

Intervenciones agrícolas-ganaderas sensibles a la nutrición



Source: ING

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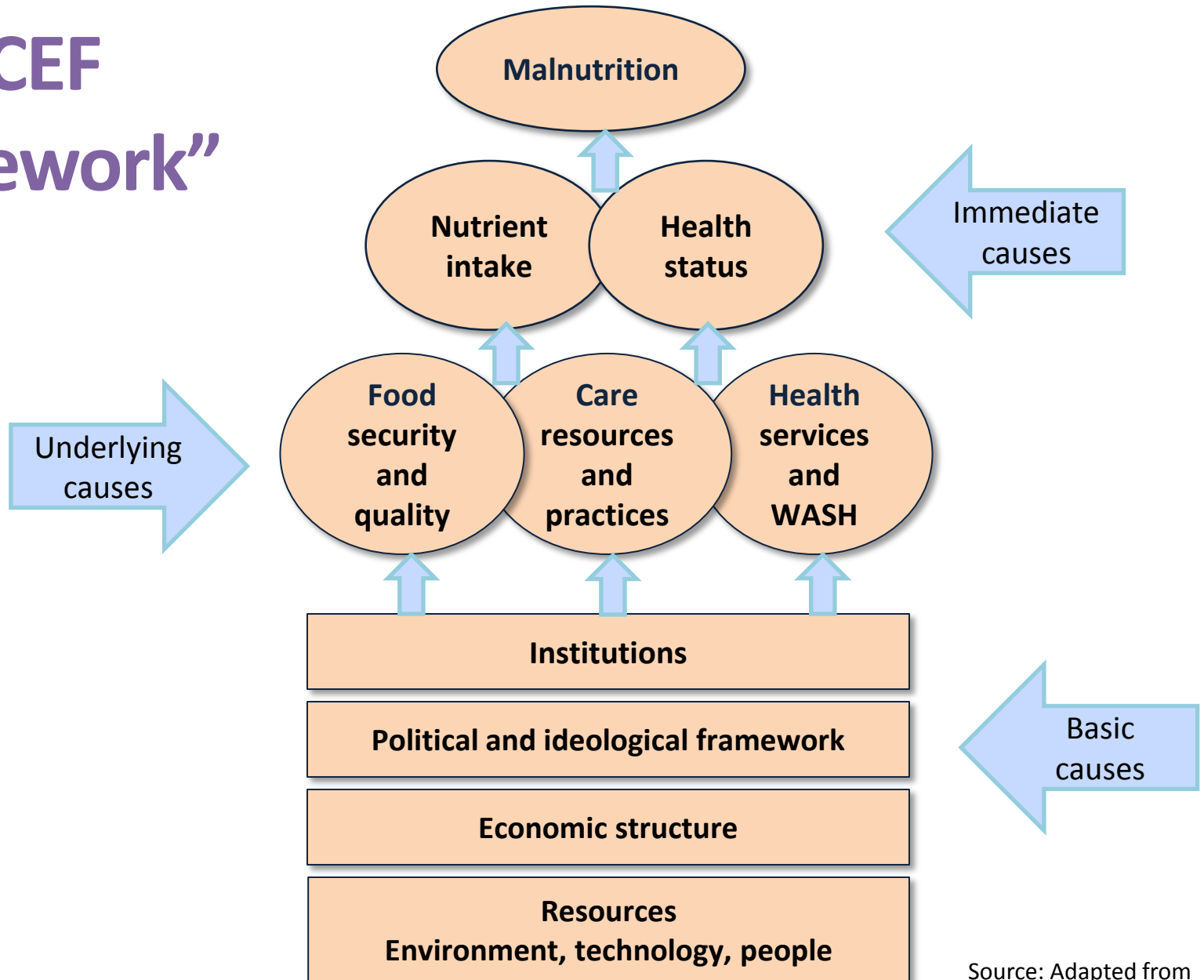
Royal Veterinary College, Reino Unido

International Livestock Research Institute, Kenia

Leverhulme Centre for Integrative Research in Agriculture and Health, Reino Unido

