Assessing the Impacts of School Feeding Programs, With Special Reference to Kenya

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Why School Feeding Programs (SFP)?

1. *Increases enrollment, attendance and cognition*
   - Parents have more incentives to send their children to school
   - Children concentrate better during class and get higher test results

2. *Frees household income to invest in productive assets*

3. *Implements children’s nutrition and health*

4. *Children grow up to be more productive*
School Feeding Also Can Stimulate Rural Economies

• **Schools get cash**

• **Schools buy from traders, farmers, or farmer groups**
  • In Kenya, almost always from traders

• **Traders source what they sell from farmers and businesses** (wholesalers)

• **Farmers and businesses supply more to meet the demand**
  • Which raises incomes for households that supply labor and capital to these businesses

• **Households spend their income**, creating new rounds of income gains

• As this process continues, SFP can create **local income multipliers**

• **Traders buy food in other parts of the country** (mostly high agricultural potential (HAP) areas)
  • This shifts some of the benefits to other parts of the country
Why It’s Important to Understand Local Economic Impacts and Why They Happen

• **They are part of the total impact of SFP**
  - If we ignore them, we may miss many of the benefits (and possibly costs) of these programs

• If SFP helps kids *and* stimulates local economies, this *could* “tip the scales” *in favor of funding, expanding SFP*

• If we understand economic impacts and why they happen, we might be able to *design policies to make these impacts better*

• *It’s something you can “take to the Finance Minister”*
Local Economy-wide Impact Evaluation (LEWIE)

→ A simulation approach
→ Integrates micro-economic models of groups of actors into a general-equilibrium model of the local economy
→ Model parameters estimated econometrically, using microsurvey data
→ Has been used to assess local-economy Impacts of:
  • Lesotho’s Child Grants Program
  • Malawi’s Farm Input Subsidy Program (FISP)
  • Eco-tourism in the Galapagos Islands
  • Impacts of refugees in Rwanda and Uganda
  • Fish ponds in Myanmar
  • Impacts of fishery regulations in the Philippines
  • Global price shocks in Morocco
  • Trade integration in Central America and the Caribbean
  • Technology change in Tanzania
  • Migration and corruption in Mexico

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How to Make a SFP LEWIE Model

Model of SFP Schools

How do schools spend their SFP funds?
How to Make a SF LEWIE Model

Model of SFP Schools

How do traders spend SFP funds?

Model of Traders
How to Make a SF LEWIE Model

Model of SFP Schools

Model of Traders

How do households and businesses spend their income?

Model of Businesses and Households in SFP Region

Model of Businesses and Households in Other (e.g., high ag potential, HAP) Regions
How to Make a SF LEWIE Model

Model of SFLEWIE Schools

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Model of Traders

Model of Businesses and Households in SFP Region

Model of Businesses and Households in Other (e.g., HAP) Regions

Surveys of Schools, Traders, Businesses, and Households in SFP and HAP sub counties
First Application: Kenya’s Home Grown School Meals Program (HGSMP)

- WFP and Government of Kenya initiated a school meals program in poor rural areas of Kenya in the 1980s.
- In 2009, the WFP started handing over the program to the Ministry of Education. This transition was completed in 2018.
- The Government-financed program now feeds about 1.6 million school-going children in 4,048 schools across Kenya.
- Since 2009, focus on creating a nationwide HGSMP that feeds children at school while stimulating local agricultural production, by purchasing food from smallholder farmers and local food suppliers.
- The HGSMP LEWIE is a collaboration among University of California, Davis; WFP; and Kenya’s Ministry of Education and Ministry of Agriculture and Livestock, with critical financial support from Thai Union.
Getting the Data: We Surveyed Random Samples of Traders, Households and Businesses

• Schools:
  • **286 schools from 41 counties and 118 sub counties**

• Traders:
  • **166 traders** who participated in the bidding process to supply food to schools

• Households in a 10 km radius of schools
  • **1,137 households, 20 localities**
    • 998 in HGSMP sub counties
    • 139 in HAP sub counties

• Businesses in a 10 km radius of schools
  • **578 randomly selected businesses**
Our Survey Team
We Used the LEWIE to Estimate Impacts of the HGSMP in Rural Kenya Using Simulations

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4. A “make farmers more productive” modification, in which there is a 10% increase in funding to HGSMP schools and interventions that raise farm productivity in the HGSMP sub counties by 10%.
1. Status Quo Impacts of Kenya’s HGSMP
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1.1 1 HGSMP

Transfer

+ KSH 1 in HGSMP Region

+ KSH 1.11 in HGSMP Region

+ KSH 0.16 in HAP Region

Traders
1. Status Quo Impacts of Kenya’s HGSMP

KSH 1 HGSMP Transfer

Traders

HGSMP-LEWIE Multiplier is $1+1.11+0.16 = 2.27$
1. Status Quo Total Impacts of HGSMP

Program Cost: 2,429 million KSH (USD 24.28 million)

STATUS QUO
HGSMP

KSH 2,696 million (USD 26.9 million) in HGSMP Region

KSH 389 million (USD 3.8 million) in HAP Region
2. Impacts of “Buy Local” Modification

Program Cost: 2,429 million KSH (USD 24.28 million)

<table>
<thead>
<tr>
<th>STATUS QUO HGSMP</th>
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<tbody>
<tr>
<td>10% purchase directly from HGSMP Region</td>
<td>KSH 3,090 million in HGSMP Region</td>
<td>KSH 207 million in HAP Region</td>
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7% increase in Impact on Total Real Income
3. Impacts of Food Basket Diversity Modification

Program Cost: 2,429 million KSH (USD 24.28 million)

- Status Quo HGSMP
  - KSH 2,696 million in HGSMP Region

- 10% Expanded Food Basket
  - KSH 3,478 million in HGSMP Region

- KSH 389 million in HAP Region
  - KSH 783 million in HAP Region

38% increase in Impact on Total Real Income
4. Impacts of Making HGSMP-region Farmers More Productive

Program Cost: 2,671 million KSH (USD 26.71 million)

STATUS QUO HGSMP
10% More Productive Farmers + 10% Additional HGSMP payments

KSH 16,982 million in HGSMP Region
KSH 2,696 million in HGSMP Region

KSH 389 million in HAP Region
KSH 14,403 million in HAP Region

917% increase in Impact on Total Real Income
Conclusions

• *First, the HGSMP creates large income multipliers in rural Kenya.* Each shilling transferred to a HGSMP school creates an additional 1.27 KSH of additional real (inflation-adjusted) income in rural Kenya.
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• *Second, part of the impact is not in the sub-counties where HGSMP schools are located,* because traders shift effects to HAP zones.
Conclusions

• **First, the HGSMP creates large income multipliers in rural Kenya.** Each shilling transferred to a HGSMP school creates an additional 1.27 KSH of additional real (inflation-adjusted) income in rural Kenya.

• **Second, part of the impact is not in the sub-counties where HGSMP schools are located,** because traders shift effects to HAP zones.

• **Third, modifications to the HGSMP can increase impacts.**
  • Encouraging HGSMP schools to buy directly from farmers
  • Giving schools the flexibility to spend part of their HGSNP funds on an expanded food basket
  • Making HGSMP region farmers more productive.
    • This would require coordinating the HGSMP with extension and other investments to raise agricultural productivity in HGSMP sub counties.
LEWIE changes the way we think about how programs create impacts
Thank You