Cost of the Diet: a Method and New Software

Outline of the presentation

- To understand what the Cost of the Diet method is, what it does, and why it was developed

- To learn what information is needed to conduct a Cost of the Diet assessment

- To understand what information is generated by an assessment and how this information could be interpreted and manipulated for programme design
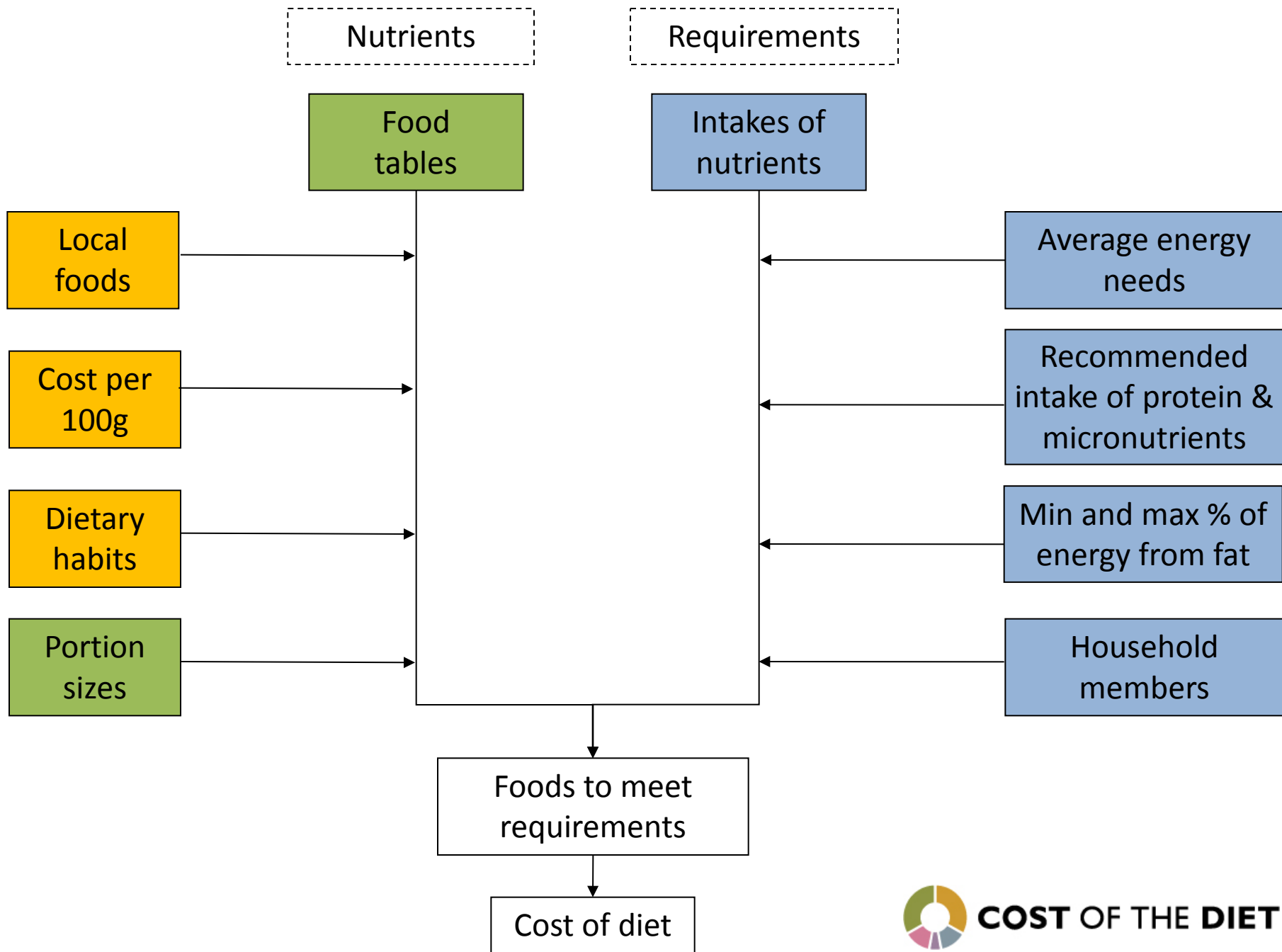
COST OF THE DIET

What is the Cost of the Diet?

