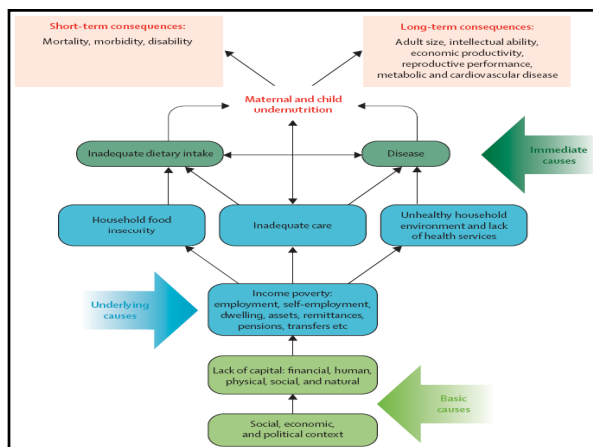


## 途上国の栄養問題に対する UNICEFの取り組み

Osamu Kunii, MD, MPH, PhD  
Chief, Health and Nutrition Section  
UNICEF Myanmar

For every child  
Healthy, educated, equality, promise  
A better tomorrow

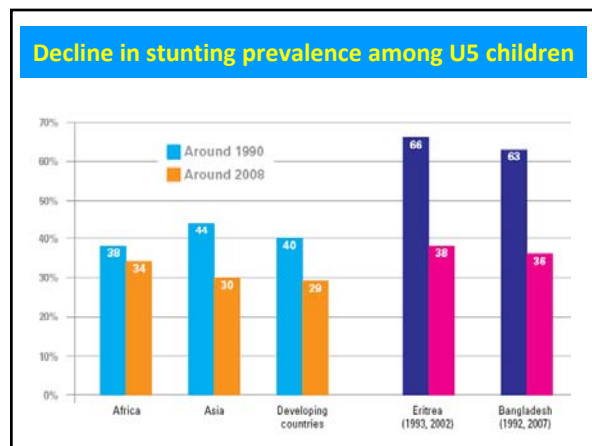
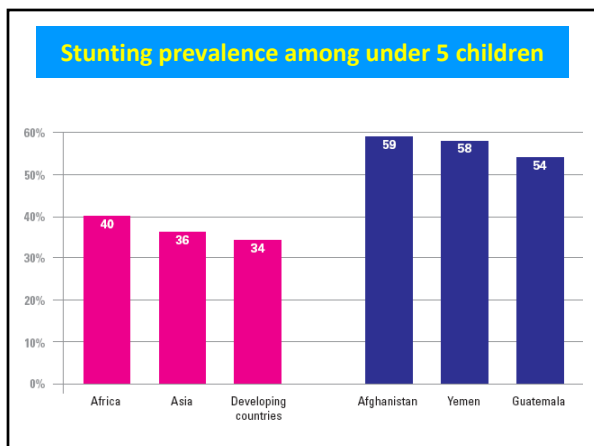
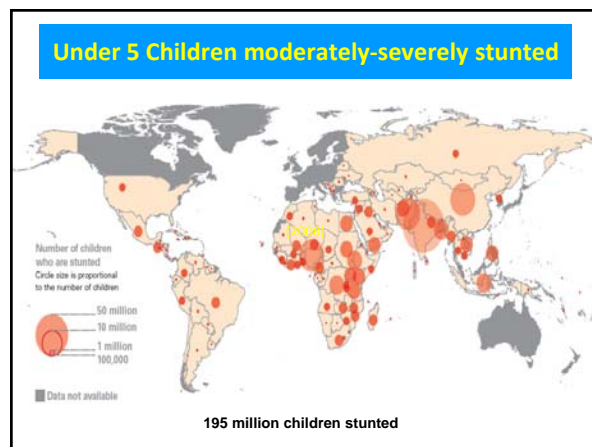
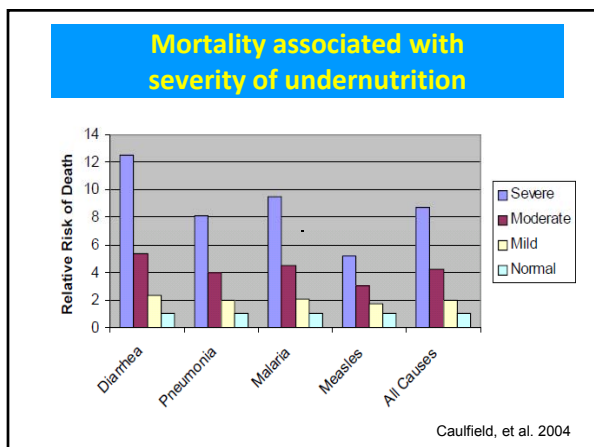
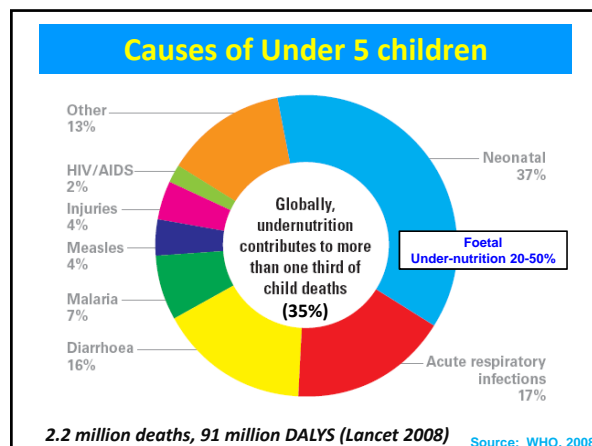
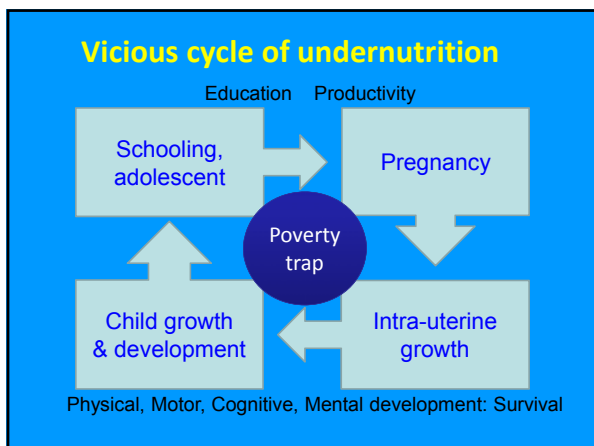
### Child Undernutrition