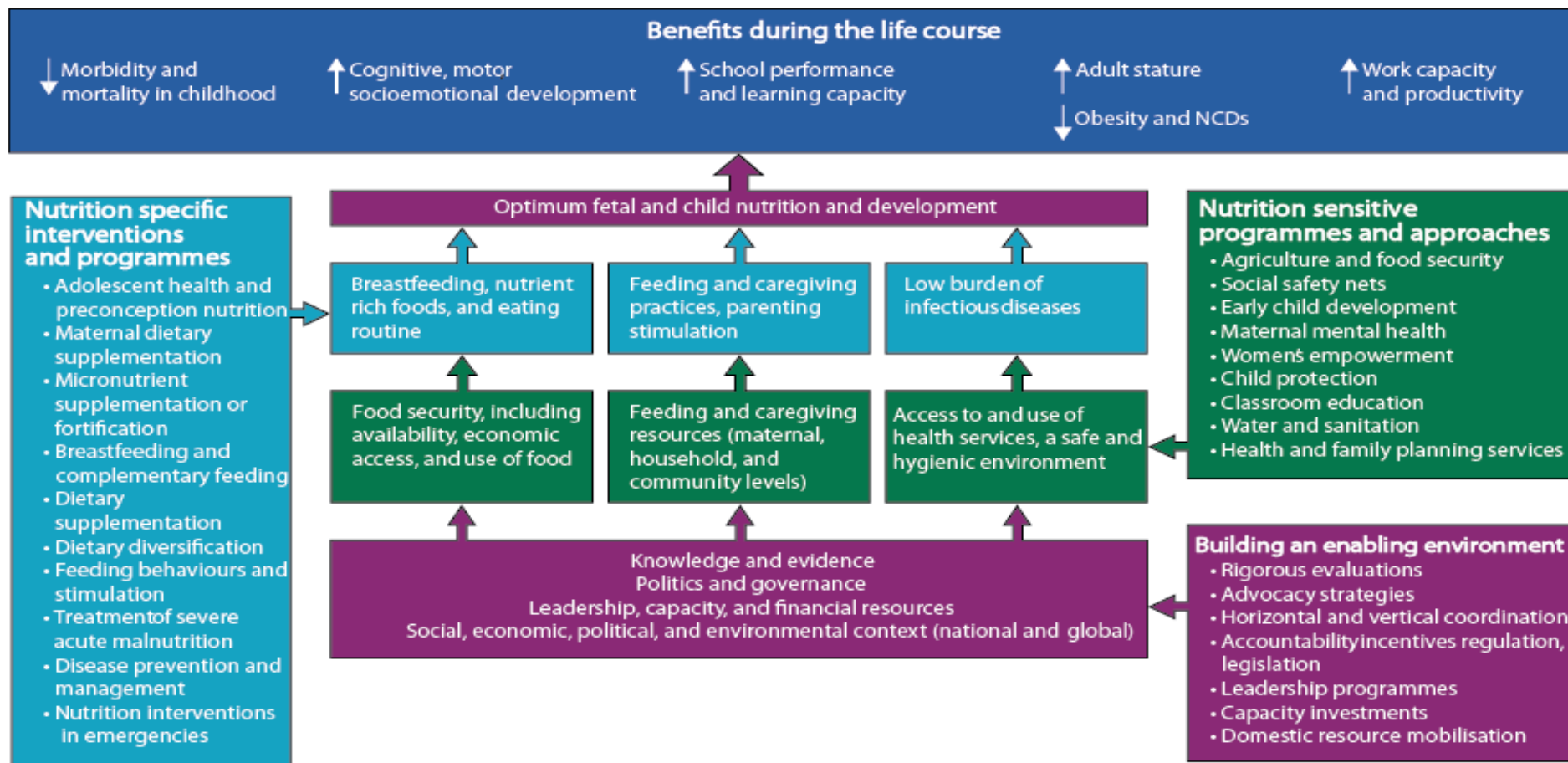
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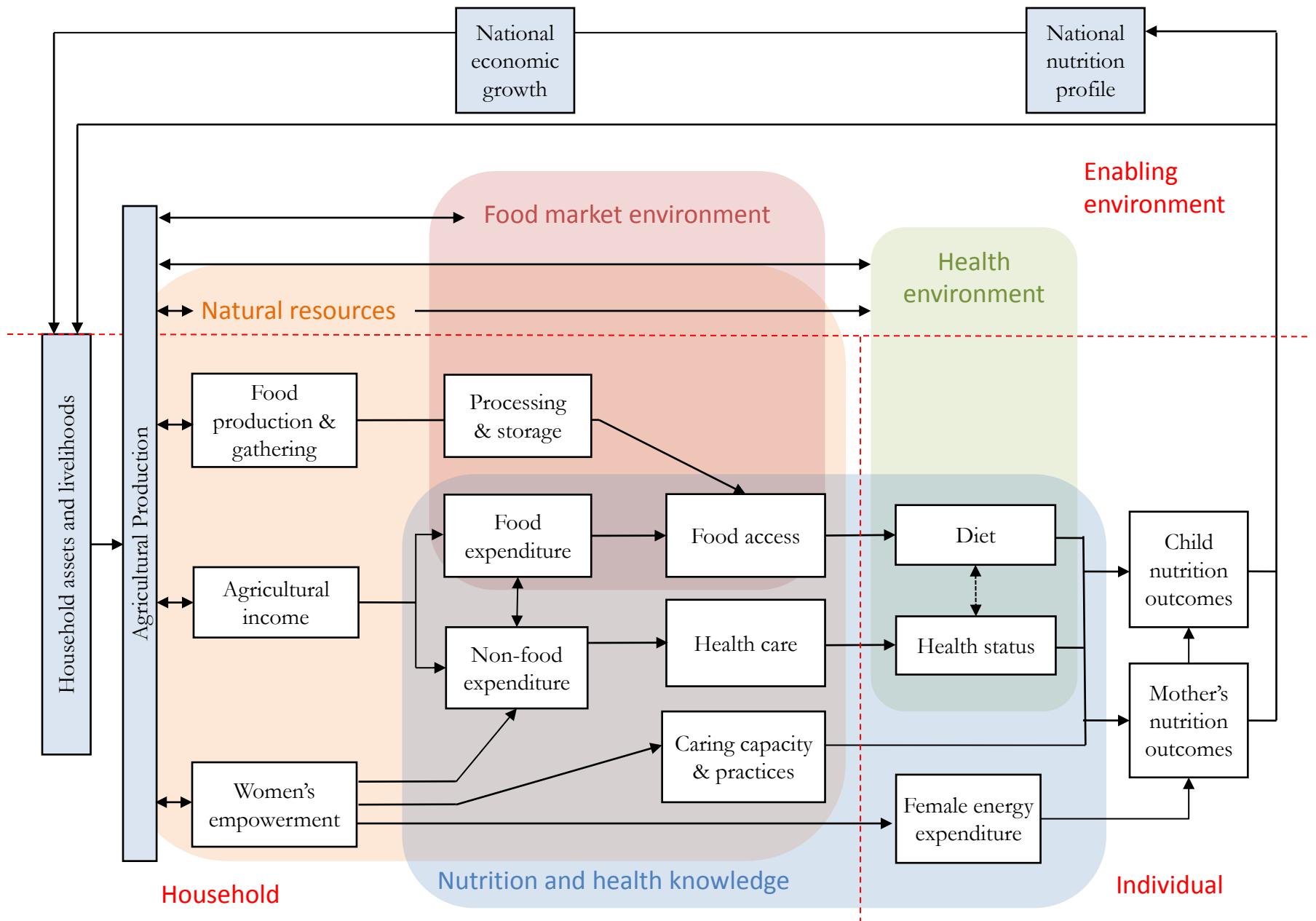
“UNICEF framework”