- Arose from a recognition that economic and financial constraints on access to food are a major reason for a poor diet

- Assessment method and some computer software

- Estimates at the lowest cost, the quantity and combination of local foods that are needed to provide a typical family with their average needs for energy and their recommended intakes of protein, fat and micronutrients

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Cost of the Diet questions?

- The tool tries to answer the following questions:
  - Is it possible to meet energy and nutrient specifications using local foods?
  - If not, why not, or what nutrient specifications are most hard to meet?
  - What is the cost of the foods identified?
  - Is this diet affordable?
  - And, if not, what might be done?

COST OF THE **DIET**

Food tables

Intakes of nutrients

Local foods

Average energy needs

Cost per 100g

Recommended intake of protein & micronutrients

Dietary habits

Min and max % of energy from fat

Portion sizes

Household members

Foods to meet requirements

Cost of diet

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Cost of the diet data collection

1. Choose an assessment area
2. Select market and village sites representative of the assessment area
3. Write a list of all the foods eaten and available in the assessment area
4. Visit a representative sample of local markets and shops to collect data on the cost of foods
5. Conduct interviews and focus group discussions to understand the frequency with which foods in the food list are eaten by people in different wealth groups and the reasons why

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Who is involved in a Cost of the Diet assessment?

- Assessment leader

- The practitioner

- The data collectors

- A country administrator

	Week					
	1	2	3	4	5	6
CotD practitioner	Literature review	Training data collectors, supervising data collection, initial analysis			Report writing	
Data collectors		Training and data collection				
Country administrator	Planning assessment	Supporting Assessment				

COST OF THE DIET

Cost of the Diet software contains two main databases

- Concentrations of energy, protein, fat and 13 micronutrients per 100 g in 3,582 foods and supplements
  - Added Bangladesh, West Africa, USDA and generic CotD food tables
  - No values for iodine, vitamin D, essential fatty acids, amino acids
- Average energy and recommended nutrient intakes for protein, fat and 13 micronutrients for 237 individuals, plus adjustments for pregnancy and lactation
  - WHO/FAO recommendations
  - Requirements adjustable from the 1st to the 99th percentile

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Adjust nutrient specifications for individuals from the 1st to the 99th percentile
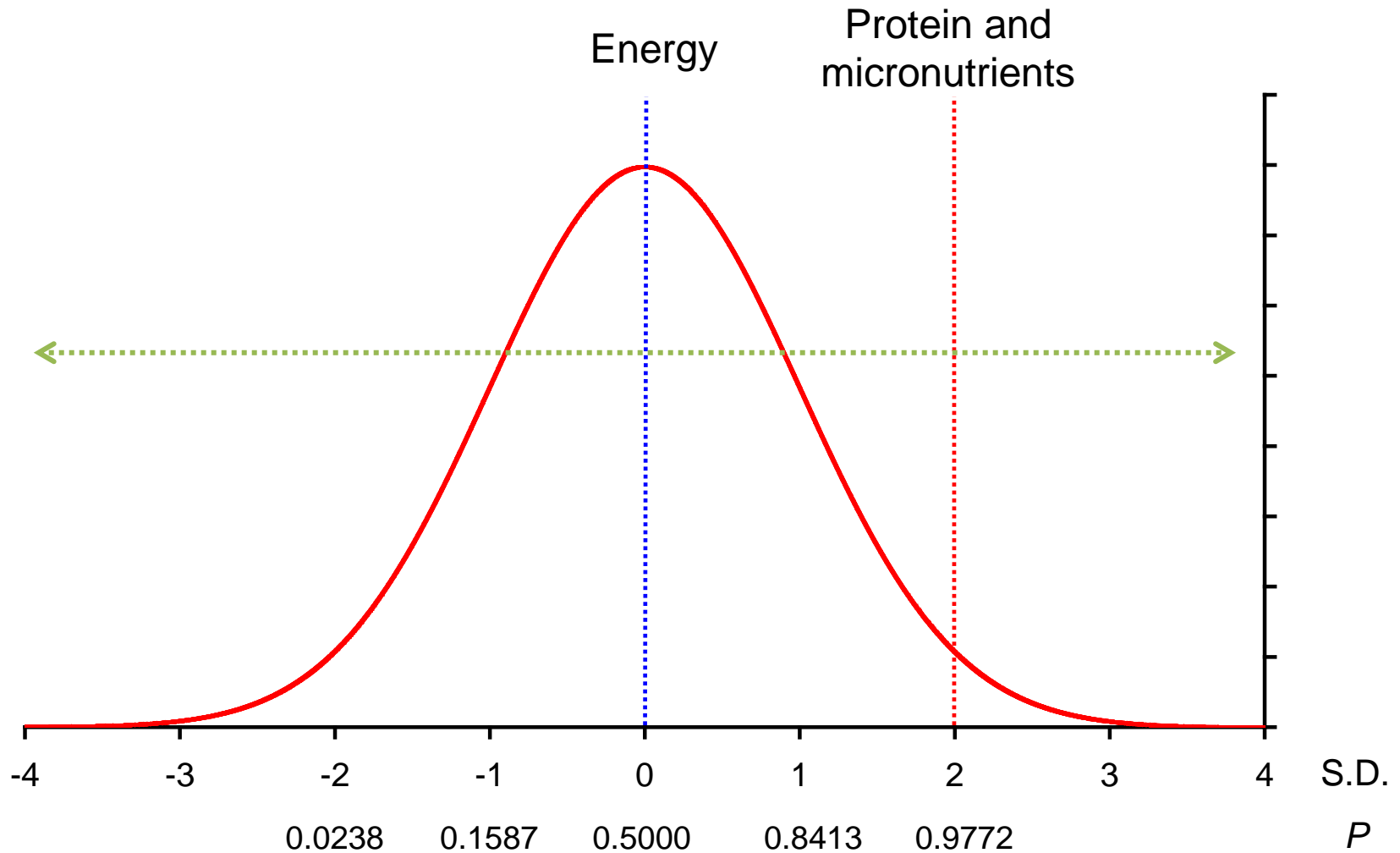
Specify upper limits