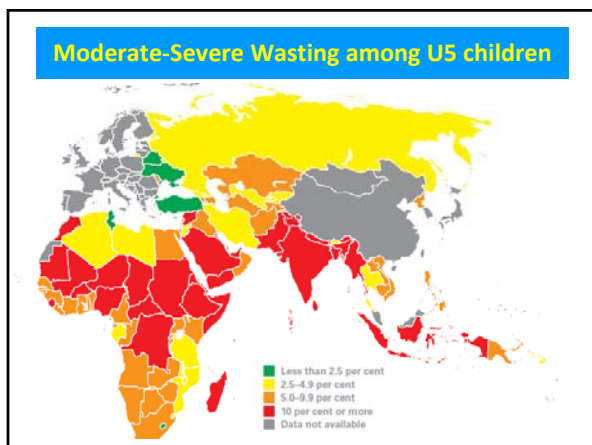
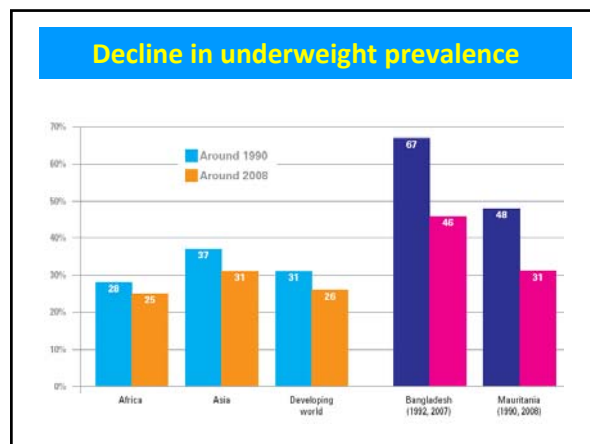
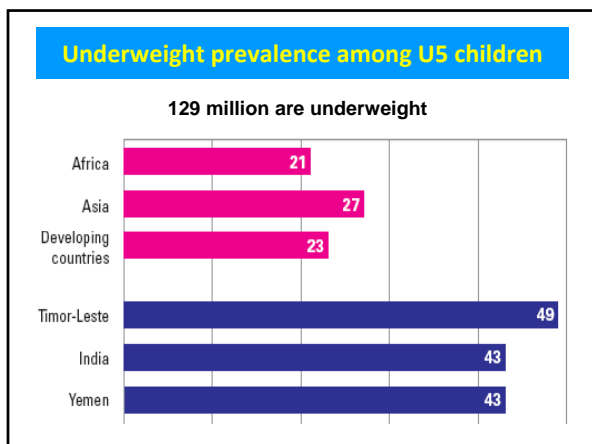
**Protein-Energy undernutrition**

