Linking Nutrition and Agriculture
An Emerging Issue in Agriculture Development

Agriculture Core Course
December 13, 2011
USAID/Washington
1. Nutrition overview and global context
3. Country and program examples
4. Global multisectoral efforts to strengthen linkages
5. USAID Mission Experiences in Agriculture-Nutrition Programming
6. Breakout session on operational and implementation challenges
7. Report out and final Q&A
Our goal is to reduce child undernutrition by 30% in focus countries, measured by any one of four core indicators

- Underweight (MDG 1c)
- Stunting
- Child Anemia
- Maternal Anemia
One in three children suffers from stunting

- South Asia has made the most progress
- Overall number of stunted children in Africa has actually increased
High global prevalence of anemia in children and women

- In some countries, anemia prevalence is significantly higher
- Any anemia has health and productivity consequences

Global Burden of Anemia in Children and Women

Children: 47%
- Haiti: 48%
- Mali: 82%

Women of reproductive age: 30% prevalence
- Malawi: 44%
- Ghana: 59%
- Uganda: 72%
- Tanzania: 72%
Underlying cause of 3.5 million child deaths each year

Shaded area indicates contribution of undernutrition to each cause of death
Undernutrition’s costs:

Health: contributes to 3.5 million deaths each year from common illnesses otherwise not fatal

Education: lower IQ and school performance

Productivity: 1.4% decrease in productivity for every 1% decrease in height

Economic growth: costs countries 3-6% of GDP

Poverty: wages that are half as high in adulthood in children who were undernourished in early life

Infectious disease treatment: hastens HIV progression and reduces adherence to treatment
**Definition of Food Security**

When all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.  
(USAID PD-19, 1992)

<table>
<thead>
<tr>
<th><strong>AVAILABILITY:</strong></th>
<th><strong>ACCESS:</strong></th>
<th><strong>STABILITY:</strong></th>
<th><strong>UTILIZATION:</strong></th>
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<tbody>
<tr>
<td>Sufficient quantities of appropriate, necessary types of food from domestic production, commercial imports, or food aid.</td>
<td>Households have adequate incomes or other resources to purchase or barter to obtain levels of appropriate foods needed to maintain consumption of an adequate diet/nutrition level.</td>
<td>Households and communities have the ability to maintain sufficient nutrition over time.</td>
<td>Food is properly used; proper food processing and storage techniques are employed; adequate knowledge of nutrition and child care techniques exists and is applied; adequate health and sanitation services exist.</td>
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Determinants of nutrition

NUTRITION

Food/nutrient intake
- Access to food

Health
- Maternal and child care practices
- Water, sanitation, and health services

Revised Source: Ruel, SCN News 2008
Improving nutrition requires a multisectoral approach

**Agriculture**
- Production for household’s own consumption
- Income-oriented production for sale in markets
- Reduction in real food prices
- Nutrition-sensitive value chains

**Social Protection**
- Meet basic consumption needs and reduce fluctuations in consumption (seasonality, shocks)
- Enable savings and investments through reduction in risk and income variation
- Build, diversify, and enhance use of assets

**Social and Behavioral**
- Intra-family food consumption
- Empowerment of women as instrumental to household food security and health outcomes
- Improved nutrition practices in the 1,000 day window

**Health**
- Access to health care services
- Treatment of acute undernutrition
- Family planning and reproductive health
- Safe water, and good sanitation and hygiene practices

**Improved Nutrition**

Improved Nutrition

- Access to health care services
- Treatment of acute undernutrition
- Family planning and reproductive health
- Safe water, and good sanitation and hygiene practices
<table>
<thead>
<tr>
<th></th>
<th>Type of interventions</th>
<th>Age target</th>
<th>Measurement</th>
<th>Focus</th>
<th>Delivery systems</th>
<th>Scale</th>
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<td>1</td>
<td>Vertical, supplementation</td>
<td>Under fives</td>
<td>Nutrient-specific</td>
<td>Treatment</td>
<td>Health</td>
<td>Pilot</td>
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<td><em>Integrated, food-based</em></td>
<td><em>1,000 days</em></td>
<td><em>Diet quality and diversity</em></td>
<td></td>
<td><em>+Agriculture, social protection</em></td>
<td><em>National</em></td>
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With these new approaches we aim for a 30% reduction in undernutrition.
Health systems alone are not enough

Agriculture and economic growth alone are not enough
What is USAID doing to link Agriculture and Nutrition?

