

“Incorporating Nutrition Education into Agricultural Programs”

ECHO INTERNATIONAL AGRICULTURAL CONFERENCE

Ft. Myers, Florida, USA

November 14-16, 2017

Kathy Corson Bryson, MPH, MHS

International Training Director, SIFAT

SIFAT

- Southern Institute for Appropriate Technology/
- Servants in Faith and Technology

Our Mission: To share God's love through service, education, and personal involvement with a needy world.



AGRICULTURE & NUTRITION

- * What do they have in common?
- * Is there a relationship between the two?

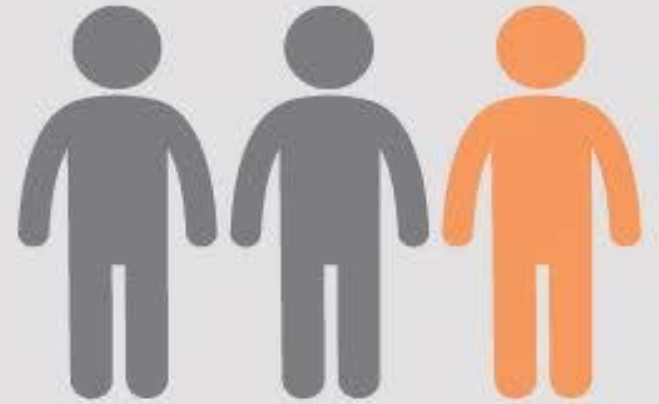
**Increased
Agriculture
Production**

=

**Improved
Nutrition**

?

MALNUTRITION AFFECTS
ONE IN THREE
PEOPLE AROUND THE WORLD



WE MUST END MALNUTRITION—IN ALL ITS FORMS—BY 2030. **#NUTRITIONREPORT**

The scale of malnutrition in 2016*

→ **1 IN 3** PEOPLE SUFFER FROM A FORM OF MALNUTRITION

OUT OF **667 MILLION** CHILDREN UNDER AGE 5 WORLDWIDE:

159 MILLION
WERE STUNTED



41 MILLION
WERE OVERWEIGHT



50 MILLION
WERE WASTED



Each pair of children represents
approximately **20 million children**

OUT OF A WORLD POPULATION OF **7 BILLION**:

About **2 billion**
people suffer
from micronutrient
malnutrition

Nearly **800 million**
people suffer from
calorie deficiency

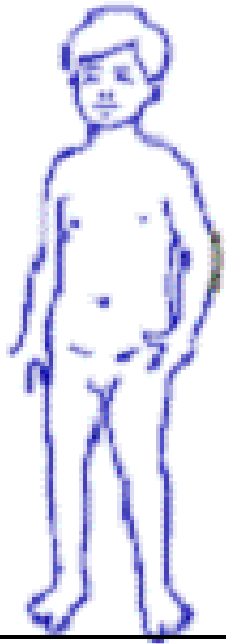
OUT OF **5 BILLION** ADULTS WORLDWIDE:

Nearly **2 billion**
are overweight
or obese

Over **400 million**
has type 2 diabetes

* UNICEF - WHO - World Bank Group joint child malnutrition estimates, 2015 edition.

Measuring malnutrition



Normal
**Normal weight
and height**



Wasted
**Thinner than
normal**



Stunted
**Shorter than
normal**



Wasted and stunted
**Thinner and shorter
than normal**



WHAT YOU DO AND EAT IN THE FIRST 1000 DAYS, MAKES A
DIFFERENCE FOR THE REST OF YOUR LIFE

Some hunger is dramatically visible—wasting. This gets the headlines. Famine, conflict, war, scarcity are partial causes. Globally, this is just 7.7% of the problem of hunger.



Mid-upper arm circumference of 6 to 59 months old children is sometimes used to screen for malnutrition

- Severe acute malnutrition: < 11 cm
- Moderate: between 11cm – 12.5 cm
- At Risk: between 12.5—13.5





Hidden Hunger is by far the greatest type of hunger in our world. No TV cameras, no news reports, just thousands of children live without their basic nutritional requirements being met—sapping the minds and bodies of children in the community, the region, the country and the world.

