

Malnutrition

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A journey from the early 1980s to today

Presented by

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SCARCITY – LESS CHOICES



© What I Eat: Around the World in 80 Diets

Chad, North Africa: The Aboubakar family from Darfur, Sudan, spend £37 a week on food to feed six people

PLENTINESS - CHOICES



© What I Eat: Around the World in 80 Diets

Germany: The Melander family from Bargteheide who spend around £320 on their weekly shop

MARASMUS

KWASHIORKOR

Marasmus

Kwashiorkor



Caloric Deficiency



Protein Deficiency

Protein Energy Malnutrition (PEM)

PROTEIN ENERGY MALNUTRITION

Protein-Energy Malnutrition

Marginal energy,
but insufficient
protein intake

Kwashiorkor

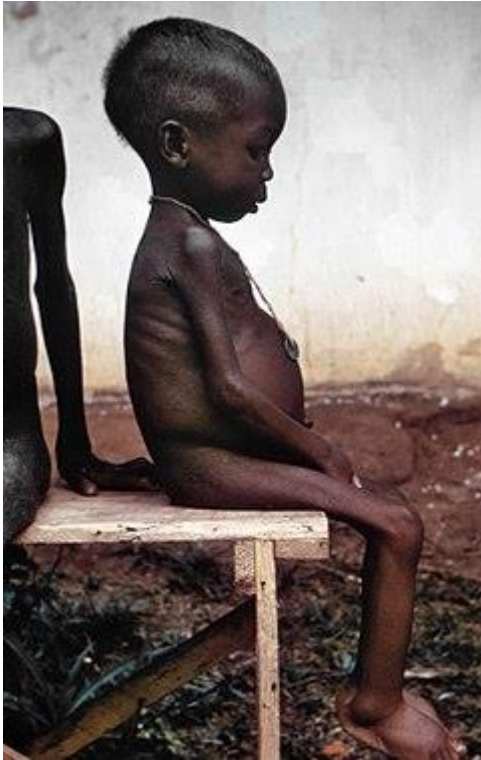
“the disease that
the first child
gets when the
new child
comes”

Insufficient protein
and energy intake

Marasmus

“to waste
away” or
“dying away”

PROTEIN ENERGY MALNUTRITION



ANTHROPOMETRIC MEASUREMENTS



FOOD AID DISTRIBUTIONS



NUTRITIONAL DEFICIENCIES – VITAMIN AND MINERAL DEFICIENCIES

Public health nutrition

Alleviation of nutritional deficiency diseases in refugees

Angela Berry-Koch, Regina Moench, Peter Hakewill, and Mohammed Dualeh

Abstract

This paper describes deficiency diseases of concern among refugees since, without treatment, permanent disability or even death can result. The con



MICRONUTRIENT DEFICIENCIES

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Micronutrient Deficiencies

Vitamin Deficiency Diseases

- Retinol (Vitamin A) → xerophthalmia / night blindness
- Ascorbic acid (Vitamin C) → scurvy or scorbutus
- Calciferol (Vitamin D) → rickets.
- Niacin (Vitamin B₃) → pellagra
- Thiamin (Vitamin B₁) → beriberi



Mineral Deficiency Diseases

- Iron — anemia
- Iodine — goiter



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BREAK THROUGH WITH SPECIFIC PROCESSED FOODS IN HUMANITARIAN FOOD AID

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Targeted Food Fortification

Preferred approach when fortified foods are used for specific population groups with specific nutritional needs



Ready to Use Foods (RUFs) and Therapeutic Food (RUTFs)

High Energy Biscuits (HEBs)

Micronutrient Powders or “Sprinkles”

Source: <https://www.wfp.org/nutrition/special-nutritional-products>

SPECIFIC FOODS FOR SPECIFIC NEEDS OF FOOD AID BENEFICIARIES



MICRONUTRIENT MALNUTRITION (VMDS) WHAT IS IT?

