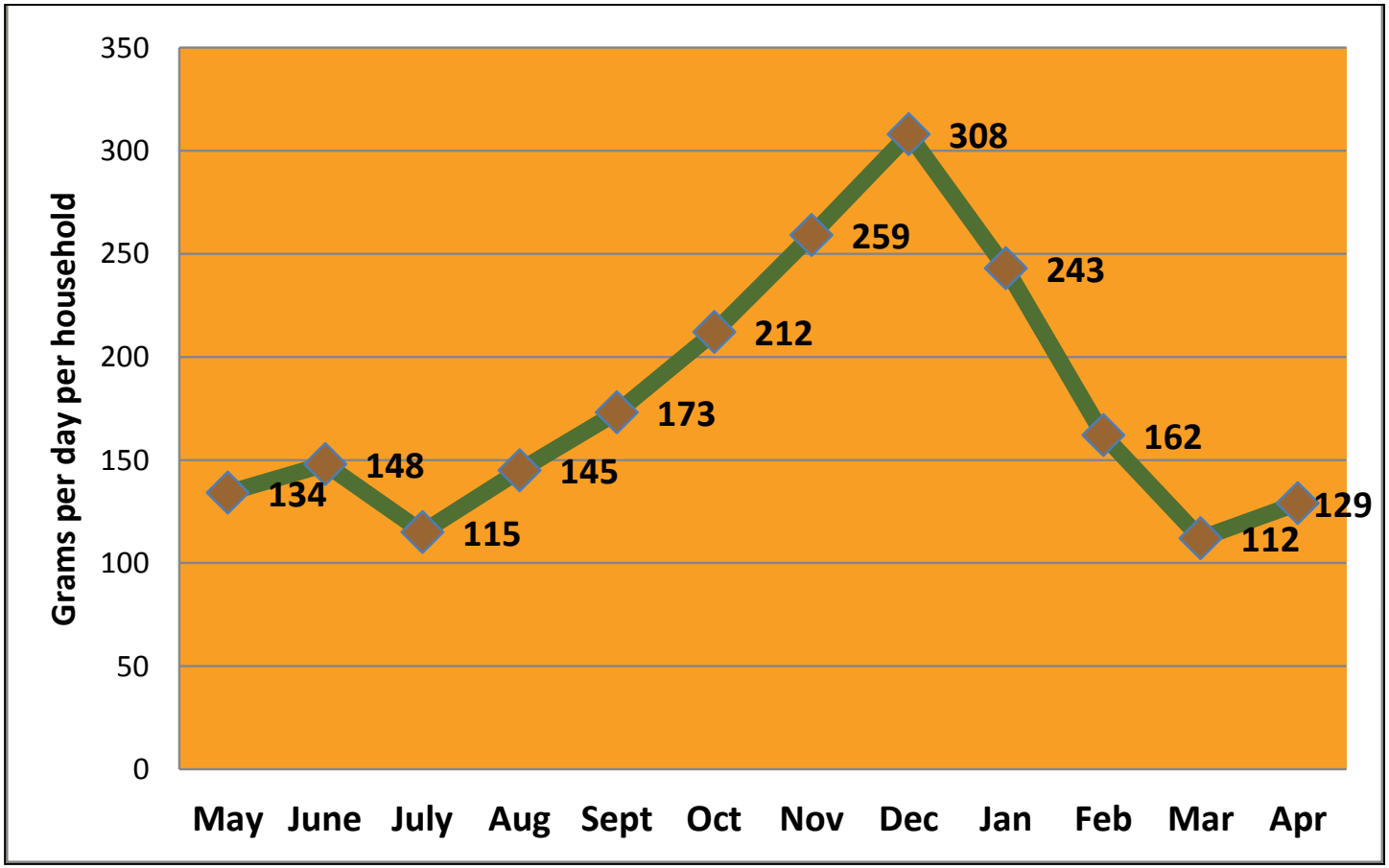
HCES, a Tool for Understanding Food and Nutrition Issues: Seasonality