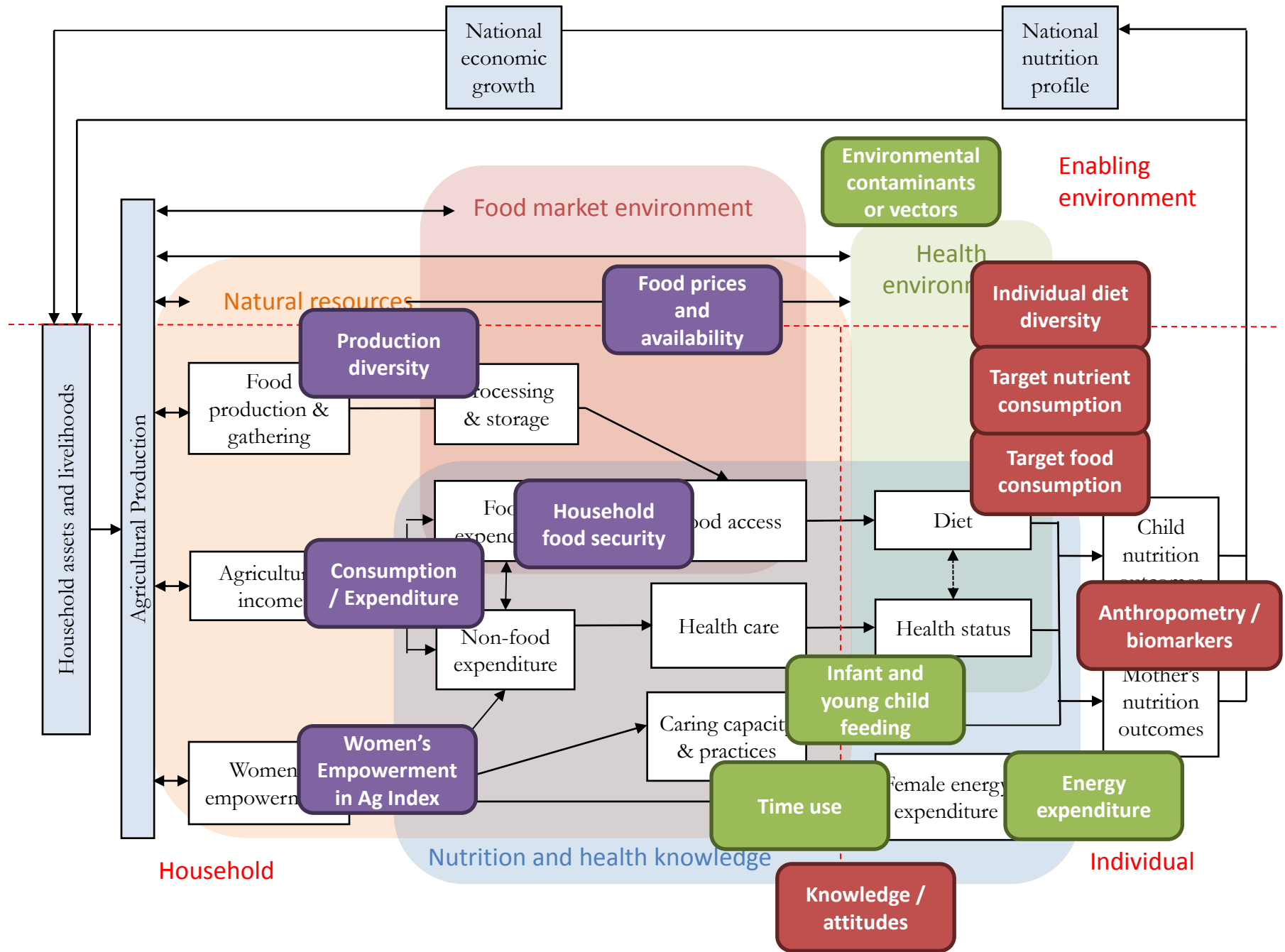


Source: Adapted from UNICEF 1990

Mapping interventions back to an updated 'UNICEF Framework'