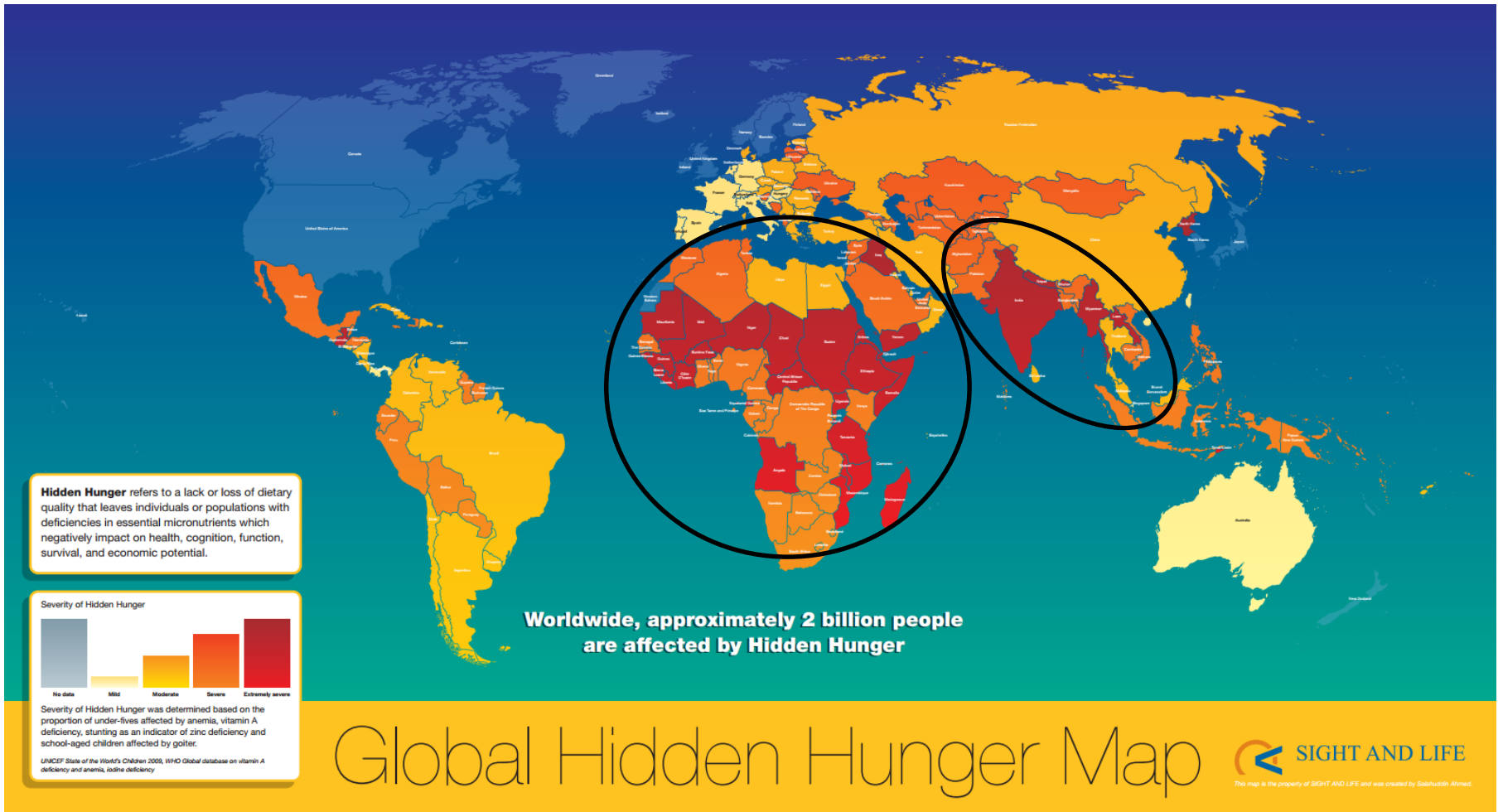
▶ **Micronutrient Malnutrition:** Deficiencies in essential vitamins and minerals required in small amounts by the body including :

- Iron
- Vitamin A
- Iodine
- Zinc
- Folic Acid

▶ **Deficiencies caused by:**

- Insufficient, poor or unvaried diets
- Losses or poor absorption (due to infections like HIV/AIDS, malaria, diarrhea and parasites)