Feed the Future

Global Health Initiative

Agriculture Programs

Nutrition

Health Services

Improved access to diverse and quality foods

Improved nutrition-related behaviors including hygiene

Improved utilization of maternal and child health and nutrition services
Ways to improve nutrition through Agriculture

- Improved nutritional value of key crops
- Increased dietary intake of nutritious foods
- Increased agricultural income
- Improved nutrition knowledge and practices
- Improved policy coordination

Other interventions (wat/san, health, etc)
• **Fortification**: meet micronutrient inadequacy
  – i.e. wheat flour with iron, Salt with iodine, etc.

• **Biofortification**: breed (naturally and genetically) higher levels of micronutrients into staple foods
  – i.e. orange fleshe sweet potato, zinc in wheat flour, iron in beans

• **Post Harvest Processing and Storage**
  – i.e. drying, fermenting, storage to reduce aflatoxin levels, etc.
17% of children under-5 are underweight; 16% stunted; 7.6% wasted

Significant regional differences of underweight* prevalence

Diet lacks enough diversity to supply needed protein, minerals and vitamins = “hidden hunger”

64% of women and 79% of children are anemic; 61% of children under six are vitamin A deficient

*children under-five
Description of USAID/ Senegal Health Sector Program

**Health system-wide transformation** + **Expansion of high impact nutrition interventions**

**Policy Level:**
- Fortification **policy framework** and regulations
- Supporting a multi-sector food security agenda

**Clinical Level:**
- Health **human resources capacity building** strengthening linkages between clinical & community services

**Community Level:**
1620 community level health service delivery points in 13 regions provide integrated services and education (maternal and child health, nutrition, malaria, TB, hygiene)

**Communication:**
- Information, education and behavior change communication
- Promoting of **healthy lifestyles** and **products and local cereals** that support improved nutrition

**Essential Nutrition Actions (ENA)**
1. Exclusive Breastfeeding
2. Appropriate complementary feeding
3. Appropriate Nutritional care of sick children
4. Maternal Nutrition including malaria prevention
5. Control of Vitamin A deficiency
6. Integrated control of anemia
7. Use of iodized salt

**Nationwide impact:**
1,164,000 women and children under-five in 13 regions will be reached

**Improved nutrition knowledge and practices**

**Other health interventions (WASH, health, etc)**
Enabling better nutrition through the value chain approach

Value chain model illustrative examples

- **Develop communication strategies that promote Essential Nutrition Actions & create demand for fortified and diverse local foods** - communication
- **Increased production linked to school feeding programs** - community
- **Elimination of lean season via improved processing and storage** - community
- **Link processors and traders to regional food aid programs** - clinical & community
- **Access to credit/financing for off-farm income-generating activities like artisanal fortification of local cereals & salt iodization** - community
- **Transfer commercial farm skills to household gardens to increase food diversity** - community
- **Use income to diversify food-basket** - community
- **Invest in small ruminants for income and/or dietary supplements** - community
- **Ensure that information used in decision making for crops to plant and household purchases reflect commercial farm and nutrition consideration** - community
- **Advance a policy framework for the safe, sustainable production of commercially fortified cooking oil and soft wheat flour** - policy
Two Title II Programmes

• CARE SHOUHARDO project working with the GoB and 44 partners in 18 districts in Kishoreganj, Rangpur, Tangail and Chittagong Regions impacting 4.6 million poor people.

• Save the Children Jibon-O-Jibika project working with the GoB and 16 NGOs in 3 districts of Barisal Division and impacting 2.6 million poor people.