Unless you measure these children or take blood samples you would likely not know they were malnourished.

Yet many more children die of mild to moderate malnutrition than moderate to severe.

Child Malnutrition Facts

About half of all child deaths under 5 years of age are due to undernutrition (WHO)

Vitamin A supplements reduce all causes of child mortality by 12-24%

1/3 of children aged 6-59 months are Vitamin A deficient

48% of children in sub-Saharan Africa are Vitamin A deficient

44% of children in Asia

- The Copenhagen Consensus

A prestigious group of economists were asked if given \$75 billion dollars to improve the world, “what be the best investment with the most impact?”

After much careful data review, they selected the undernutrition of pre-school children, especially micronutrient supplementation, as the best investment with the highest returns.

Iron deficiency anemia is the number one micronutrient deficiency globally. It saps the bodies and minds of millions.



Iodine deficiency
is the biggest
cause of
preventable
mental
retardation



Vitamin A is a major micronutrient deficiency globally. In addition to night blindness, lack of Vit. A affects the immune system. Simple illnesses that start like a cold or diarrhea end up as killers. If a child has plenty of Vit. A, he or she is 12 to 24% less likely to die of all causes. (WHO 2013)





STUNTING: 1 in 3 children in the developing world is stunted, according to UNICEF. (short height for age)

These two girls from the same community are the same age. The taller one is near the norm for her age. The one on the right is severely stunted. The consequences of this last a life-time.

Major stunting is an outward sign of long-term deprivation of basic nutrition needed for healthy growth and development of the body and the brain. The missed opportunities during critical stages of development will never be re-gained.

Stunted Guatemalan Children

So much of malnutrition is hidden! Unless you measure the children against accepted norms, you would not know that they are moderately to severely stunted.



“Nutrition sensitive Agriculture?”

For too long sectors have been separate areas. There is need for integrated approach to promote more holistic develop

About 75% of the worlds poor are rural families who depend on agriculture and related activities for sustenance.

It makes sense to connect those who work with the Earth to grow food with good knowledge that can help them keep their families safe, well-nourished and healthy.

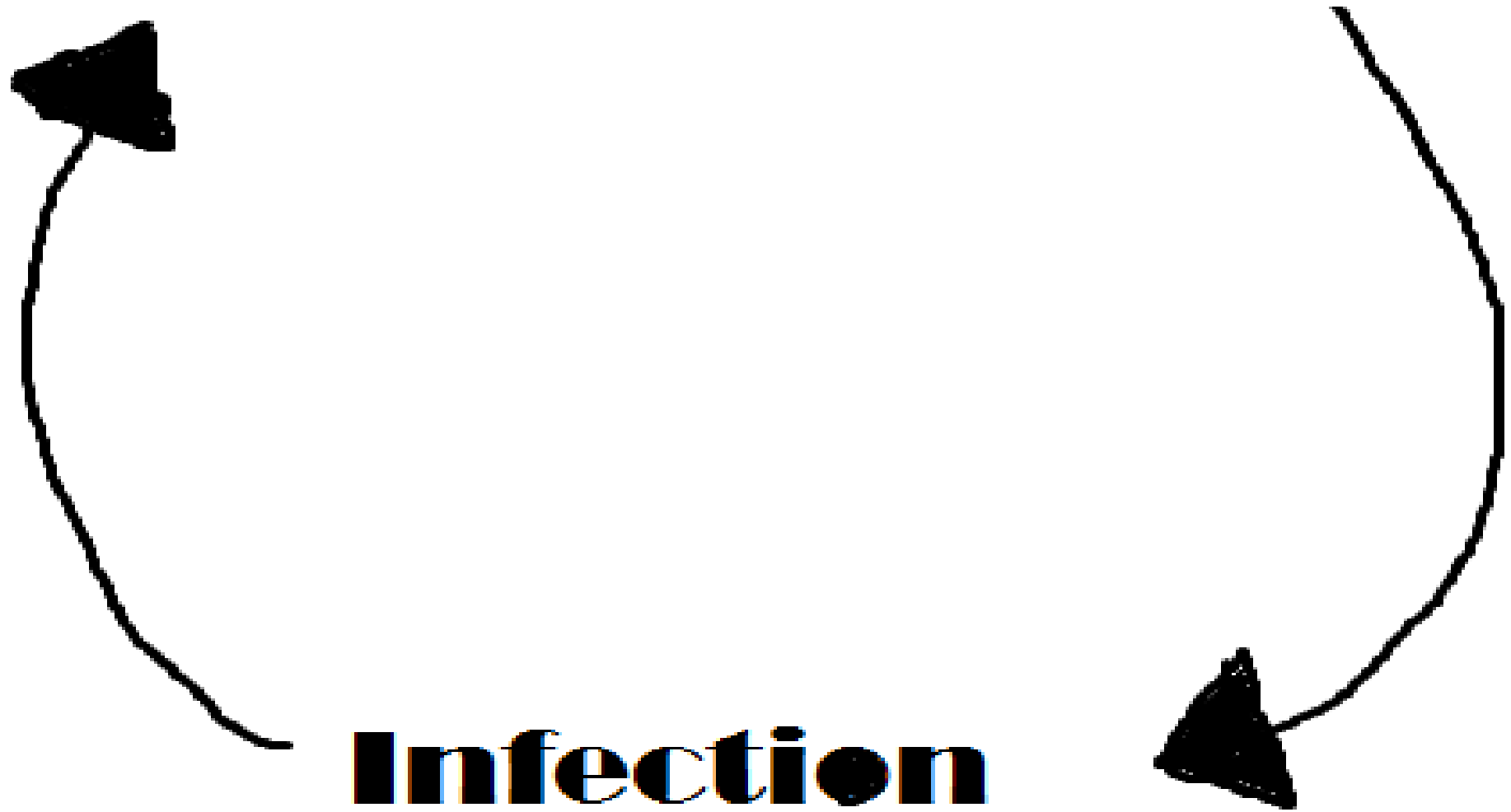
Factors Contributing to World Hunger & Malnutrition:

