



## From Global to Local:

Opportunities and Challenges Utilizing  
Programming Science

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### Objectives

- Nutritional status is a critical factor in physical, social and economic development of individuals, families and countries
- Overcoming all forms of malnutrition will require multi -sectoral collaborations – the global is local
- Evidence from research is necessary but not sufficient to influence policies and programs and result in improved nutrition of all types
- Malnutrition does not occur in a linear fashion – neither do improvements to nutritional status

“Nutrition defines in great part how many will survive infancy and how they will live and how they will die”

Prof Uauy 2009

### Malnutrition in all its forms

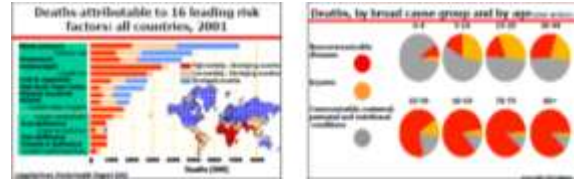
- Fetus/infants/children
  - LBW/IUGR
  - Stunting and wasting
  - Micronutrient deficiencies
  - Infections
- **Adults/Older populations**
  - Cardiovascular – stroke
  - Obesity/Diabetes
  - Cancers
  - Osteoporosis – Age related loss of function

### The Global Double Burden of Malnutrition

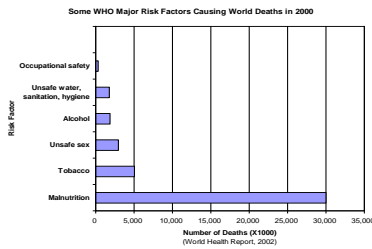
1. Need to redefine Malnutrition in all its forms in order to support a common agenda – integrated strategies
2. Life course approach to nutrition for health and development
3. Address under nutrition through prevention and treatment
4. Address burden of nutrition related chronic diseases
5. Assist countries with double burden equitably

**Annually, What Global Risk Factor is Responsible for Causing the Most Human Disability and Deaths?**

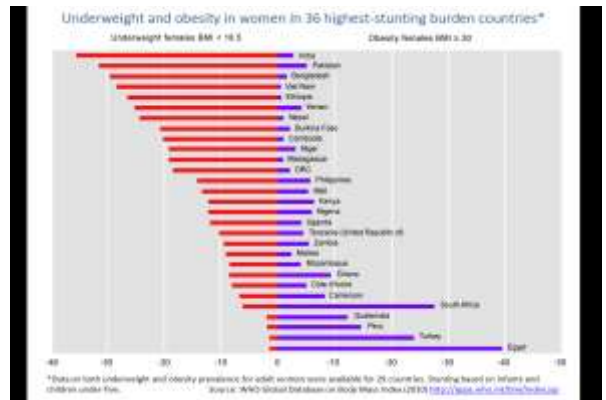
- A. Unsafe sex (HIV-AIDs, etc.)**
- B. Unsafe water, sanitation, hygiene**
- C. War and genocide**
- D. Terrorism**
- E. Malnutrition**



**Some Major World Risk Factors Causing Deaths**



Malnutrition accounts of  $\approx$  30 million deaths per year (about 1 death per second)



Burden of disease

**Each year...** **Malnutrition:**  
2 to 5 million under five deaths

- Malaria:** 1 million deaths  
750,000 children
- HIV:** 2.9 million deaths  
540,000 children infected
- TB:** 1.6 million deaths
- AI:** 200 deaths\*



\*since 2003





## Developmental Pathways to obesity and metabolic disease

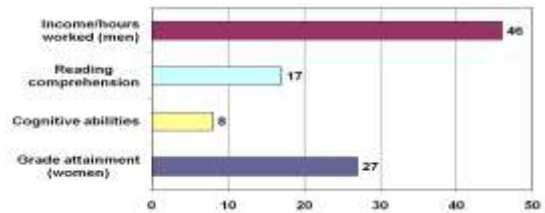
- Developmental factors do not cause obesity
- They significantly influence the risk of adiposity in a later obesogenic environment
- The mismatch pathway: conditions in early life set the developmental trajectory better adapted to low energy environment placing the individual at greater risk when placed in a high energy environment



## Reducing low birth weight can:

- Reduce infant and child mortality
- Reduce costs of health care for infant and child
- Increase productivity by reducing stunting
- Reduce costs of chronic disease
- Improve health of next generation

