Review of experience

Agriculture, food security, and nutrition

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The Infant & Young Child Nutrition Project

- USAID’s flagship project on infant and young child nutrition.
- Aims to prevent malnutrition for mothers and children during the critical time from pregnancy until two years of age.
- Led by PATH in collaboration with CARE, The Manoff Group, and University Research Co., LLC.

Photo: PATH/Evelyn Hockstein
Countries
Review of experience

• What are the characteristics of agriculture interventions that improve food security and nutrition?
• What are the characteristics of interventions that have negative effects?
Food security impacts

Photo: PATH/Evelyn Hockstein
Increasing farm income

- Small farmers often cannot participate in new technology.
- Failure to reach the poor (Uganda)
  - Small farms tend to have more unused labor per hectare.
  - Small farm production increase more often results in improved local food production.

Photo: PATH/Evelyn Hockstein
Increasing farm employment

- Agricultural laboring (landed) households spend 60 to 80 percent of income on food.
- Productivity increases increase labor demand (Gambia).
- Increased mechanization can wash out demand by displacing labor (Bangladesh, Indonesia, Philippines).
Price support/subsidy in Cameroon

• Short-term impact of 10% food price increase.
  – 3% increase in farmer income.
  – 0.5% increase in food consumption from income.
  – 11.6% decrease in food consumption from increased prices.

• Potential impact: higher prices stimulate production leading to greater income increase.
Net selling/purchasing status of target households is key

- **Honduras:** Price support for maize benefitted large-scale producers (net sellers) but harmful to small-scale (net purchasers).
- **Jamaica:** Higher price for sugar outweighed employment increase.
- **Egypt:** Price support for beef benefits small farms who are primary beef producers.
High value and export crops

- Key factor: land/labor situation
- If shift subsistence crop land to high value/export crop...
  - Food-insecure may be deprived of foods.
  - Prices of foods previously produced on these lands may increase.

Photo: PATH/Evelyn Hockstein
Other intervention effects

- Intercropping with food crops disproportionately consumed by the poor.
- Small-scale processing increases employment.
- Labor required for preparation (Mali rice preference).
- Involving women likely improves translation of income increases to increased food security.

Photo: PATH/Evelyn Hockstein
Relative difficulty of disseminating a technology

- **Difficult (fish cultivation):** Limited initial impact but long-term gains.
- **Easy (vegetable cultivation):** substantial initial impact short-lived as the number of competing producers increases.

Photos: David Jacobs, Photo: WFP/Mario DiBari
Summary of food security impacts

• **Positive**
  – Increase employment of under-/unemployed.
  – Focus on tasks performed by women.
  – Increase employment with small-scale processing.
  – Increase production of “poor people’s foods”.

• **Negative**
  – Large-scale mechanization

• **Mixed**
  – Food price intervention (sellers vs. purchasers?)
  – Cash crops (land/labor surplus?)
Nutrition impacts: reaching children

Child malnutrition, death and disability

Outcomes

Disease

Immediate causes

Inadequate dietary intake

Insufficient access to food

Inadequate maternal and child-care practices

Poor water/sanitation and inadequate health services

Underlying causes at household/family level

Children’s needs are special

- In Kenya, shifting production from maize to sugarcane...
  - Increased food intake by 360 kcal per household per day.
  - Sugarcane laborer wages 3 times higher than maize laborers.
  - No child nutritional status impact (caring practices and morbidity more important than food security and income).

Photo: PATH/Evelyn Hockstein
Income alone is not enough: Rwanda

• Doubling household energy consumption would reduce child stunting by ¼ standard deviation, but…
  – Deworming alone achieves the same impact.
  – Clean latrine achieves twice the impact.
Philippines: Providing agricultural land

- Landless: Improved child nutritional status.
- Landed: No change in child nutrition.
Improvement independent of income

- Households tend to consume some amount of their production (fish, dairy, poultry, vegetables).
- Child nutrition improved without income increase.
- High nutritional value foods.
- Nutrition counseling has an important role to maximize home consumption.

Photo: PATH/Evelyn Hockstein
Positive impact of home gardens

• All of the evaluated projects included…
  – Nutritional objectives.
  – Nutritional counseling.
• Most included…
  – Gender considerations.
  – Public health interventions.

Photo: PATH/Evelyn Hockstein
Potential of micronutrient-rich varieties

- In Mozambique, introduction of orange-flesh sweet potatoes.
  - Increased vitamin A intake.
  - Increased vitamin A status among children.
- New crops on the horizon.
  - Provitamin A-rich maize.
  - Iron-rich beans, pearl millet.
  - Zinc-rich rice, wheat.
Potential negative impacts

• **Agriculture employment:** Reduce women’s time for child care

• **Animal production:** Increased risk of zoonosis and chronic disease.

• **Irrigation:** Increased mosquito populations and malaria.

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Summary of nutrition impacts

• **Positive**
  - Nutritional objective(s) in project design
  - Nutritional counseling
  - Gender considerations
  - Public health interventions
  - Micronutrient-rich varieties

• **Negative**
  - Impact on women’s time for child care
  - Zoonosis
  - Chronic disease
  - Malaria (irrigation)
Thank you

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