- Stunting (H/A < -2SD)
- Underweight (W/A < -2SD)
- Low Birthweight (<2500 g)
- Wasting (W/H < -2SD)

**Micronutrients deficiency**

- Vitamin A/B1/B12, Iron, folate, Iodine, Zinc etc.





### Micronutrient deficiencies

- Vitamin A** → blindness, low immunity
- Zinc** → low immunity
- Iron** → PPH → maternal mortality
- Folate** → neural tube birth defects
- Iodine** → Cretinism
- Vitamin B1** → Infantile Beri Beri

### Vitamin B1 (Thiamine) deficiency-beriberi

- Major health problem in Japan in 19<sup>th</sup> century
- 5<sup>th</sup> cause of 1-12m child deaths (7%) in Myanmar


**Causes:**

- Limitation/Restriction of vitamin B1 rich food intake
- Exclusive intake of polished rice

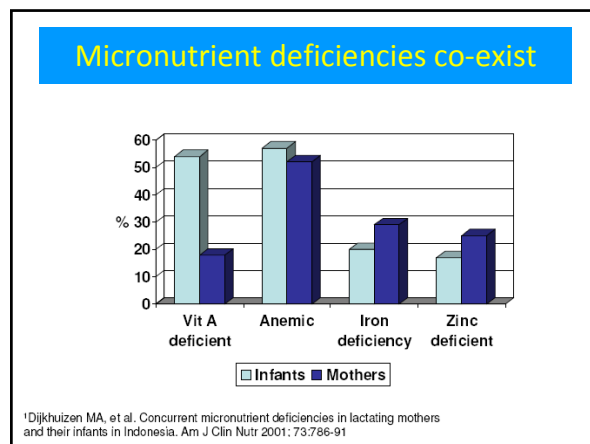
### Clinical features of infantile Beriberi

- Incessant crying and loss of voice (aphonia)
- Tiredness, difficult breathing (dyspnea)
- Blue coloration of fingers and nails (cyanosis)
- Rolling of the eye ball, twitching (Fits)
- Enlarged liver (hepatomegaly)
- Reduced feeding
- Reduced urine output
- History of food avoidance, taboos (Mother)

- Clinical features are similar to other childhood diseases.
- Majority of deaths due to infantile beriberi occur at home, or on the way to hospital/clinic.
- A single injection of vitamin B<sub>1</sub> could save lives of babies.

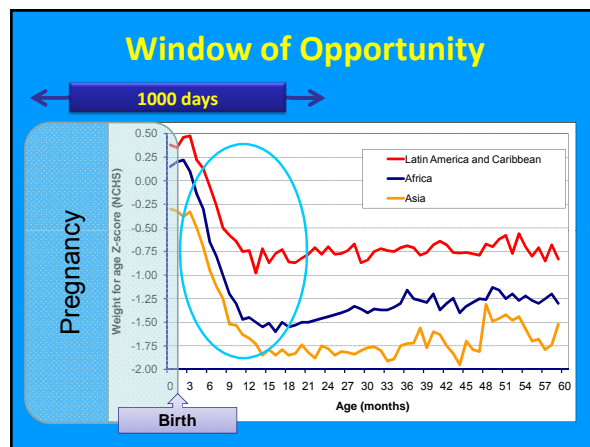


The baby fully recovered within a few hours after getting an injection of vitamin B<sub>1</sub>.