Good nutrition in childhood improves cognition, education and economic productivity at adulthood



(Hoddinott et al, 2008)



Zinc Deficiency



Vitamin A Deficiency

## The Ugly Face of "Hidden Hunger"



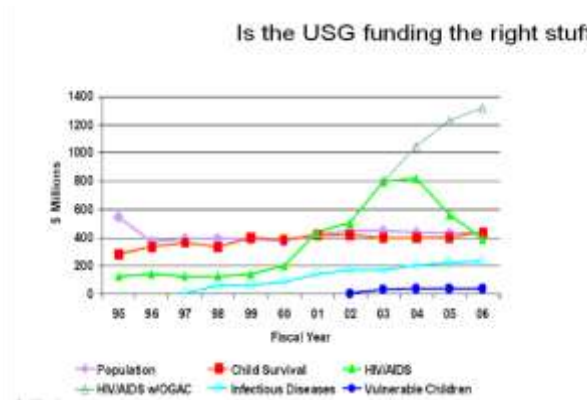
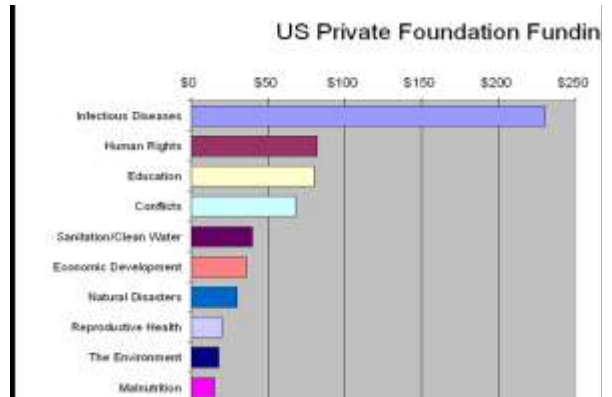
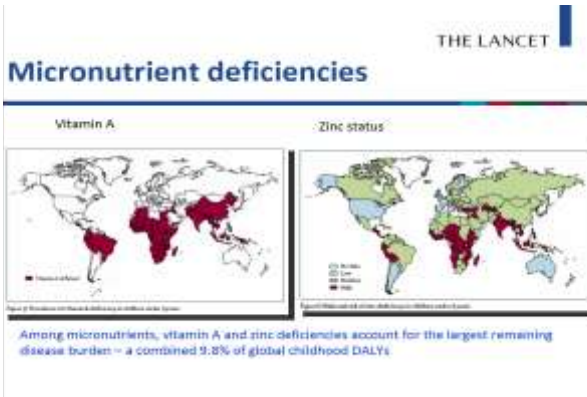
Iodine Deficiency



Iron Deficiency



Ca Deficiency Rickets



### So, is nutrition a neglected disease?

- ✓ Afflict the poor and most vulnerable
- ✓ Affect rural areas of low-income countries **and urban populations**
- ✓ Cause suffering, life-long disabilities **and death**
- ✓ High degree of morbidity **and mortality**
- ✓ Associated with social stigmatization
- ✓ Impair childhood growth and development **with life-long consequences**
- ✓ Do not receive attention and funding of high-mortality diseases
- ✓ No commercial markets for drugs or vaccines

**Nutrition is THE neglected disease.**

### How are funding decisions made?? Globally and locally

- Scientific evidence – population impact
- Policy directives
- Advocacy
- Resource allocations
- Political will/interests

### Obstacles to implementation

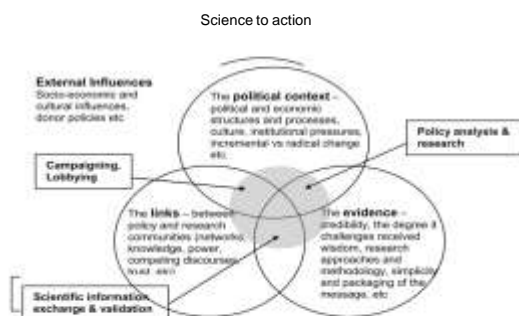
- Donors want 'quick' impact results
- Coordination of 'on the ground' implementers
- Uncertain resource flows
- Definition of impact – recipients/funders/practitioners

