4TH REPORT ON THE
WORLD NUTRITION SITUATION
January 2000

UN Administrative Committee on Coordination / Sub-Committee on Nutrition (ACC/SCN)*, In collaboration with International Food Policy Research Institute (IFPRI) / CGIAR**

*UN "focal point for harmonizing nutritional policies and strategies throughout UN system."
**Consultative Group on International Agricultural Research (16 world-wide centers: Rice, Wheat & Corn, Potatoes, etc) = Future Harvest centers (www.futureharvest.org)

4th Report … (Jan.’00)
“NUTRITION THROUGHOUT THE LIFE CYCLE”

Chap. 1. Deals with nutritional status of different age groups [observed aspects of Protein Energy Malnutrition (PEM) - not enough food].

FOETAL (FETAL) UNDERNUTRITION:
30 million infants born each year in developing countries with impaired growth…low birth weight.

STUNTING. estimated that 182-million pre-school children (33%) are stunted [-2 SD height-for-weight], or chronically undernourished (drop from 47% in 1980).
prevalence: Eastern Africa 48%
South Central Asia 44%
...1/2 of global problem

UNDERWEIGHT [-2 SD weight-for-age]
due to chronic under-nutrition, or “wasting”, or both...
prevalence: 27% of pre-school children in developing countries:
South Central Asia 44% (79 million), Western and Eastern Africa 37%, but “situation is deteriorating”

SCHOOL-AGE CHILDREN
(information difficult to find)
Stunting common in school-age children - Latin American Survey’s:
1/3 of children; highest Peru, Guatemala 50%

ADULTS. Both under- & over-nutrition (African, Caribbean, Latin America “25%” ...(in general, information scarce…)

IRON DEFICIENCY: 3.5 BILLION people:
blood disorder = anaemia /anemia (hemoglobin is Fe containing), due to both Fe deficiency and/or non-dietary causes – infectious and parasitic diseases.
…also common with other nutrient deficiencies (folate, B12, Cu, Zn…)

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<tr>
<td>pregnant women</td>
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<td>school-age children</td>
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<td>older adults</td>
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<td>men</td>
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IRON DEFICIENCY ANAEMIA:
Region | Incidence (%)
--- | ---
SE Asia (India, Sri Lanka...) | 68
Africa (Sub-Sahara) | 44
W. Pacific (China, Phil.) | 25
Americas (not US, Can.) | 20

Foods: rich in meats, but iron bioavailability problem in plants; prevention through fortification of food staples (flour) ...possible "corrections" with GM plants.

Summary: understanding consequences and knowledge of what to do has advanced significantly, but how to do it on a large scale...still limited. Education/Research...urgently required.

IODINE DEFICIENCY DISORDERS (IDD'S)

Deficiency of hormone thyroxine (I₂ containing), controls animals basal metabolism.

**Goitre / goiter**: thyroid enlargement; can develop in foetal state (due to mother's diet) resulting in impaired brain development-"endemic cretinism" impaired mental / physical development.

"...the most common cause of preventable mental impairment worldwide."

Soils and resultant foods - can be iodine deficient (problem with high-altitude soils)

Some plants goitrogenic (goiter causing) i.e. cassava.

Prevention: iodine fortification (iodized salt)

...scale of global problem is immense...

...740 million =goitre, 2 billion at risk, but prevalence decreasing /... elimination??

METHODS USED TO COMBAT VITAMIN A DEFICIENCY (VAD):

National Immunization Days (NADS).

In 1998, NIDS-Vit.A "benefited more than 24 million at-risk children...conducted in 88% of countries where VAD was moderate to severe." (by UNICEF, WHO, NGO's etc)

...but once a year program limiting - as children need to receive supplements at least twice-a-year.

SUGGESTED:

"...improved availability of Vitamin A-rich foods...but recent findings indicate bioconversion of pro-Vit. A in dark green vegetables less than ¼ than previously thought.

...possible genetic modification of staple foods..."
4th Report... (Jan.'00) Other Chapters:

BREASTFEEDING “rates very high in developing countries (95%); helped by international / national efforts (Int. Code of Marketing Breastmilk Substitutes).”

“NUTRITION AND HUMAN DEVELOPMENT” (education) “...crucial contribution of good nutrition to human development.”

“...growing dissatisfaction with an exclusive reliance on economic growth as a means to improved human welfare. ...challenge now is to operationalize the principles of human rights in nutrition programming.”

REFUGEES AND DISPLACED PEOPLES (DP’S). ... at end of ’98 there were 12 million refugees and 20 million dp’s. Level of “wasting” in Angola dp’s = 20%, but with Balkans dp’s no increase. why? huge imbalance in aid / assistance given (europe vs. africa).

SUMMARY: ENDEMIC NUTRITIONAL DISEASES.
(specific malnutrition conditions - particularly in developing countries).

PROTEIN ENERGY MALNUTRITION (PEM) –not enough food. extreme: Marasmus (wasting), Kwashiorkor (edema).


PANDEMIC MICRONUTRIENT DEFICIENCIES:
Iron deficiency anemia -(3.5 billion people), Iodine deficiency disorders - (decreasing, use of I salt), Vitamin A deficiency – (250 million pre-school children +)

NIACIN (B-VITAMIN). chemical isolated in 1897 (nicotinic acid) but function only identified in 1937 as anti-pellagra vitamin.

Pellagra appeared in Southern Europe as endemic disease after 16th century. Identified of dietary origin in Southern U.S. (corn/maize) in 1920’s ...1937 discovery of curative role of niacin. Why Native Americans did not develop pellagra was answered in 1981, when alkaline-treatment of maize shown to release bound-niacin.

no longer considered endemic, disease still exists, related to poverty (corn/maize staple food), and sometimes alcohol abuse.

CURRENT MICRONUTRIENT RESEARCH
ZINC. Required microelement is component of over 60 enzyme systems
Human deficiency symptoms only recently recognized. [IFPRI, 1995. Zn absorption enhanced in presence of animal-source protein and diminished by the presence of phytate in seeds [milling and refining of cereals reduces content of phytate] Possible combined Fe/Zn deficiency...


………………continuing nutrition research…………….