Animal Source Foods and Child Cognitive Development: A USAID Success Story of University Research to Private Sector Implementation

Speaker
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November 14, 2012
Latest Developments in Food Security

Feed the Future Partnering for Innovation Program
Attend the November 14 launch event to hear about a promoting, and commercializing agricultural technology.

Video Note: Dr. Shukri Ahmad on Index-Based Weather Insurance
Dr. Shukri Ahmad of FAO discusses a new pilot project in Ethiopia that offers index insurance products which can be used as collateral for smallholder farmers to gain access to credit.
Upcoming Ag Sector Council

- December 5 | Enabling Agricultural Trade (EAT) Project: Fertilizer Policy
Animal Source Foods and Child Cognitive Development: A USAID Success Story of University Research to Private Sector Implementation

Montague Demmment

Association of Public Land-grant Universities (APLU)

Department of Plant Sciences
University of California, Davis
Reduce Poverty & Malnutrition

- Improve Child & Maternal Nutrition
- Improve Education System
- Improve Workforce

Greater Economic & Social Development
Greater Knowledge, Technology & Entrepreneurial Activity

Increase Food Supply and Diet Quality
Building Human Capacity: 30 years of commitment and productivity

- Nutrition CRSP Research 1980s: Kenya, Egypt and Mexico; (UC- Berkeley, UCLA, UCONN, Instituto Nacional de la Nutricion (Mexico), U of Nairobi, Purdue, National Institute of Nutrition-Cairo, UMass, U of Miami)
Building Human Capacity: 30 years of commitment and productivity

- **Global Livestock CRSP**
More than one billion people, nearly a sixth of the world’s population, suffer from chronic hunger, most of it not apparent.
Malnutrition Impacts

- Immune system function
- Child cognitive and physical development
- Work productivity
- Lifespan
- Quality of life
Fogel estimates that half of the economic growth in the UK in the industrial revolution was due to increased capacity of people and explained by nutrition’s impact on human health, productivity and life span.
Human Nutrition CRSP

• 1977 NRC conducts “World Food Study”
• Does moderate malnutrition have impact on human function?
• Energy thought to be main causal factor
  • Implications for intervention!
• In response, USAID funds the HN-CRSP
• Observational, non-intervention study in Mexico, Kenya, and Egypt.
The most important N-CRSP findings were:

- **QUALITY** was a much stronger determinant of nutritional status than was the quantity.

- **ASF** were best predictor of cognitive function.

- Sadly *ignored* because not an intervention study.
Role of Animal Source Foods to Improve Diet Quality and Growth and Development in Kenyan Schoolers

PRINCIPAL INVESTIGATORS

Charlotte G. Neumann, MD, MPH  UCLA
Nimrod O. Bwibo, MBBS, MPH  U of Nairobi
Suzanne P. Murphy, PhD, RD  U of Hawaii
Lindsay Allen, PhD  UC Davis

Funded by USAID through Global Livestock CRSP
Other support: National Cattlemen’s Beef Assoc. (NCBA), James Coleman African Study Center (UCLA), Thrasher Research Fund.
RAVEN’s SCORES
*Feeding group scores controlled for baseline scores: Meat significantly greater change.
Compared to all other groups, the MEAT GROUP behavior during play
Compared to all other groups,

THE MEAT GROUP

• Had greatest increase in % time spent in high activity levels, and least % time in low activity.

• Spent more % time in leadership and initiative.

• Were more talkative, playful – and “disruptive”.
Animal Source Foods to Improve Micronutrient Nutrition and Human Function in Developing Countries

Proceedings of the conference held in Washington, DC June 24-26, 2002

Guest Editors
Montague Demment
Lindsay Allen

Published as a Supplement to The Journal of Nutrition

Official Publication of the American Society for Nutritional Sciences

Online at www.nutrition.org
Building Human Capacity to Accumulate Resources: ENAM – Enhancing child Nutrition through Animal source food Management

PRINCIPAL INVESTIGATORS

Grace S. Marquis, PhD  
Iowa State U/McGill U

Anna Lartey, PhD  
U of Ghana

Esi Colecraft  
U of Ghana

O. Sakyi-Dawson  
U of Ghana

Funded by USAID through Global Livestock CRSP
• **SURVEY:** What limits children’s consumption of ASF?