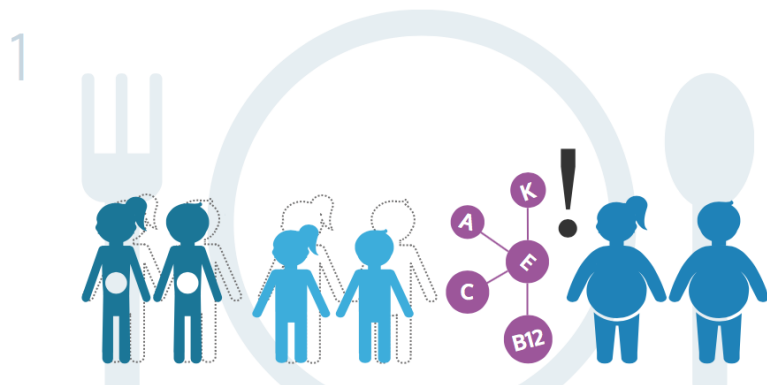
GLOBAL HIDDEN HUNGER: FACTS AND FIGURES



Source: World: Global Hidden Hunger Map (as of 28 Jan 2010) [Internet]. Sight and Life; 28 Jan 2010. Available from: <http://reliefweb.int/map/world/world-global-hidden-hunger-map-28-jan-2010>

WHO: DOUBLE BURDEN OF MALNUTRITION

The double burden of malnutrition is characterised by the co-existence of:



Undernutrition (wasting, stunting & micronutrient deficiencies) along with overweight and obesity

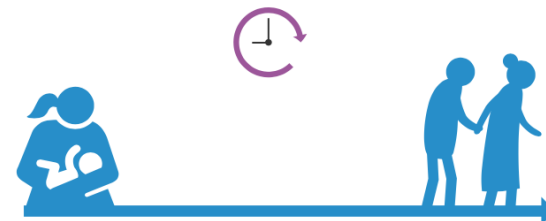


and diet-related noncommunicable diseases

3 within individuals, households and populations

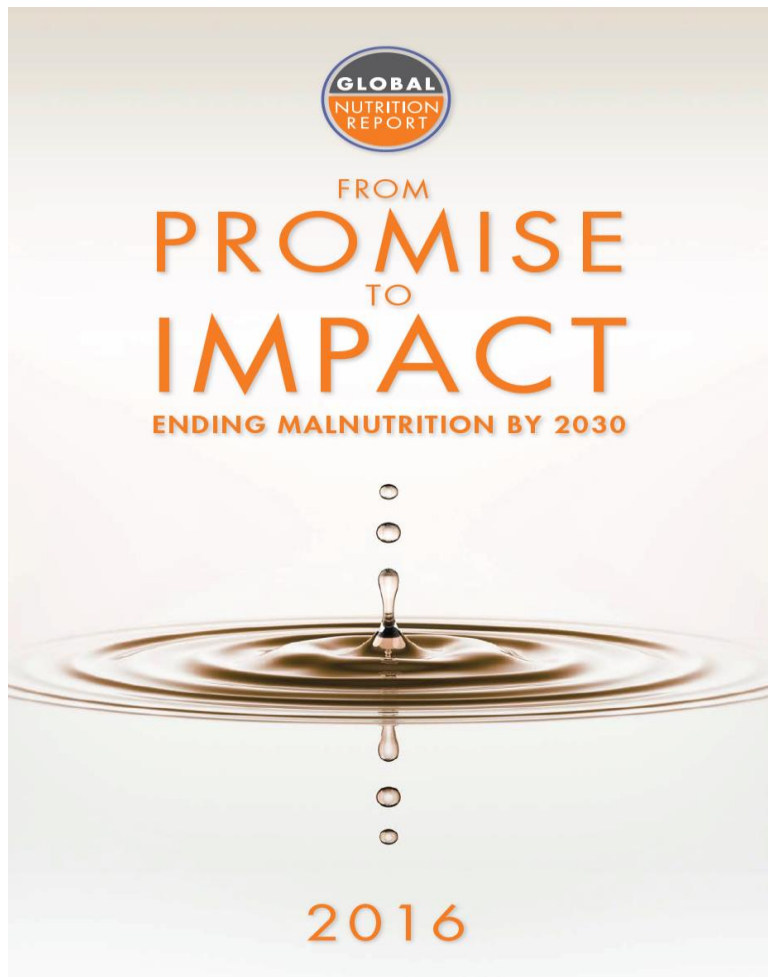


4 throughout life



GLOBAL NUTRITION REPORT

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The New Norm of Malnutrition:

Obesity and NCDs are on the rise alongside undernutrition

Every country has a nutrition problem

- Over-nutrition
- Undernutrition
- Micronutrient deficiencies
- Non-communicable diseases

WHERE ?