Monthly Fluctuations in Sweet Potato Consumption, Uganda



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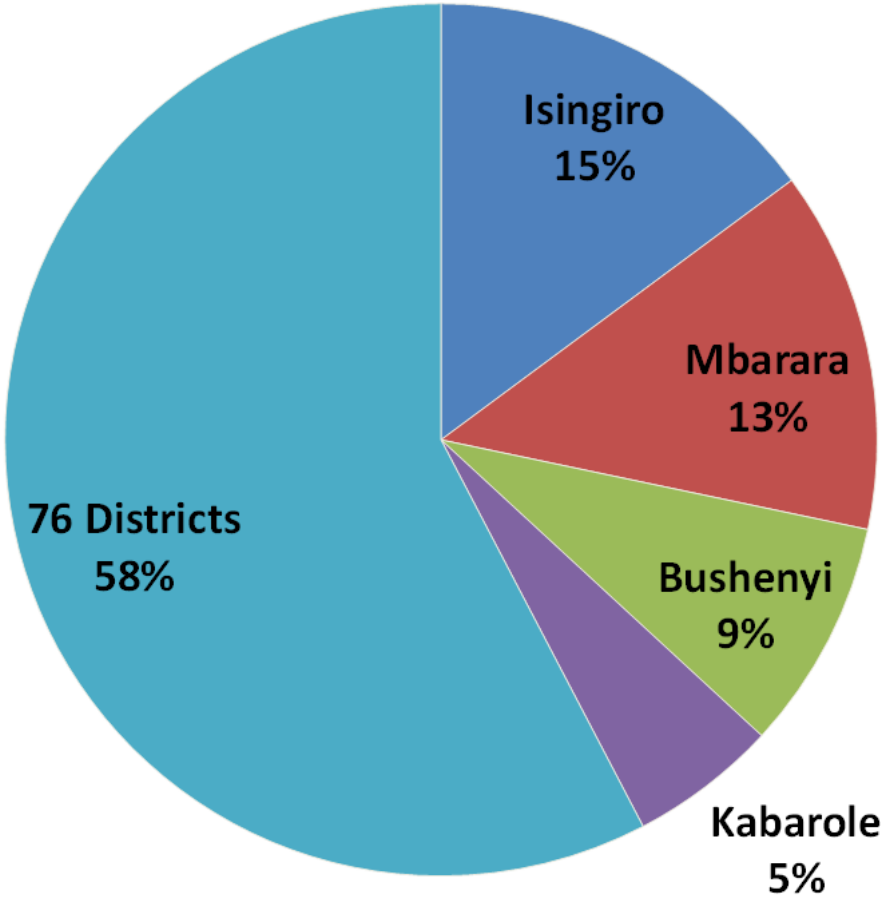
HCES, a Tool for Understanding Food and Nutrition Issues: *Estimating Nutrient Intakes*

- Match food items with items listed in country-specific Food Composition Tables (FCTs)
- Calculate total household apparent consumption of each food item
- Apply Adult Male Equivalents (AMEs) concept to take into account household's size and composition
- Compare to Estimated Average Requirement (EAR) to determine nutrient intake adequacy

HCES, a Tool for Understanding Food and Nutrition Issues: *Food Market Structures*

Concentration of Highland Cooking Banana Production in Uganda



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HCES, a Tool for Understanding Food and Nutrition Issues: *Agriculture-Nutrition Nexus*

Percent of Households Producing the 7 Most Important Food Sources of Iron

	Sweet Potatoes	Matooke	Beans	Cassava	Dodo	Maize	Sorghum
Kampala	4%	4%	5%	4%	1%	6%	0%
Central	45%	52%	55%	51%	1%	58%	1%
Eastern	50%	29%	47%	68%	1%	71%	26%
Northern	44%	8%	56%	66%	0%	62%	52%
Western	53%	66%	83%	44%	0%	52%	15%
Uganda	44%	35%	55%	53%	1%	56%	22%