- 1.) Producing Food
- 2.) Buying Food
- 3.) Feeding Children

Ways to Connect Agriculture with Nutrition and Health

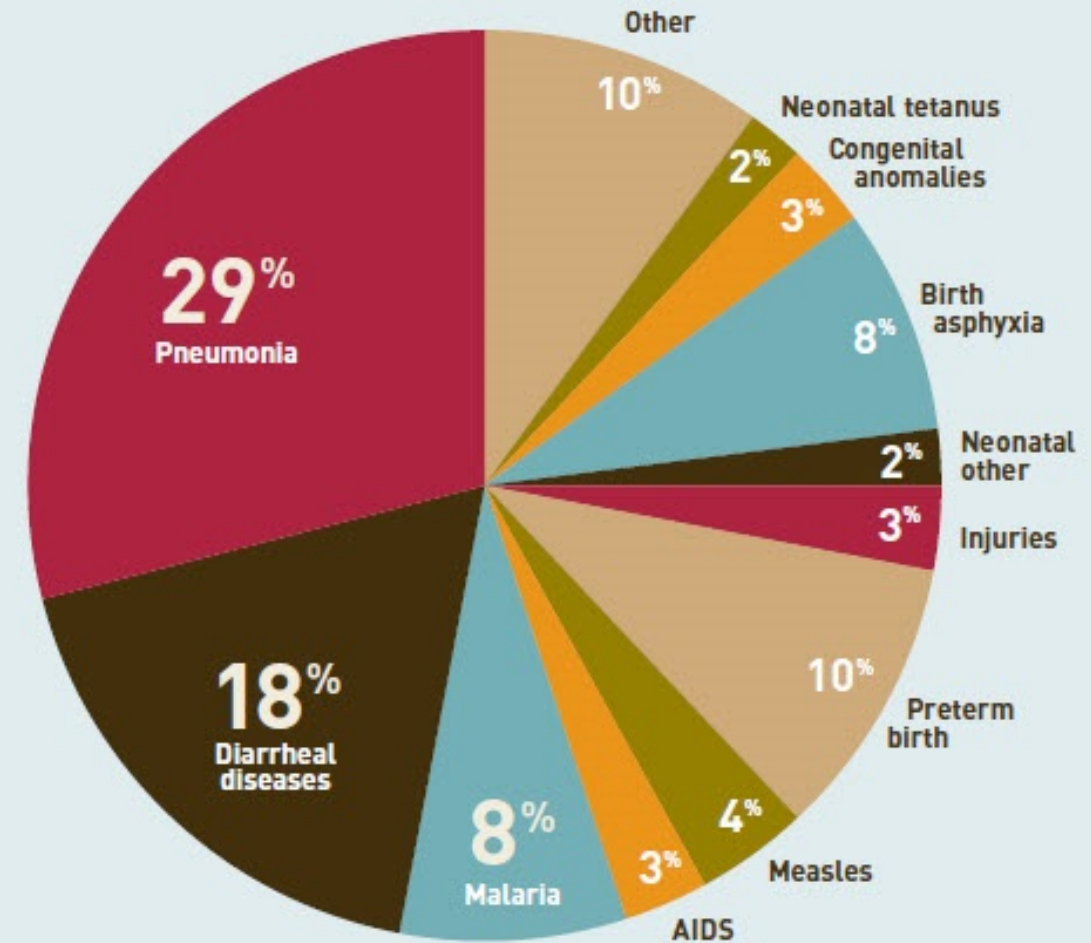
- Promote nutrient dense family gardens
- Pay special attention to the effects of seasonality of crop production and labor demands on mothers and children
- Focus closely on child feeding practices
(promote breast feeding/complementary foods/nutrient density)
- Consider food preparation and processing techniques
(IAP, preserving seasonal produce, mixing oil and vit. C to maximize bioavailability of nutrients, fortification)
- Observe impacts of water use and supply
(diarrhea/vector control/hygiene & disease/ parasites)