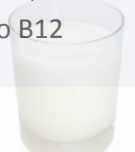




Key micronutrients supplied by animal-source foods (ASFs)



Nutrient	ASF	Conséquence of déficits	Comments
Vitamin A	Dairy, liver, eggs	Growth faltering, impaired development, blindness, impaired immune system, increased mortality.	Preformed vitamin A (retinol and retinol esters) is almost exclusive of ASFs, while plants contain pro-vitamin A carotenoids, significantly less bioavailable.
Iron	Meat, fish (Heme iron, more readily absorbable than non-heme iron -15-35% absorption) Dairy, eggs (Non-heme iron, as in plants -2-20% absorption)	Anaemia; Impaired growth, immune function, cognitive development and school performance in children; lowered work capacity and maternal mortality in adults.	Absorption of non-heme iron is inhibited by phytic acid and fiber of cereal diets. Heme-iron promotes absorption of non-heme iron present in non-ASFs (meat addition to a legume/cereal diet can double the iron absorbed, contributing to anaemia prevention).
Calcium	Dairy is the major source Fish (if consumed with bones)	Nutritional rickets.	Absorption of calcium is inhibited by oxalates, phytates and fiber of cereal diets. The high calcium (and casein) content in milk inhibits absorption non-heme iron only.
Vitamin B2	Dairy, meat and organs, eggs, fish	Stunted growth, skin lesions, corneal vascularisation, cheilosis, angular stomatitis, glossitis, photophobia, anemia, neuropathy.	Vitamin A and riboflavin are both needed for iron mobilization and hemoglobin synthesis; thus supplementation with iron alone can be unsuccessful to treat anemia if these other nutrients are deficient (22).
Zinc	Meat and organs, fish. Eggs, dairy to a lesser extent	Pregnancy complications, low birth weight, impaired immune function, mortality, growth faltering.	ASFs have higher bioavailability than plant sources. Protein increases zinc absorption, calcium and phytates and fiber may inhibit.
Vitamin B12	All ASFs -only in ASF with the exception of some algae	Megaloblastic anemia, demyelinating disorder of the central nervous system.	B12 is bound to ASF proteins and is released for absorption in the stomach with the intervention of gastric acid, which production may be impaired in elderly, leading to B12 deficiency.



Food based recommendations for women in Nairobi slums with Optifood

Recommendation	Nutrient	VitC%	VitB1%	VitB2%	VitB3%	VitB6%	Fol%	VitB12%	VitA%	Ca%	Fe%	Zn%	Cost	N. req met
Best possible diet		342.6	175.9	221.8	116.3	173.8	218.9	939.7	629.4	100	65.7	301.5	194.7	11
No recomm		13.3	74	79.8	50.6	57	40.7	682.9	45.6	12.7	20.9	133	70.9	4
1. 7 p/wk Fruit		103.9	75.4	82.6	54	74.9	49.2	683	61.8	14.9	20.9	133	82.2	6
2. Rec 1 + 21 p/wk Dairy		109.8	76.2	128.9	54	75	49.2	715.3	90.5	63.8	20.9	138.3	114.9	7
3. Rec 1 + 2 + 28 p/wk Vegetables		204.5	91	141.5	64.2	98.5	58.7	715.6	183.8	69.1	24.3	148.2	126.5	8
4. Rec 1 + 2 + 3 + 21 p /wk Other ASF (7 eggs)		204.5	91	146	76.3	107.7	58.7	746.1	185	69.9	29.9	167.9	150.3	9
5. Rec 1 + 2 + 3 + 4 + 7 p/wk legumes		211	120.2	156.5	76.5	125.6	130	746.1	204.8	76.9	36.2	198.9	154	10
6. Rec 1 + 2 + 3 + 5 + 21 p/wk ASF (7 eggs, 4 poultry, 4 red meat)		211	122	162.4	84.5	127.6	130.3	754.6	212.8	76.9	40.8	223	160.2	10

- Optifood diet modelling predicts which food-based recommendations can ensure dietary adequacy for all nutrients (=75% for all the population)
- Times/week vs Portion size considerations
- The cost relative to incomes to improve dietary adequacy is high

Factors showing to be problematic when designing livestock interventions to improve nutrition