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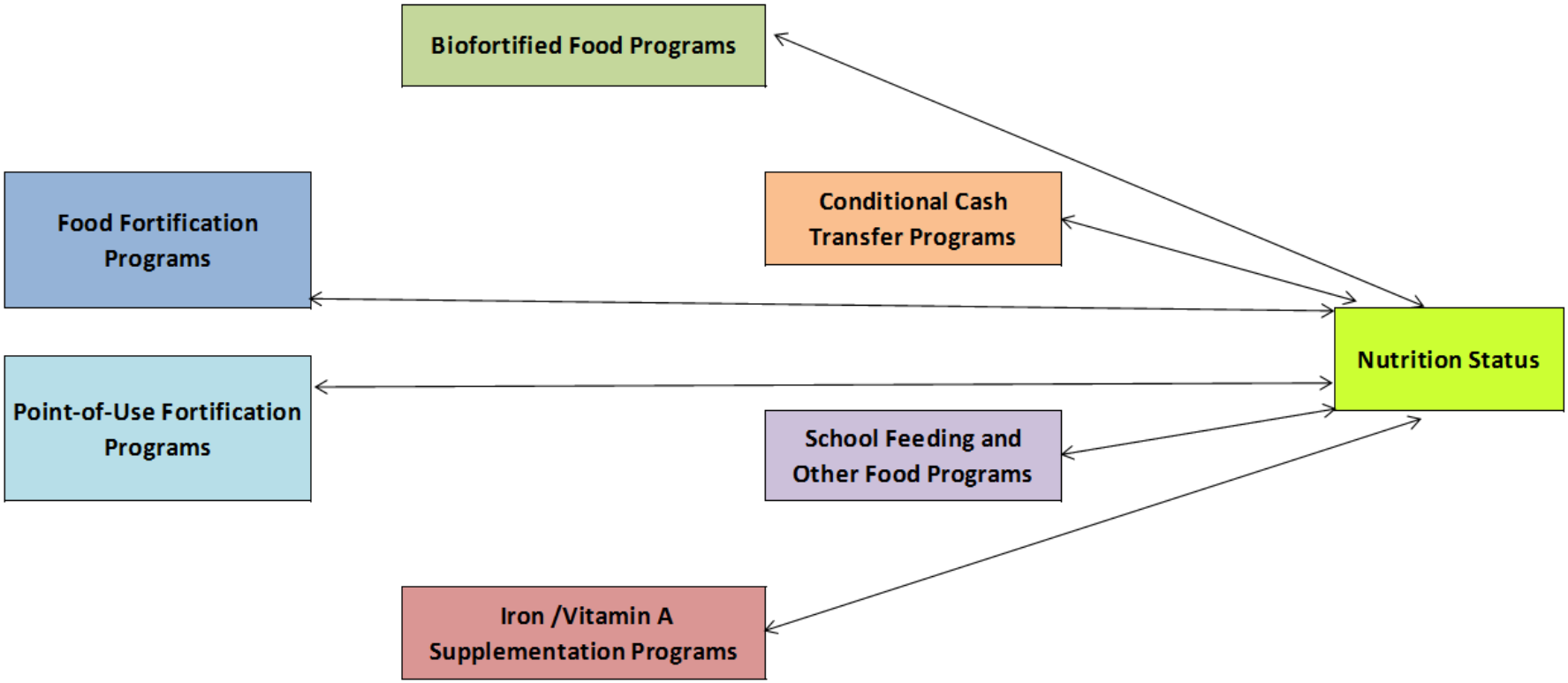
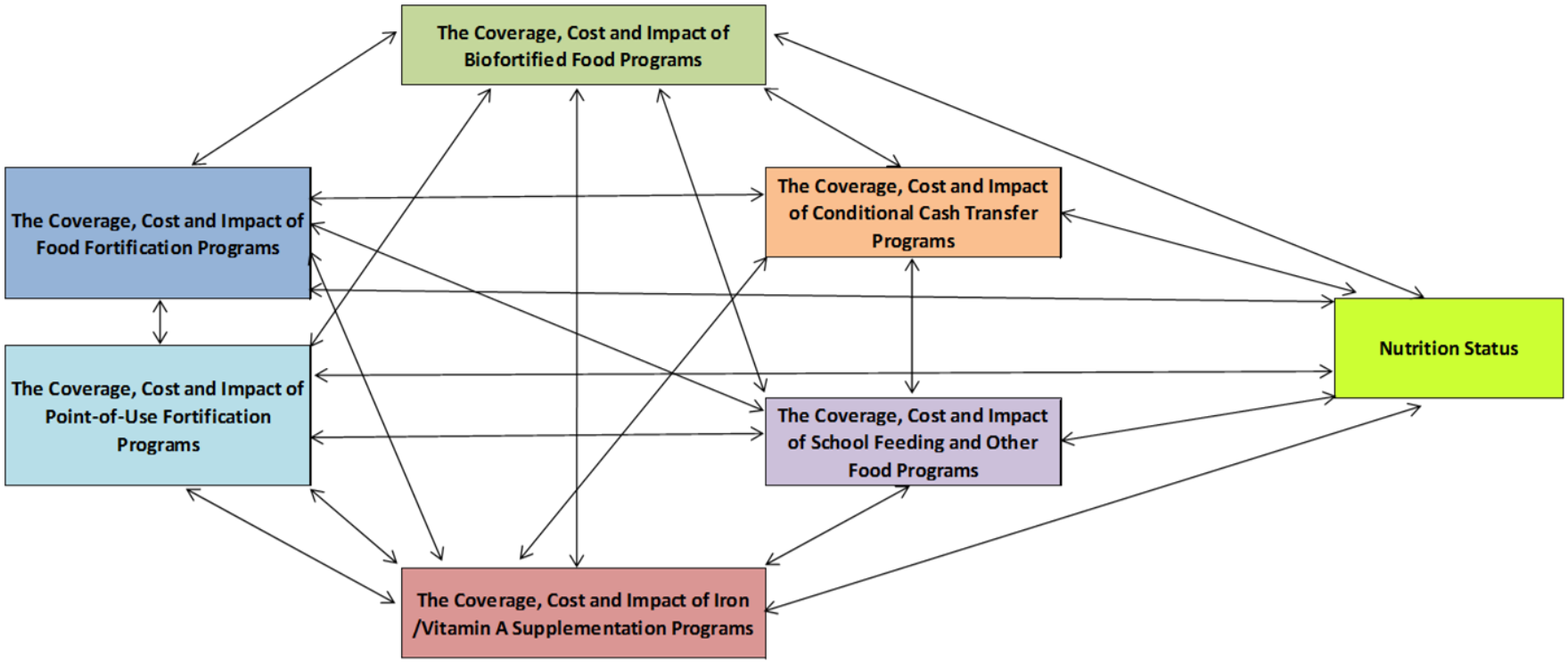
HCES, a Tool for Understanding Food and Nutrition Issues: *Harmonizing Nutrition Program Portfolios*



A Comprehensive, Integrated Nutrition Policy Requires Understanding Programs' Interactions and Their Harmonization as a Portfolio



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The Challenge:
How "Good" Can We Make HCES?

- To date, HCES have been used only as a source of secondary data
- How much could HCES be strengthened to collect more precise food and nutrition data?
- The work has begun: World Bank-FAO-International Household Survey Network-UN Statistical Commission have recently developed a multi-agency working group to strengthen HCES

Strengthening HCES: *The Agenda*

1. FAO/WB just-released ***ADePT-Food Security Module*** software to facilitate and routinize HCES processing of food and nutrition data
2. 2014 assessment of the precision and relevance of 115 countries' HCES
3. 2014 agenda (being implemented with National Statistical Offices)
   - Improve the food list
   - Standardize reporting units
   - Better capture (1) processed foods and (2) food consumed away from home