Malnutrition













Major causes of child mortality

CHART 2: A few diseases cause over half of children's deaths.



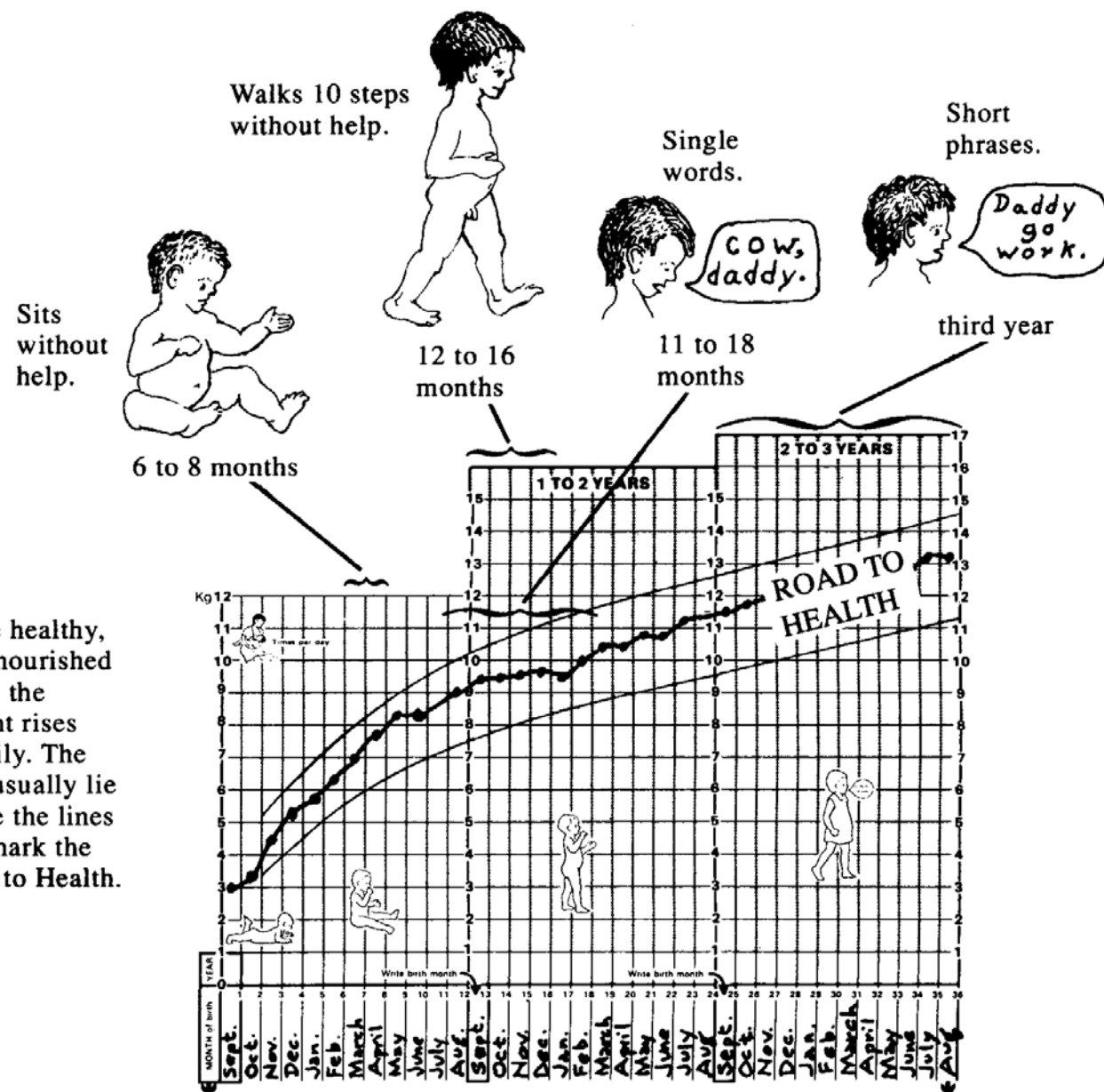
Sources: http://www.unicef.org/health/files/The_State_of_the_Worlds_Children_2008.pdf,
http://www.unicef.org/publications/files/Progress_for_Children_No_6_revised.pdf