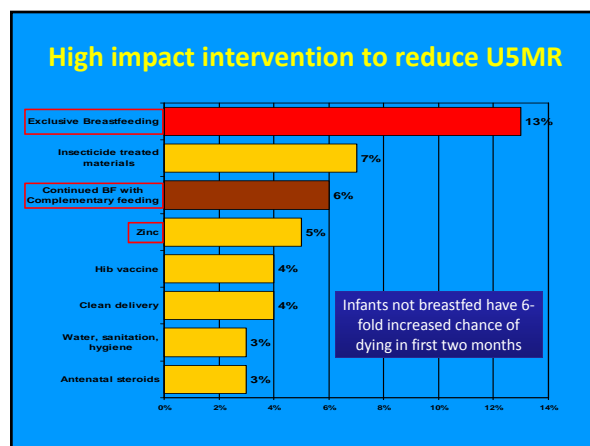
### UNICEF's Role and Contribution

Policy, strategy, guideline	Capacity Development
Supplies & Logistics	Social mobilization, Demand creation, & BCC
Service delivery	Data, M&E, Supervision
Leadership and Coordination (in emergency)	



### High impact interventions

1. Infant and Young child feeding (IYCF)
2. Micronutrient supplementation/fortification (vitamin A, zinc, iodine)
3. Management of severe acute malnutrition (SAM)
4. Improvement of maternal nutrition (Iron/folate, multiple MN, calcium, food supplements) for undernourished mothers

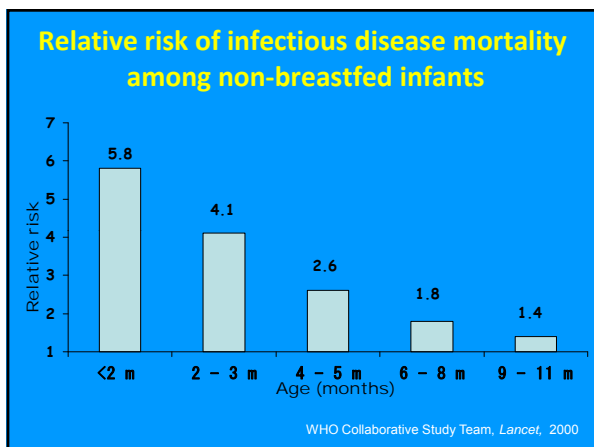
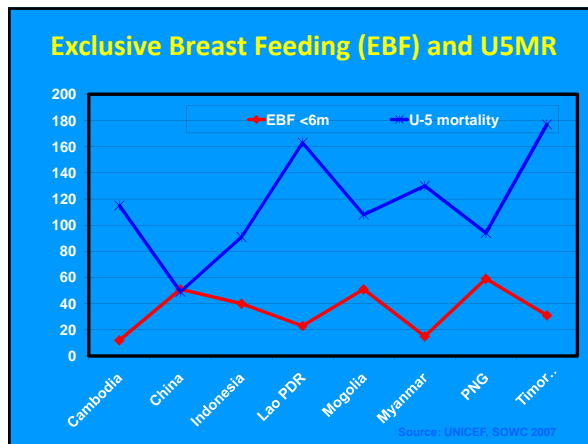


**Special context:**

- Food supplements for undernourished mothers
- Deworming
- Malaria prevention/treatment (ITN, EDPT, ACT, IPT)

**Other sectoral interventions:**

- Safe water, environmental sanitation
- Food ration



- Infant & Young Child Feeding**
1. Early initiation of breastfeeding < 1hr
  2. Exclusive breastfeeding till 6 months
  3. Timely introduction of nutrient-rich complementary foods at six months
  4. Continuation of breastfeeding until two years and beyond

**Why not breast milk substitute?**

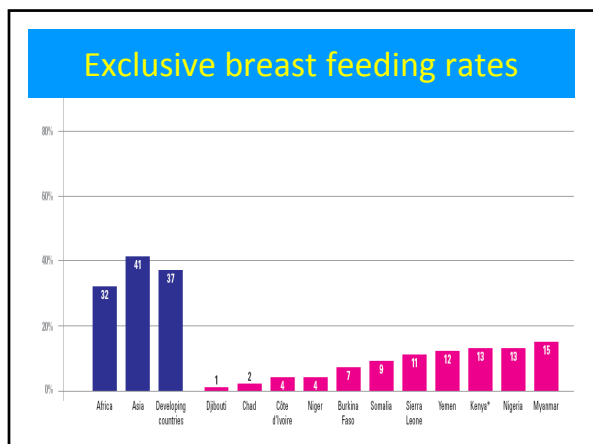
Photo credit: Ali Maclean, 2006

**Vast amount of donation of baby milk in emergencies**

Lebanon 2006

Pakistan 2005





### Policy, Strategy & Guideline

**Infant and Young Child Feeding in Emergencies**

Operational Guidance for Emergency Relief Staff and Programme Managers

Developed by the IFE Core Group

Version 2.1 - February 2007

**For all players:**  
 Government, military  
 Donors  
 Int'l/Local NGOs  
 Media

### Training Courses, Modules, Guideline

**New Training Material Now Available**

Infant Feeding in Emergencies, Module 2 Version 1.0 for health and nutrition workers in emergencies. Available for download at [www.enonline.net](http://www.enonline.net)