• The foci of both programmes include income opportunity and agricultural development; health, hygiene, and nutrition; women’s empowerment; and disaster management and mitigation.
Process and Strategy

• Key targeting criteria: households with children under 2 years
• Core health and nutrition interventions with incentive rations (3 kgs of wheat, .5 kgs of pulses, and .5 kgs of oil /month)
• Complementary activities (e.g. HH gardens for nutrition and income)
• Behavioral change strategies
• Partnership and institutional linkages
• Alignment with GOB at field level
• Strengthening disaster preparedness, mitigation and response of GOB at national and local levels and disaster prone communities
Child undernutrition:
Change from baseline over life of project (Jibon-O-Jibon)

- Stunting decreased 12%
- Wasting decreased 28%
- Underweight decreased 11%

NCHS 1978 Reference Population
Change in Nutritional Status when Agri. Production is combined with MCHN Activities

- Stunting decreased 17%
- Wasting decreased 32%
- Underweight decreased 15%
Child undernutrition: Change from baseline over life of project (Shouhardo)

Agricultural Production

- Improved production (82%) & consumption of vegetables (99%)
- Improved access to income for women via surplus vegetable sales
- Increase in sustainable agriculture practices

Disaster Preparedness

- Cyclone warning awareness increased substantially
- Disaster response capacity of SC improved significantly
- Risk and Resource maps and action plans for 75 unions
- 3536 Volunteers trained
Minimum acceptable diet: A summary indicator that measures the proportion of children 6-23 m who are receiving a minimally acceptable diet in terms of quality *(i.e. micronutrient adequacy)* and quantity *(i.e. energy requirement)*

Women’s dietary diversity: A simple food group diversity indicator that provides a proxy measure of the micronutrient adequacy of women’s diets

Household hunger scale: A culturally invariant 3 question scale to assess the proportion of households experiencing food deprivation
Additional Multi-sectoral Efforts to Address Undernutrition

- Nutrition Collaborative Research Support Program (NCRSP)
- Comprehensive Africa Agriculture Development Program (CAADP)
- Scaling-Up Nutrition
Aim: To determine which investments in agriculture-based strategies, policies, and health can be used to achieve:

- Large-scale, sustainable improvements in nutritional outcomes
- Improvement in dietary diversity, dietary quality, and improved infant and young child feeding
- Improved community capacity to combat undernutrition

Partners:
- Lead: Tufts University
- USAID/Uganda
- USAID/Nepal
African leaders endorsed CAADP in 2003 as plan of action to put agriculture back onto development agenda.

Leaders committed to:
- increasing public investment in agriculture to at least 10% of national budgets
- achieving 6% annual growth rate in agriculture

CAADP comprised of four interlinking pillars
- Pillar I: Land management and water control systems
- Pillar II: Rural infrastructure and market access
- Pillar III: Food supply, hunger, and food emergency crises
- Pillar IV: Agricultural research and technology
CAADP Nutrition Accomplishments To Date

- CAADP Nutrition Workshop, November 9-12, 2011 in Dakar, Senegal
  - 17 countries represented; 110 participants
  - *12 countries have approved National Agriculture and Food Security Investment Plans (NAFSIPs):* Benin, Cape Verde, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo
  - *Five workshop observer countries (no approved plan):* Burkina Faso, Chad, Cote d’Ivoire, Guinea Bissau, and Mauritania
  - *Draft Nutrition Country Papers and Draft Country Action Plans prepared*
CAADP Nutrition Next Steps

• Continuation and expansion of Steering Committee

• Identification of CAADP countries’ technical assistance and training needs

• January 15, 2012: Completion of Country Action Plans

• Development of funding proposals to support action plan implementation

• Nutrition Workshops in East and Southern Africa: spring/summer 2012
WHAT IT IS:

- Over 100 of our development partners involved (civil society, private sector, UN, donors)
- Coordination of these partners to encourage synergy of purpose and ensure complementarity of action based on countries’ requests

WHY WE ARE INVOLVED:

- GHI/FTF principles are aligned with SUN
- Increases our leverage and alignment with partners
- Provides concrete milestones to measure progress on scaling up nutrition
- Facilitates high-level dialogue/advocacy on nutrition in countries that can drive policies and programs
- Provides a barometer for country ownership: political leadership, inclusivity of process, country budgetary commitments
For more information or to request technical assistance, please contact:

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