- To ensure the diets estimated are not toxic in certain nutrients and do not exceed the amount of food possible for someone to eat
- WHO/FAO, IOM and EU recommendations for maximum amounts of:
  - Energy
  - Vitamin A
  - Vitamin C
  - Niacin
  - Calcium
  - Iron
- Created upper limits on the total quantity of food that the software can include for an individual
  - New feature
- Fixed values specified in the software

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Sources of data and calculations

- All parameters entered into an open access linear programming solver, *lp_solve* version 5

- Maximise or minimise each parameter, or does not exceed a given value

- To achieve lowest possible cost from smallest number of least expensive foods

- Not a diet in the strict sense: a mixture of foods to meet specifications

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Standard diets

Diet name	Definition	Energy needs met	Protein needs met	Fat needs met	Micro-nutrient needs met	Reflects a typical diet
Energy only diet	A lowest cost diet that meets only the average energy requirements of the members of the household	X				
Macronutrient diet	A lowest cost diet that meets only the average energy and the recommended protein and fat requirements of the members of the household	X	X	X		
Nutritious diet (was Minimum Cost Nutritious Diet or MNUT)	A lowest cost diet that meets specifications for energy, protein, fat and micronutrients but does not take into account typical dietary habits	X	X	X	X	
Food habits nutritious diet (was Locally appropriate cost-optimised nutritious diet or LACON)	A lowest cost diet that meets specifications for energy, protein, fat and micronutrients and takes into account typical dietary habits	X	X	X	X	X

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Results output

For each diet, for an individual or household:

- Daily and average daily cost of the diet by season
- Monthly and annual cost of the diets
- Amount and cost of each food selected, summarised by day, week or year
- The amount and percentage of energy and nutrients provided by each food selected, summarised by day, week or year
- The percentage of recommended intakes met for energy and the specified nutrients by day, week, season or year
- The affordability of each diet by wealth group
- The cost of each food group per week

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What can the Cost of the Diet do?