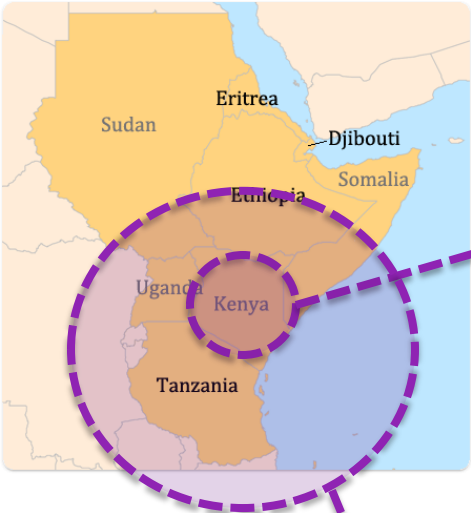
- Local potential of **livestock value chains** and market access
- Local **consumption** patterns and dietary practices
- **Taboos** associated to certain ASFs, that could haven been set for production interests
- **Gender** issues – intra-household distribution inequity
- Extension of ASF shelf-life - **preservation** methods
- **Mobility** patterns of farmers and implications



Source: ING

East Africa

Nairobi Seed project:



Evaluate Nutritional status and dietary adequacy



Investigate determinants of LVC in poor nutrition and LVC potential/barriers



Assess consumer patterns & demand factors



Assess potential of ASF in ensuring dietary adequacy

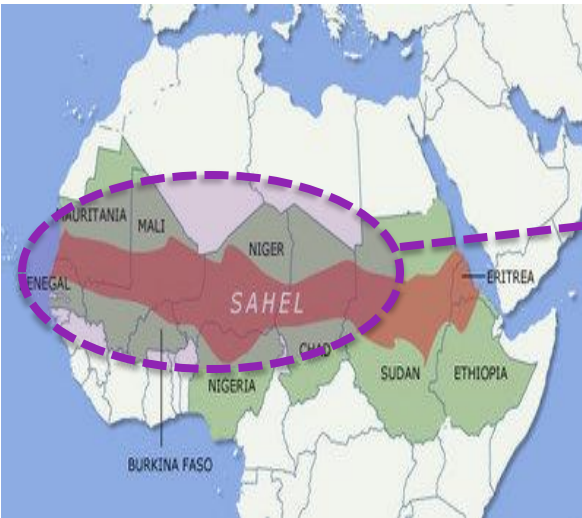


Scale-up research Intervention design

Nutrition lense onto a portfolio of livestock projects :

- Development of Women Empowerment in Livestock Index and validation for maternal and child nutrition in Tanzania, Uganda and Ethiopia
- Poultry ownership effect in women empowerment, WATSAN and child nutrition in Tanzania and Zambia
- Pig livestock value chain in and nutrition Uganda

