ENDING HUNGER: WHAT WOULD IT COST?

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THE METHODOLOGY
## 5 CATEGORIES OF SPENDING

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Category I:</strong> Social safety nets</td>
<td>Support to consumers through cash transfers and food stamps</td>
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<tr>
<td><strong>Category II:</strong> Farm support</td>
<td>Helping producers through fertilizer and seed subsidies, capital investments (e.g. tractors), R&amp;D, improved technology, extension services and better organizing</td>
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<td><strong>Category III:</strong> Rural development</td>
<td>Infrastructure, education, storage, market access and value chains</td>
</tr>
<tr>
<td><strong>Category IV:</strong> Enabling policies</td>
<td>Land reform, tax reform, trade and investment policies and institutional reform</td>
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<tr>
<td><strong>Category V:</strong> Nutrition</td>
<td>Addressing the global nutrition concerns, including stunting, exclusive breastfeeding, wasting, anemia, low birth weight, and overweight.</td>
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WHAT MODEL DO WE USE? MIRAGRODEP

An innovative model that uses macroeconomic data with household level data

- MIRAGRODEP is a computable general equilibrium (CGE) model that simulates national and international markets, taking into account production, demand and prices
- The model relies upon household data to allow for a bottom-up approach
- It is then matched with donor spending to calculate the donor share
ENDING HUNGER: DEFINITION

- Household level threshold defined in terms of calories per capita (FAO threshold).
- Country level goal: Target reached if 5% or less of the population hungry (FAO threshold).
A limited subset of interventions based on criteria:

- Interventions should deliver bulk of the pay-off by 2030
- Interventions should be relevant for donors
- Interventions should focus on food consumption and/or production

### SOCIAL SAFETY NETS
- Food stamps

### FARM SUPPORT
- Capital investment (e.g. Tractors)
- Technology
- Fertilizer subsidies
- Extension Services
- Production subsidies

### RURAL DEVELOPMENT
- Rural infrastructure
- Rural Education
- Reduction in post-harvest losses

**WHAT DO WE PUT IN THE MODEL?**
Category IV: Enabling policies

• Too difficult to put numbers into the model that accurately attribute spending on policy reform with increased calorie consumption

Category V: Nutrition

• The model does not directly cost nutrition, because the household data is incomplete
• We are working with 1000 days, R4D and the World Bank who are trying to estimate the cost of ending malnutrition using a different model
HOW DO WE CALCULATE THE DONOR SHARE?

**STEP 1: co-funding rule**
Conduct an econometric analysis of donor support to developing country budgets. The analysis gives an external donor share by country and by level of GDP per capita.

**STEP 2: donor share**
The model defines the total cost of achieving SDG2. The co-funding rule is applied on an annual basis. The remaining costs are provided by domestic taxes or loans.

*The share of donor money as a percentage of government spending declines as a country develops*
ENDING HUNGER IN SEVEN AFRICAN COUNTRIES
SEVEN COUNTRIES

52 million hungry people
CURRENT DONOR SPENDING IN THE 7 COUNTRIES: $1 BILLION/YR

Category I:
Food aid/food security programmes

Category II:
Agricultural education/training, agricultural financial services, agricultural inputs, agricultural research, agricultural services, food crop production, livestock/veterinary services, livestock

Category III:
Agricultural cooperatives, rural development, rural infrastructure, agro-industries

Category IV:
Agricultural land resources, agricultural policy and management, agricultural water resources

Category V:
Basic nutrition

Source: The Brookings Institute – Ending Rural Hunger
HUNGER IN 2030 IF NO EXTRA AID

67 Million
HOW MUCH EXTRA PUBLIC MONEY IS NEEDED TO END HUNGER IN THE SEVEN COUNTRIES?

Annual average cost: $1 Billion
WHAT IS THE DONOR SHARE? HOW MUCH PRIVATE INVESTMENT IS GENERATED?

Donor share: $400 Million

Annual private investment generated: $2.8 Billion
WHO PAYS WHAT?

- Income above $3500 per capita in 2030: Ghana, Nigeria, and Zambia
  - Donor Share
  - Country Share

- Income between $1500 and $3500 per capita in 2030: Tanzania and Senegal
  - Donor Share
  - Country Share

- Income less than $1500 per capita in 2030: Malawi and Uganda
  - Donor Share
  - Country Share

USD (billion)
WHAT WOULD IT COST TO END HUNGER GLOBALLY?
HUNGER LEVELS IN 2015 & 2030

- 2015 situation
- Hunger eliminated in the business-as-usual

- People no longer hungry as a result of the additional spending
- Hungry people remaining after 5% national target is reached

2015: 795 million
2030 (Projected): 310 million + 289 million + 402 million

Millions of undernourished people
HOW DO WE ARRIVE AT A GLOBAL COST ESTIMATE?

1. Cluster countries together based on key variables (hunger, poverty, size of rural pop, etc...)

2. Estimate a per-capita average cost for each cluster type.

3. Estimate the global 2030 poverty and hunger level using macroeconomic projections at the country level.

4. Apply the per capita cost to get the total cost of ending hunger.

5. Apply our co-funding rule on a year-by-year basis at the country level
HOW MUCH EXTRA PUBLIC MONEY IS NEEDED TO END HUNGER?

Annual average cost: $11 Billion
WHAT IS THE DONOR SHARE?

Donor share: $4 Billion
SO HOW MUCH EXTRA MONEY IS NEEDED TO END HUNGER?

Annual average cost: $11 Billion

Annual private investment generated: $5 Billion

HOW MUCH PRIVATE INVESTMENT IS GENERATED?

Donor share: $4 Billion

Annual private investment generated: $5 Billion
ANNUAL GLOBAL DONOR SPENDING

$137 Billion

$4 Billion

+3% Increase needed
WHERE SHOULD THE EXTRA MONEY GO?
To learn more visit:
www.iisd.org/project/ending-hunger-what-would-it-cost

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