- Take into account seasonal variation in prices when calculating costs

- Identify the least expensive sources of energy and all nutrients

- Identify nutrients for which it may be hard to meet specifications
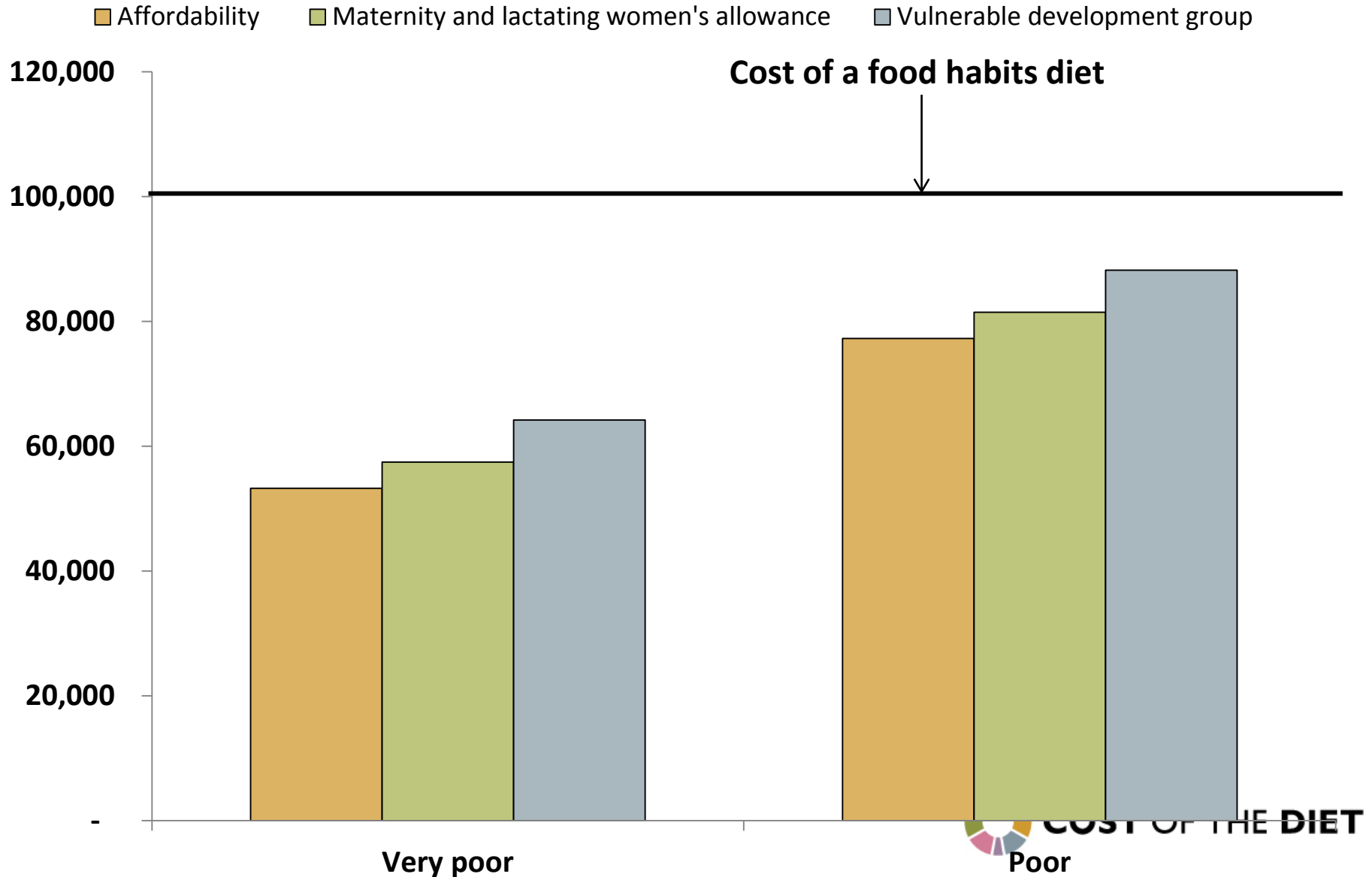
What can the Cost of the Diet do?

- Identify the food groups that contribute the most to the cost of the diets

- Estimate the affordability of the diets if data on income and expenditure is available

- Estimate the impact on the diet or its cost of interventions that might help households meet their needs for energy and nutrients (What if? Models)