West Africa

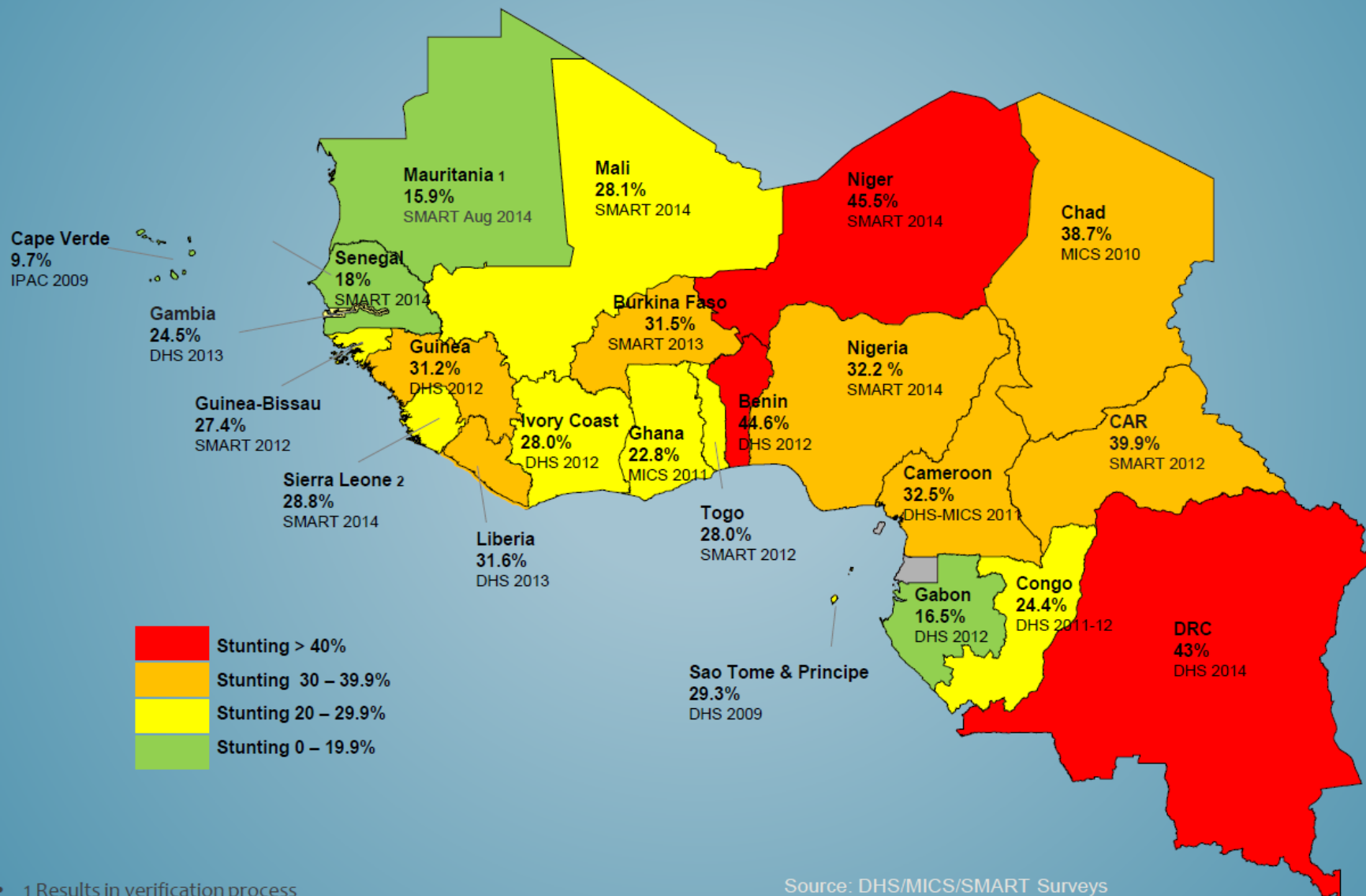


FAO project:

- Momentum on ASFs (interest from humanitarian donors, UN agencies)
- Organisation of a regional workshop on livestock, livelihoods and human nutrition.
- Ongoing collaboration with FAO and next steps
 - Possible replication of the workshop in East Africa
 - Possible replication of the Seed project in West Africa
- Engagement with implementing partners/donors (e.g. VSF, AECID) and national institutions