• **RESULTS:**
  - Knowledge of nutritional impacts of food groups
  - Income of household

• **INTERVENTION EXPERIMENT:**
  - Form women’s groups
  - Nutrition education
  - IGA
  - Microfinance
Established the Problem Model

- Poor Nutrition Knowledge
- Inadequate nutrition knowledge of extension staff
- ASF availability, accessibility, utilization
- Unequal household allocation
- Cultural beliefs & practices
- Low caregiver income
- Inadequate market linkages
- Inadequate income generating activities and entrepreneurial skills

- Training for AFS income generating activities and entrepreneurial skills
- Capacity building in research and extension
- Nutrition education on optimal feeding practices and benefits of ASF for children
- Financial support for caregiver’s income generating activities
A Controlled Experiment to Measure Impact

BASELINE DATA COLLECTION
- 629 intervention and control caregivers and their 2-5 year old child

EXPERIMENTAL DESIGN
- ENAM caregivers in implementing communities (n=181)
- Non-participant Caregivers in implementing communities (n=142)
- Caregivers in non-implementing communities (n=287)

DATA
- Nutritional knowledge
- Diet diversity of children
- Child nutritional state
- Women’s income
- Household Food security
ENAM: Outcomes

• 56% decrease in household food insecurity
• Increased income for women
• Increased consumption of ASF by children
• Increase in protein, calcium, iron and zinc in diet of children
• Improved child nutrition status (wgt/age)
• Rural banks now involved.
Over $2 million loaned, 2,200 women involved and 100% repayment of loans.

Majority income for original women participants are now sending their kids to private school.

One ENAM trainer alone is responsible for over 80 new groups in and around Accra.

The education/microfinance model for ENAM is now the business model for loans through the rural banks.

The recent Nutrition CRSP at USAID is a design consistent with the ENAM Model.
Volume 12 No. 1 (2012) "ENAM" Supplement

In this issue, we have the following articles:

Editorial: Ruth Olinga
Do Multiple Interventions Improve Health and Nutrition Outcomes at the Family Level?

Peer Reviewed Articles:

- The nutrition-microcredit synergy: Acacia for multiple interventions and strategies
  Grace Marquis and BK Colecraft

- Planning, design and implementation of the enhancing child nutrition through animal source food management (ENAM) project
  Ed Colecraft et al.

- Microcredit-nutrition education link: A case study analysis of Ghanaian women's experiences in income generation and family care
  Lorna Butler et al.

- Microenterprise development coupled with nutrition education can help increase caregivers' incomes and household accessibility to animal source foods
  Phillip Henshaw et al.

- Relationship between caregivers' income generation activities and their children's animal source food intake:
  Aaron Christian et al.

- Enhancing backyard poultry enterprise performance in the techiman area: A value chain analysis.
  Charles Asenso-Bonsu et al.

- Microfinance and education in rural Ghana: Men's perception of household level food impact
  Lydia Hagan et al.

- Street foods contribute to nutrient intakes among children from rural communities in Winneba and Techiman municipalities, Ghana
  Elizabeth Micah et al.

- Participation in communal daycare centre feeding programs is associated with higher diet quality but not quality among rural Ghanaian children.
  Kimberly Harding et al.

- Dietary intakes and iron status of vegetarian and non-vegetarian children in selected communities in Accra and Cape Coast, Ghana
  Katherine Osei-Brami et al.

- Dietary intakes and body mass indices of non-pregnant, non-lactating (NPNL) women from the Coastal and Guinean savannah zones of Ghana
  Gloria Kobiala et al.

Note: The peer reviewed articles are accessible through the publications menu and listed by volume numbers. To view these articles, one should have a PDF reader which is downloadable for free from the Adobe website.
Children are the Future.

Their knowledge, creative energy and leadership are the Future.

So if we want sustainable development, development driven by country ownership then we must:

Feed the Future
Thank you

• **USAID** for years of support
  - John Lewis, Filipe Manteiga, Tom Hobgood, John Thomas, Josette Lewis
  - Joyce Turk

• **Title XII**

• **Principal Investigators**
  - Charlotte Neumann, Nimrod Bwibo, Lindsay Allen, Suzanne Murphy, Grace Marquis, Anna Lartey, Esi Colecraft

• **All the thousands of participants** in the HN-CRSP and GL-CRSP CNP & ENAM

• **The Rural Banks of Ghana**

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*This research was made possible by support to the Global Livestock Collaborative Research Support Program through USAID Grant # PCE-G-00-98-00036-0 to the University of California, Davis.*
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Contact Us:
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Upcoming Events

Find upcoming events & past presentations:

#AskAg Twitter Chat | December 6th, 2-3pm

Ag Sector Council | December 5th, EAT Project

Agrilinks and the Agriculture Sector Council Seminar Series are products of the USAID Bureau for Food Security under the Knowledge-Driven Microenterprise Development (KDMD) project.