MALNUTRITION AFFECTS ALL REGIONS **WORLDWIDE**

1.9 BILLION
ADULTS, 18 years and
older, are overweight

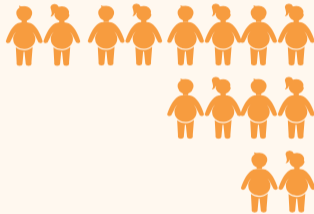
264 MILLION
WOMEN of reproduc-
tive age are affected by
iron-amenable anaemia

ACROSS THE GLOBE

462 MILLION
ADULTS are underweight

>600 MILLION
of these are OBESE

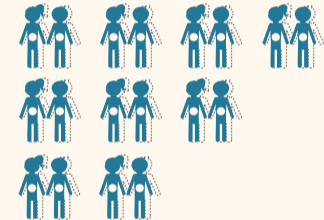
41 MILLION
children under the age of
5 years are overweight or obese



155 MILLION
children are stunted
(too short for age)



52 MILLION
children are wasted
(too thin for height)



Every country has a problem!

OBESITY AND NON-COMMUNICABLE DISEASES

**OBESITY IS NOW A
GLOBAL EPIDEMIC!**



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- Diabetes Type II
- Cardiovascular Diseases

PLENTINESS - CHOICES



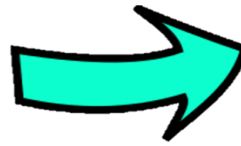
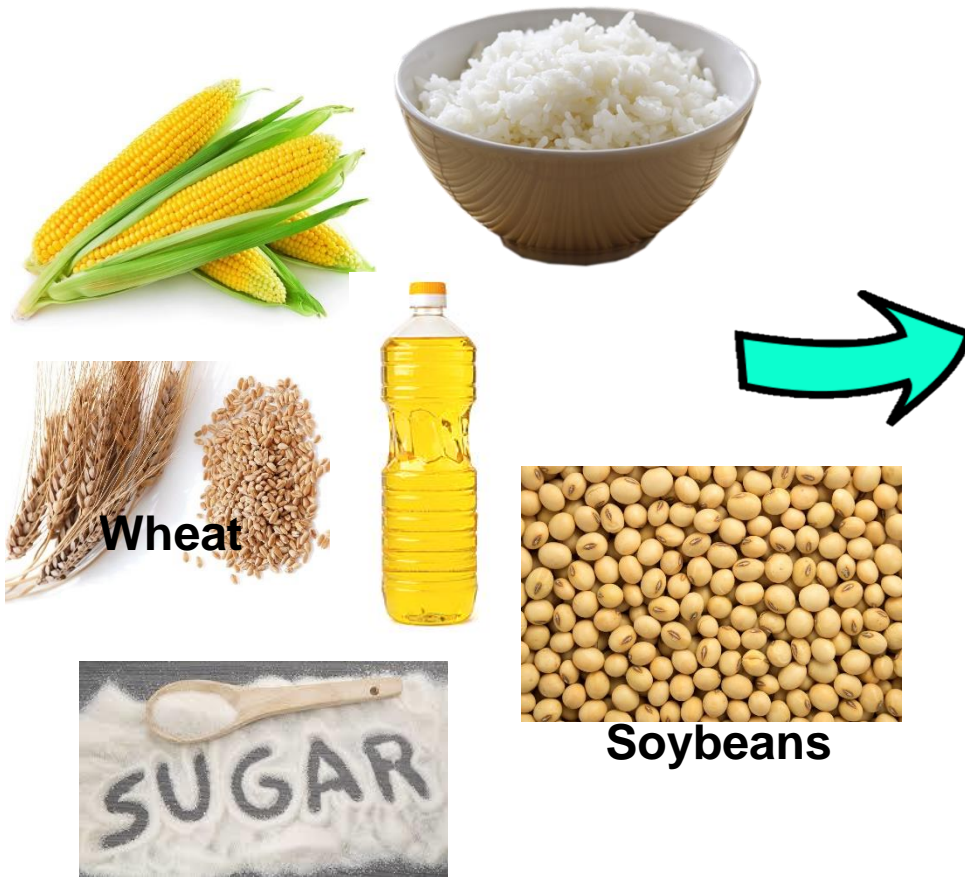
© What I Eat: Around the World in 80 Diets