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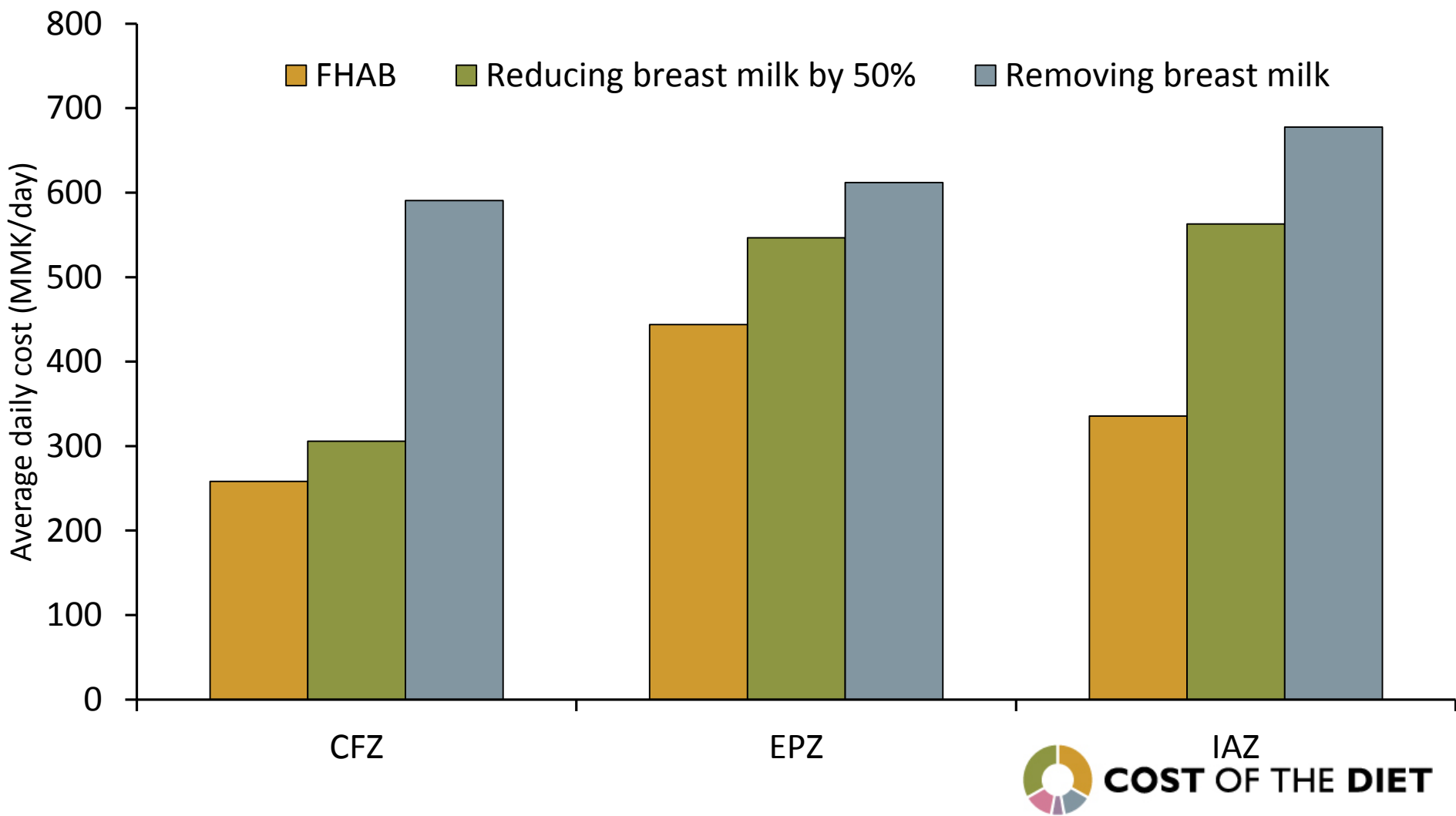
What if? modelling

Change the underlying parameters to generate 'what if?' models to estimate the potential impact of programme interventions such as:

- Changing food prices: increase, decrease or subsidise
- Adding or promoting new foods or supplements
- Change portion sizes to drive dietary diversity
- Identify foods to promote by BCC
- Isolate costs for individuals e.g. adolescent girls
- Calculate change in costs over life-cycle
- Adjust nutrient specifications for individuals and look at effect on cost

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Modelling the impact of social protection schemes aimed to improve nutrition outcomes in Bangladesh

The financial impact of not breastfeeding a child aged 12-23 months as recommended

Legend: FHAB ■ Reducing breast milk by 50% ■ Removing breast milk ■

Y-axis: Average daily cost (MMK/day), ranging 0 to 800

X-axis categories: CFZ, EPZ, IAZ

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What the Cost of the Diet can't do

- Does not analyse the cost of what people actually eat
  - Provides a hypothetical diet, indicating inexpensive sources of essential nutrients; it does not create the current diet
- Does not take into account intra household distribution of food
- Does not take into account nutrient losses during cooking
- Does not take into account the additional requirements needed during sickness or convalescence
- Doesn't automatically include animal source foods
- Doesn't include all nutrients: iodine, vitamin D, essential fatty acids and essential amino acids

COST OF THE DIET

Resources

- Cost of the Diet assessment reports available to download from:
  - www.heawebsite.org
- Software will be available for upload by December 2015
- Manuals in English and French
- Bi-annual bulletin

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