Malnutrition Chronique Afrique de l'Ouest et du Centre

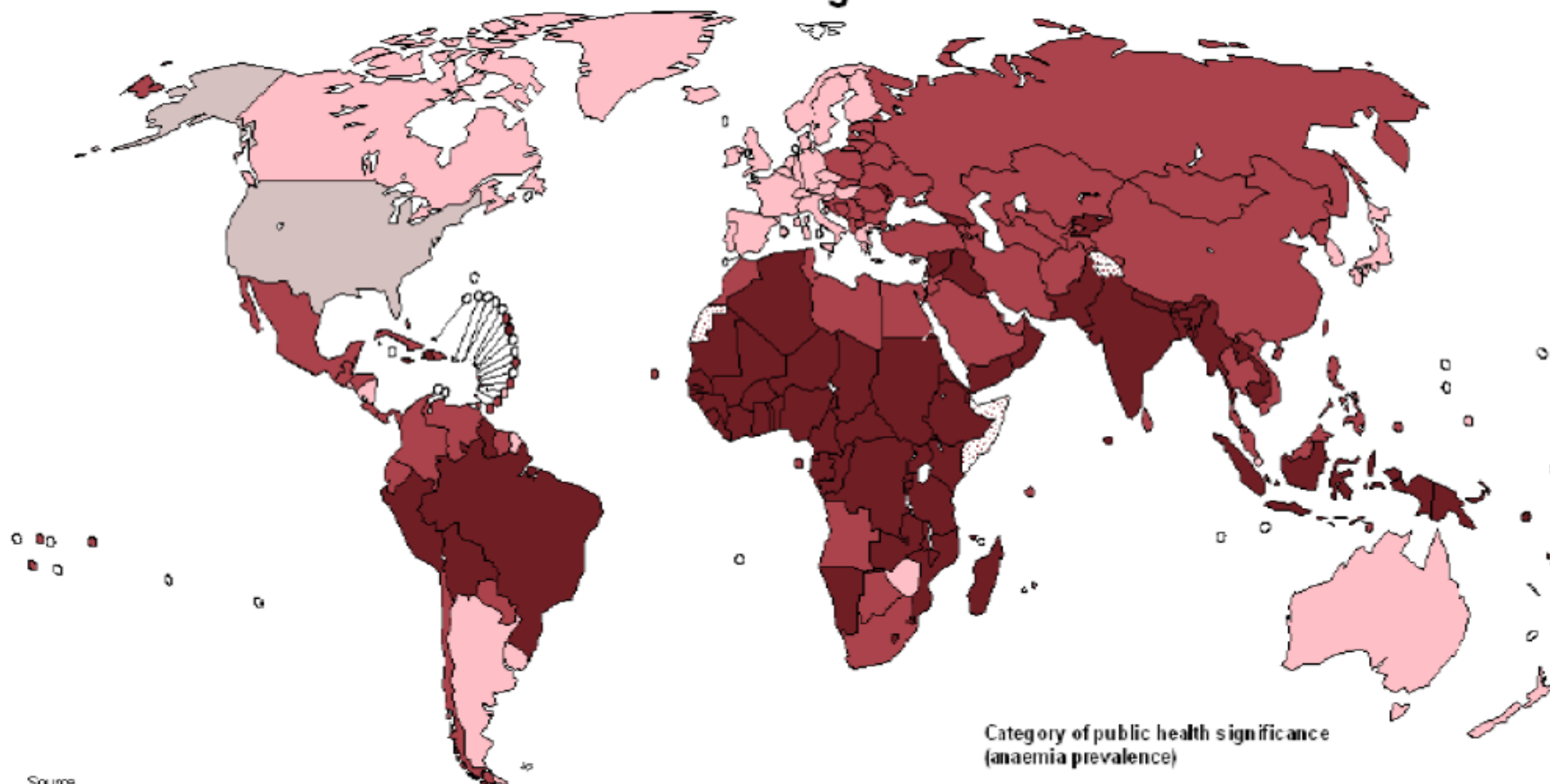


- 1 Results in verification process
- 2 Excluding Kailahun and Bonthe Districts

Source: DHS/MICS/SMART Surveys
UPDATED November, 2014



Anaemia as a public health problem by country: Preschool-age children



Source:
de Benoist B et al., eds. Worldwide prevalence of anaemia, 1993-2005.
WHO Global Database on Anaemia. Geneva, World Health Organization, 2008

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

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Category of public health significance
(anaemia prevalence)

- Normal (<5.0%)
- Mild (5.0-19.9%)
- Moderate (20.0-39.9%)
- Severe (≥40.0%)
- No Data

Context / Rationale

Malnutrition:

- Persistence of high rates of malnutrition (in all forms)
- Fighting malnutrition as a priority for the Sahel countries (e.g. SUN movement, AGIR initiative)

Animal production and livestock:

- Arid and semi-arid areas
→ limited potential for agriculture (crop production)
- Importance of livestock livelihoods and animal production

→ However, **disconnect** between livestock interventions and human nutrition

Study process

Scoping study and literature review

→ 3 background documents shared with participants previous to the workshop



Workshop

→ Workshop presentations and report



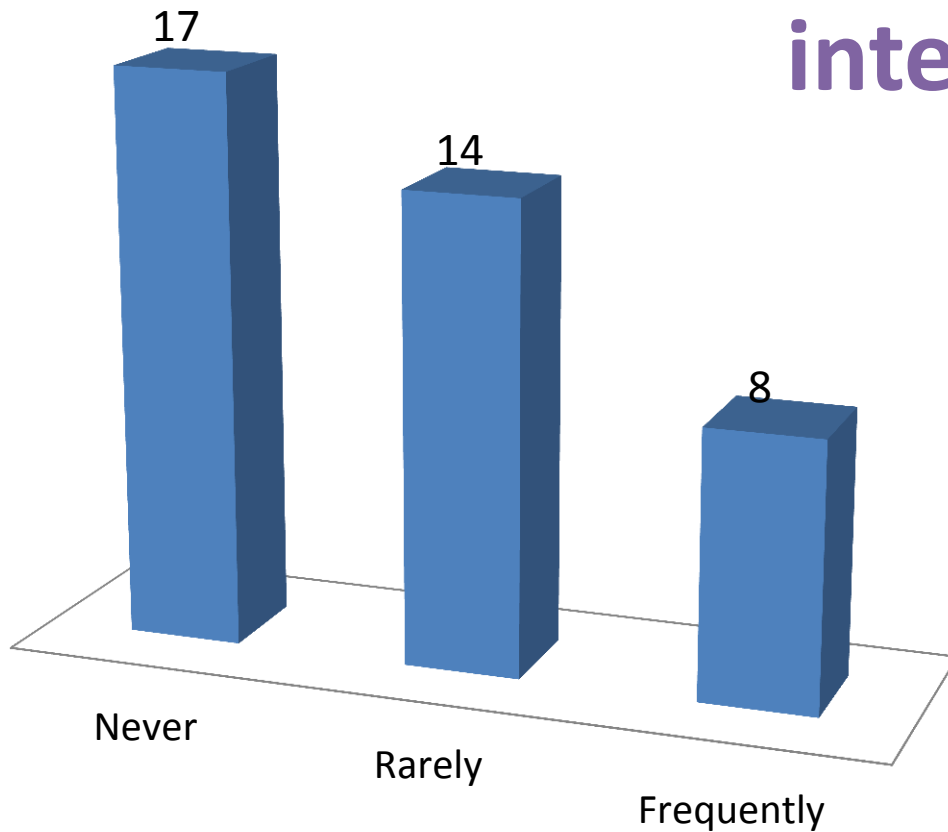
Follow-up

→ Based on country action plans developed during the workshop

Annexe 11: Quels sont les 10 pays que vous pouvez faire pour que l'élevage soit mieux intégré aux efforts de réduction dans vos pays ?*

Stratégie	Projet/Programme/Initiative	Année	Coordonnées des responsables
AFRIQUE OCCIDENTALE			
1. Réviser les politiques nationales d'élevage	FAO	2014	Coordonnées des responsables: Révision des Politiques d'Élevage
2. Réviser les politiques nationales d'élevage	WFP/FAO	2014-2016	Coordonnées des responsables: Révision des Politiques d'Élevage
3. Évaluer les politiques nationales d'élevage	WFP/FAO	2014	+
4. Évaluer les politiques nationales d'élevage	EDC/FAO	2014	+
5. Évaluer les politiques nationales d'élevage	Partenaires d'Élevage	Novembre 2014	+
AFRIQUE			
1. Réviser les politiques nationales d'élevage	FAO/IFAD	2014-2016	Coordonnées des responsables: Révision des Politiques d'Élevage
2. Réviser les politiques nationales d'élevage	WFP/FAO	2014-2016	Coordonnées des responsables: Révision des Politiques d'Élevage
3. Réviser les politiques nationales d'élevage	WFP	2014	+
4. Réviser les politiques nationales d'élevage	FAO	2014	+
5. Réviser les politiques nationales d'élevage	FAO	2014	+

Have you ever monitored the nutrition impact of livestock interventions?