Germany: The Melander family from Bargteheide who spend around £320 on their weekly shop

CHALLENGE – TYPE OF FOOD



INCREASED RELIANCE ON LESSER FOODS TO MAKE THOUSANDS OF PRODUCTS




LOSS IN DIVERSITY

CHALLENGE OF CONVENIENCE FROM LOW TO ULTRA-PROCESSED FOOD


	White fish fillets	Fish fingers
Nutrients per 100g		
Price:	\$10-20/kg	\$16/kg*
Protein	18g	12.7g
Fat:	1g	8.7g
Sodium:	70mg	235mg

Fresh or defrosted



FISH

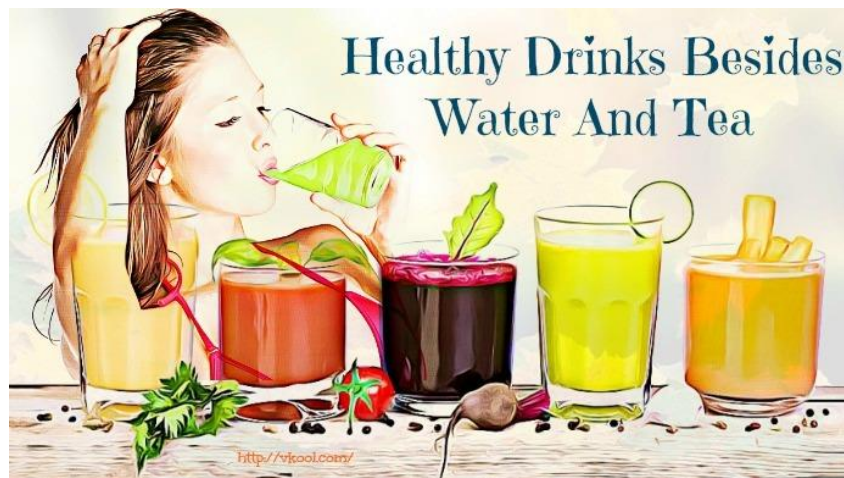
53% fish, plus 10 additives, including flour, oil, salt



*based on fish content, real price for the fish \$30.40/kg


CHALLENGE OF LIFE STYLE CHANGE - CHOICES

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CHALLENGE OF SOCIAL MEDIA INFLUENCE ON DIET

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~~What's healthy?~~

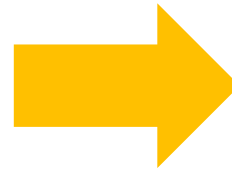
What's healthy, tasty and attractive

CHALLENGE OF LIFESTYLE CHANGES RURAL-URBAN MIGRATION IN EMERGING COUNTRIES

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Trading farm work
Physical work
Burning calories



For sedentary occupations
Less physical work
Burning less calories

CHALLENGE OF CLEAN WATER - AVAILABILITY AND SOURCES



SUSTAINABILITY

Sustainable Diets

Sustainable Food Production

Affordable, accessible, available and aspirational nutritious foods

TAKE HOME MESSAGE

The journey of malnutrition and my professional career has been a journey of witnessing:

- inequalities, scarcity, excess, poverty, richness,
- food innovation, better understanding of malnutrition
- global efforts and initiatives to document the burden of malnutrition
- policies to address malnutrition
- Innovative multiple-stakeholder partnerships

Thank You

Q&A

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BASE OF THE PYRAMID MARKET POTENTIAL