### Severe acute malnutrition

- Growth Monitoring and Promotion
  - Screening by MUAC + Interventions
- Facility-based management
  - Community based

### Surveillance & Screening

### Products for SAM in facility

ReSoMal

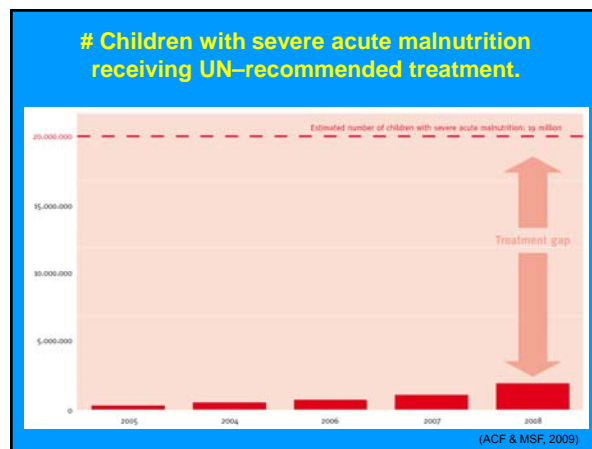
Therapeutic milk F75

Therapeutic milk F100



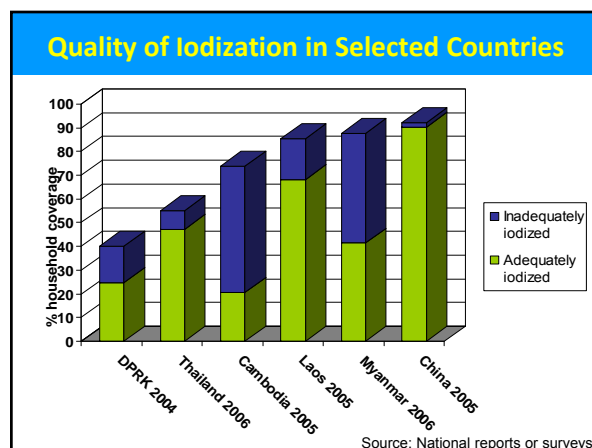
### Therapeutic? Preventive?

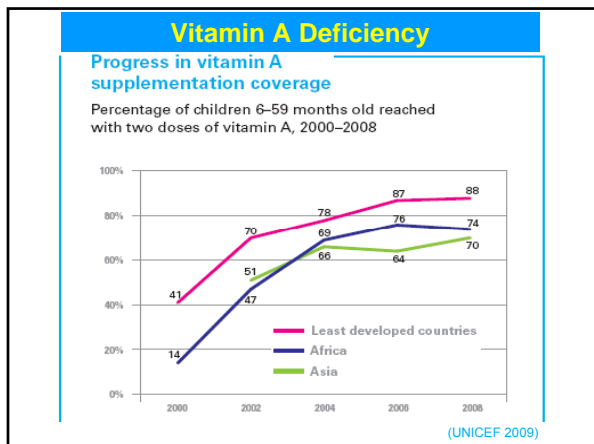
- Trial of “Plumpy’doz” in Niger
- 100,000 children in Somalia
- Ready-to-use supplementary food
- Same level of micronutrients
- A quarter of calories



### Salt iodization for IDDE

- Global strategy by WHO/UNICEF in 1994
  - Universal salt iodization “All salt for human and animal consumption (including salt for food processing)” (\$0.04 / person per year)
- Advocacy/ regulation / guideline
- Supervision / monitoring– salt factory/ retailer
- Evaluation: HH iodized salt consumption and Median urinary iodine excretion





- ### Vitamin A supplementation
- Country strategy (e.g. target, delivery)
    - Children (6m-5y)
    - Lactating women
  - Supply of vitamin A capsules
  - Service delivery
    - Campaign (2x yr)
    - Hard-to-reach areas