Average per participants' specific sector expertise:

Livestock = 1.9

Nutrition = 1.9

Other = 1.7

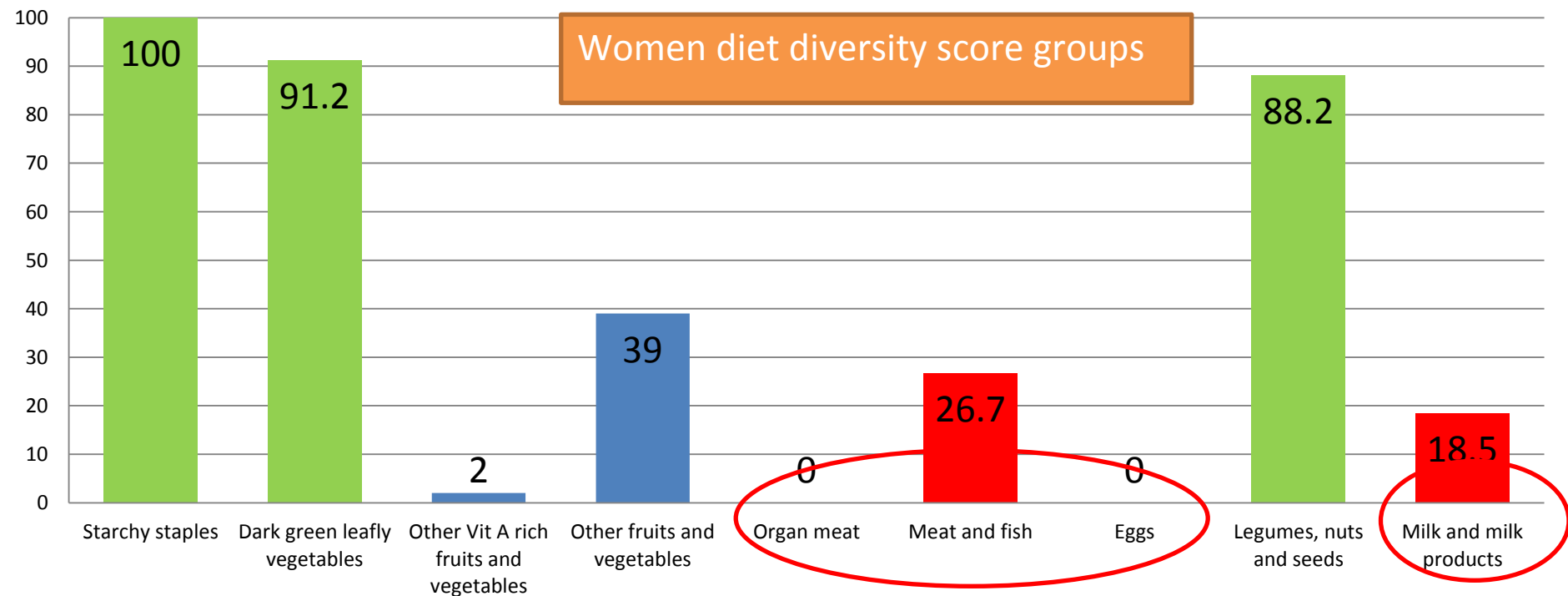
Why is there a disconnect?

- Lack of knowledge of the nutritional value of ASFs (not only a source of protein...)
- Need to demystify the linkages between nutrition and livestock interventions on both sides (nutrition and livestock sectors)
- Animal production as a source of income rather than a source of food
- Lack of knowledge / know-how on how to mainstream nutrition, monitor and measure the nutrition outcomes of livestock interventions



Measuring nutrition outcomes

- ❖ Need for well-defined measurable **nutrition objectives** in the livestock interventions (including dietary indicators - e.g. WDDS)



(Source: AVSF project in Mopti, Mali)

Existing gaps

- Lack of the knowledge on **nutritional characteristics of animal-source foods (ASFs)** and how to **preserve** them
- Lack of **comprehensive research and evidence** on linkages between human nutrition-livestock interventions → needs to collect and disseminate good practices and lessons learnt (e.g. examples of livestock interventions with a positive effect on human nutrition)
- Lack of data on the impact policies/programmes and projects (lack of evaluation or lack of sharing?)
- How can the impact of **livestock interventions** on human malnutrition **be measured** and enhanced? (innovative indicators)

Way forward

How to convince livestock and nutrition professionals of the potential of ASF in improving nutrition?

- ❖ Strengthen links between researchers / practitioners
- ❖ Promote the dialogue between sector experts (e.g. creation of a specific network/platform for the livestock/nutrition community)
- ❖ Sharing of the lessons learnt and experiences
- ❖ Capacity Development to support technical skills