## Lessons for Nutrition from HIV/AIDS

- Government commitment –national leadership
- National strategies and frameworks linked to resource allocation
- Multisectoral approach – including not limited to health sector
- Community engagement
- Strengthened monitoring & evaluation

## Nutrition –HIV/AIDS contd

- Donor collaboration and coordination
- Bank instruments
- Implementation experience
- Regular international meetings/exchanges of experience



## Science: Practice

- Disconnect and delay between compelling evidence and optimal practice
- Evidence from intervention assessments
- Widespread, high quality practice
- Validation of impact

## What is a Policy?

A statement by an authoritative body of an intent to act in order to maintain or alter a condition in society

NB: rarely made in a value free environment, e.g. food aid

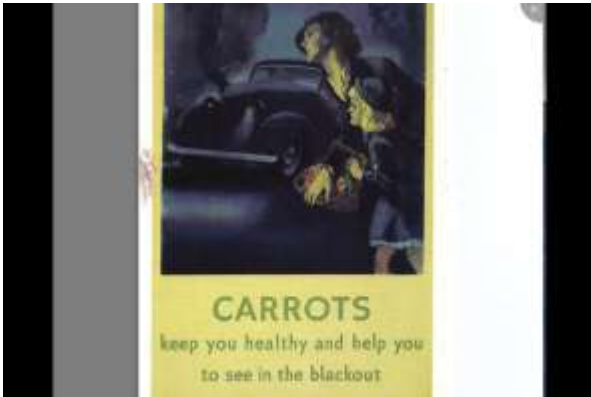
## Where do Nutrition and Health Policies come from

- Authoritative bodies:

- WHO
- FAO
- USDA

Interpretation country specific





## Extensive Scientific Guidance

- ❖ Diet Nutrition and Prevention of Chronic Disease
- ❖ A Model for establishing upper levels of intake for nutrients and related substances
- ❖ Cochrane handbook for Systematic Reviews of Interventions
- ❖ Dietary Reference Intakes – Academy of Sciences
- ❖ Nutritional Anemias – Cause and Prevention
- ❖ Trace Elements in Human Nutrition - USDA
- ❖ Protein and Amino Acid Requirement in Human Nutrition
- ❖ Reports of Joint FAO/WHO/UNU Expert Consultations
- **And the list goes on and on**

Key policy events in Survival, Health, Nutrition and Education	
	World Food Conference
1990	Convention on the rights of the Child (Art 24 health, survival, good nutrition) World Summit for Children Declaration and Plan of Action
1992	International Conference on Nutrition (World Declaration to End Hunger)
2000-2	UN Millennium Declaration to eradicate poverty Established 8 Millennium Development Goals for 2015
2002-6	World Summit in New York 2005 incl. UN reform – Release of World Bank Reorienting World Economic Forum 2006 Business Alliance Against Chronic Hunger (Private Sector led)
2008	Lancet Series released on Maternal and Child Undernutrition + WFP on Food Security Comprehensive Framework for Action launched response to fuel & food price rises
2009	L'Asapa Joint Statement and Initiative on Global Food Security with G20 pledge G20 Meeting in Pittsburgh USA with \$2.2B pledge + WFP on Global Food Security
2010	Joint UN, Private Sector, Donor Food Security & Nutrition Initiatives (CFA, SUN) World Health Assembly directs specific food and nutrition actions G8 and G20 meetings in Canada on Maternal and Child Health UN Action Plan on Maternal and Child health + Gates \$1.5B Maternal Health World Bank Global Ag. And Food Security Program funding

## Political Advocacy 2010

- “Food and nutrition security is the prerequisite for a decent and productive life and the achievement of the Millenium Development Goals. It is our collective responsibility to ensure food and nutrition security for all through synergy across the full range of sectors.”