- ### Prevention of Infantile Beriberi
- Long-term: Food-based strategies :
1. Dietary diversification
  2. Maximize thiamin intake from the staple (rice)
    - Under-milling, Parboiled rice, Reduced washing before cooking, Not discard water
  3. Maximize utilization of thiamin in the body
    - Discourage food habits (Tea, coffee, betel nuts, Raw fish, Fermented fish, shellfish)
  3. Food fortification

### Anemia control

- Supplementation of Iron/Folate, Sprinkles
- De-worming (2x/yr) for 2-9yr & pregnancy

Sprinkles of minerals and vitamins

### IFA supplementation: a sound policy but poorly implemented

60 mg iron + 400 µg folate/d for 6 months during preg.  
If anemia > 40%: additional 3 months postpartum  
→ Multi-micronutrients

Country	% pregnant women (> 90 IFA tablets)
Cambodia	~18
Indonesia	~28
Philippines	~28

Info not available for most countries

### Zinc treatment

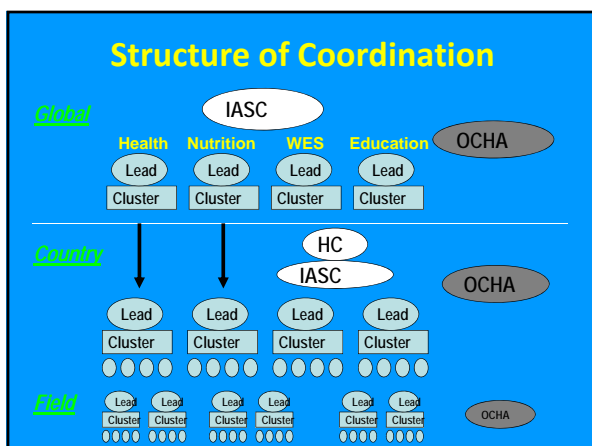
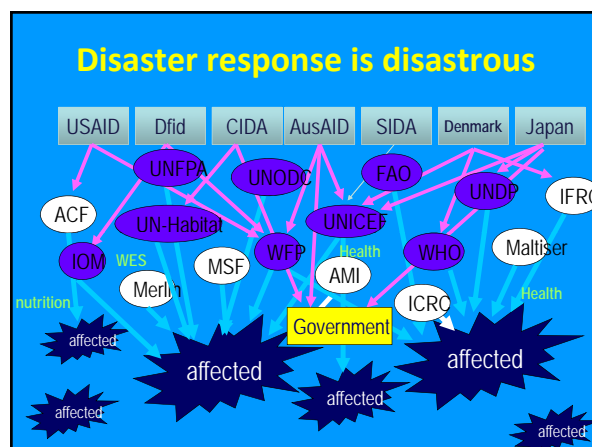
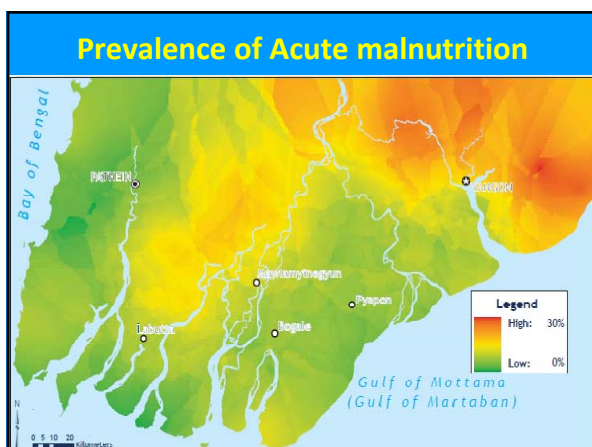
Zinc with 10-14 day treatment :

- 25% reduction in duration of acute diarrhea
- 40% reduction in death in diarrhea
- Prevention of future diarrhea episodes for 3 months



### Data Creation, M & E

- Multiple Indicator Cluster Survey (MICS)
- Demographic Health Survey (DHS)
- Nutrition Surveillance/Survey
- Food Basket Survey (WFP)
- Rapid assessment / Periodic review



### Challenges & Way forwards

- Poor expertise and capacity of partners
- Securing RUTF/RUSF, local production
- Effective integration with others
- Strategies of community based approach
- Behavioral Change Communication (BCC) → Communication for Development (C4D)