JANUARY 2017

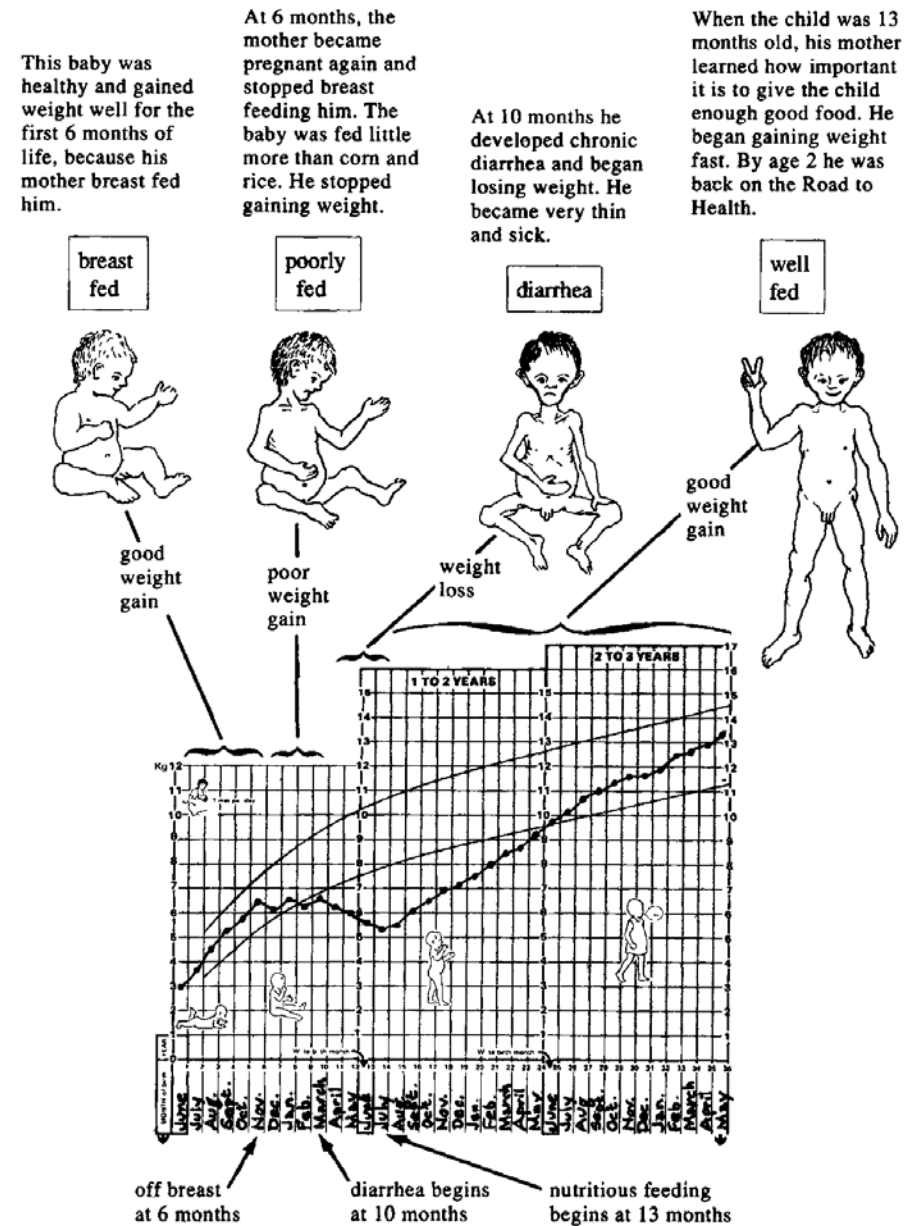
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 New Year's Day	2	3  Cold	4  Cold	5  Cold	6	7
8	9	10	11	12	13  Diarrhea	14  Diarrhea
15	16 ML King Day  Fever	17  Fever	18  Fever	19	20	21
22	23	24	25	26	27	28 Chinese New Year
29  Upset Stomach	30  Upset Stomach	31	An average month in 3-year old Juan's life			