Dr. David Nabarro, Special Representative of UN Secretary General for Food Security and Nutrition

### MDG Goals for 2015

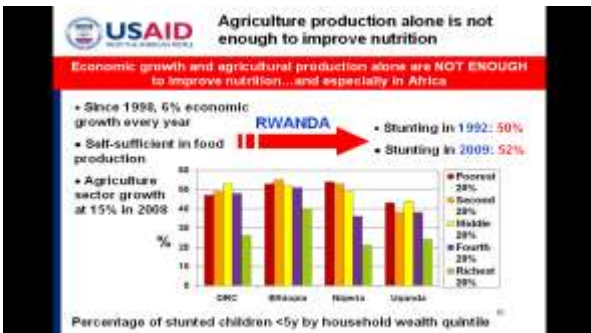
- GOAL 1: ERADICATE EXTREME HUNGER AND POVERTY
- GOAL 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION
- GOAL 3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN
- GOAL 4: REDUCE CHILD MORTALITY
- GOAL 5: IMPROVE MATERNAL HEALTH
- GOAL 6: COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES
- GOAL 7: ENSURE ENVIRONMENTAL SUSTAINABILITY
- GOAL 8: DEVELOP A GLOBAL PARTNERSHIP FOR DEVELOPMENT





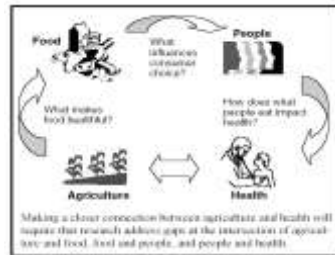
### New 2006 Mandate for the Food & Agriculture Organization, UN

- Extended to encompass entire food chain – from farm to plate – food chain approaches
- Assistant Director-General, Louise Fresco
  - “We are witnessing a ‘paradigm shift’ away from tonnes, calories and hectares towards issues of quality – quality of life, quality of environment, quality of nutrition”
  - Puts improved nutrition & health goals into production agriculture goals



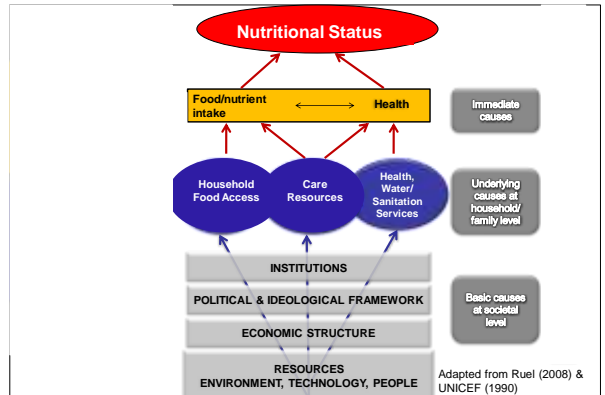
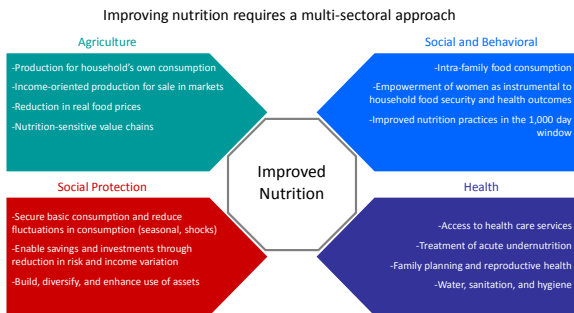
### Table to Farm: A New Agriculture Paradigm

(National Academy of Sciences Workshop - Exploring a vision: Integrating knowledge for food and health, 2003)



Rouse, T. I. & Davis, D. P. Exploring a vision: Integrating knowledge for food and health. A workshop summary. Board on Agriculture and Natural Resources, Division on Earth and Life Studies, National Research Council of the National Academies of Sciences. 1-88. 2004. Washington, D.C., The National Academies Press.

How do we get there?  
Evidence-based, multi-sectoral approach



### How are funding decision made??

- Scientific evidence – population impact
- Policy directives
- Advocacy
- Resource allocations
- Political will/interests

### Elements of Successful Scale Up:

#### **Political factors...**

- Political will of government exists
- Agreed upon objectives by all partners (same goal)
- Adequate funding exists now and in the future
- Supportive policies and guidelines in place
- Adequate time-frame exists

### Elements of Successful Scale Up:

#### **Organizational factors...**

- Leadership is vital
- Ownership is vital
- Get all partners on same page on Day One to create a shared vision to 'go to scale'
- Networks of partners allow farther reach, quicker roll-out and greater leveraging of resources
- Invest time up front to define partnership; clarify roles and responsibilities

### Conclusion

- Malnutrition of all types results from multiple factors
- Problems require systems approach solutions for sustainable changes
- Scientific information/evidence and knowledge is necessary but not sufficient to affect policy and program decisions
- Policy makers, funders and scientists have related but different constituencies