Child Growth Charts: The Road to Health

In the healthy, well-nourished child, the weight rises steadily. The dots usually lie inside the lines that mark the Road to Health.



Growth
charts can
stop
malnutrition
before it
starts!



Top 12 messages to promote child nutrition in agricultural families:

- 1.) Promote Breast Feeding—exclusively for the first 6 months. Colostrum is excellent first vaccine.
- 2.) After 6 months add complementary foods or baby will be malnourished.
- 3.) Peck, Peck, Peck: Feed young children small meals often!
- 4.) Children need a variety of Go, Grow, and Glow foods. Eat colorful plates of food to insure micronutrients.
- 5.) Promote food preservation for seasonal fruits/vegetables
- 6.) Encourage handwashing and sanitation with AT
- 7.) Deworm every 6 months (Albendazole 400mg. Tablet)
- 8.) Feed sick and recovering children extra
- 9.) Vaccinate against major childhood diseases
- 10.) Manage diarrhea (ORT) 6 tsp. sugar; ½ tsp. salt; 1 liter water
- 11.) Promote growth monitoring of children under 5.
- 12.) Get Smoke out of the Kitchen! Use fuel efficient cookstoves.

An exclusively breastfeed baby is 14 times less likely to die in the first 6 months.

Only 39% of babies in the developing world are exclusively breast fed the first 6 months

--UNICEF



Further Questions:

- 1.) How do new agricultural projects involving women impact their time available for child feeding and care?
- 2.) What are some practical ways to support women in agriculture who are the primary care-givers for their children?
- 3.) More land and better agricultural productivity don't necessarily translate into better nourished children and families. Studies show mixed results. How can we best change this?
- 4.) How can women be empowered in decisions on spending and resource allocation?
- 5.) What are best strategies to promote “nutrition sensitive” agriculture?

Best Advice for Community Development:

- 1.) Be Humble
 - 2.) Respect local knowledge and traditions
 - 3.) Get over the Messiah complex. Become a facilitator.
 - 4.) Be sensitive to locally felt needs and values
 - 5.) Cultivate close relationships with insiders/ key informants
 - 6.) Consider the unique role of the Outside Change Agent
Ask questions. Raise awareness in a new way.
 - 7.) Start with the positive
 - Asset-based development vs. Deficit-based development
 - Asset-inventory vs. Needs assessment
- *Facilitate the conditions so that people in a community can develop their God-given potential

