

Appendix F. Annotated Bibliography

prepared by Jessica Graef, Food Aid Management
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This bibliography represents a sample of the resources on micronutrient interventions, fortification, supplementation, and nutrition in emergencies that are available at Food Aid Management's (FAM) Food Security Resource Center (FSRC). This bibliography is divided into the following separate subtopic areas:

- fortification of cereal commodities
- fortification of non-grain commodities
- food fortification in relief/refugee settings
- specialty foods
- operational issues/programming
- nutrition in emergencies
- agricultural approaches to address micronutrient malnutrition
- supplementation.

As many of the resources address several of these issues, some documents are listed under multiple sections. Workshop participants and other interested parties are encouraged to contact or visit the FSRC to make use of these resources.

FORTIFICATION OF CEREAL COMMODITIES

Enhancing the nutritional quality of relief diets: Overview of knowledge and experience. April 1999. Hansch, Steve. 48p.

Prepared for Enhancing the Nutritional Quality of Relief Diets workshop (April 28-30, 1999, Washington, DC), provides background information on: malnutrition in emergencies; humanitarian relief standards for nutrition; approaches to addressing malnutrition in emergencies; use of fresh foods and supplementation; donor country measures to process foods; in-theater fortification and enrichment methods; comparison of food vehicles used; inputs necessary for in-country fortification; IEC, agriculture, and other interventions; and problems associated with vitamin C. Discusses fortification of the following commodities: grain, flour, CSB, WSB, biscuits, oil, and sugar.

Field exchange. Special focus: Micronutrients. October 1998, *Field Exchange*, Issue 5. *Emergency Nutrition Network*. 27p. FSRC #5769.

Focuses on micronutrients. Includes in addition to a wide range of articles on emergency feeding programs sections on micronutrient deficiency diseases among Bhutanese refugees in Nepal and various strategies to address micronutrient deficiencies during emergency situations. Discusses vitamin C fortification of CSB as well as a WFP program examining in-country capacity for food fortification.

Small scale mills fortification concept paper in Malawi for pilot project. 12p. FSRC #7623.

Outlines justification and strategies for small-scale maize flour fortification milling in Malawi. Discusses micronutrient deficiencies in Malawi. Outlines methodology of the pilot project, describes premix composition, and presents budget information.

Production of pre-cooked fortified blended foods in Kenya: A success story. 1997. Göte, Hertz. August 1997 *Field Exchange*. 2p. FSRC #5769.

Discusses Kenya program that developed local production capacity for fortified pre-cooked blended food. The operation has handled millet, wheat, maize, and soya flour and has produced UNIMIX and high protein biscuits. Discusses output, uses, and packaging of the blended food and challenges faced by the factory.

Fortification of foods for refugee feeding. Final report to the Canadian International Development Agency. 1995. 113p. Beaton, G.H. FSRC #5552.

Considers role and specifications of fortified foods, existing and potential. Studies nutritional inadequacies of refugee diets and presents strategies to address these deficiencies. Discusses supplementation, fortification of the staple cereal, and promotion of gardens. Considers effectiveness and cost issues, and argues strongly for fortification of staple cereal rather than reliance on blended foods to supply micronutrients for refugee populations.

Fortification of foods for refugee feeding. Technical background report: Derivations and analyses. Report to the Canadian International Development Agency. 1995. Beaton, G.H. 79p. FSRC #5553.

Provides “supporting technical details” for Fortification of Foods for Refugee Feeding report (see FSRC #5552). Explains derivation of reference nutrient density profiles. Compares fortification and blended foods. Tests use of supplements in non-refugee population. Discusses food composition data used in calculations.

Forum on iron fortification: Forum proceedings. Institute of Food Technologists annual meeting, June 21, 1997, Atlanta, Georgia. 1999. SUSTAIN. 55p.

Presents “current state of understanding of iron fortification” and outlines developments in the area of iron fortification. Includes overview of iron deficiency, fortification methods, bioavailability, absorption, and Iron EDTA. Among other items, discusses fortification of wheat flour food and infant cereals. Available at http://www.sustaintech.org/publications_frameset.html.

Fortification of corn masa flour with iron and/or other nutrients: A literature and industry experience review. 1997. SUSTAIN; Bressani, Ricardo; Rooney, Lloyd; Serna Saldivar, Sergio O. [170]p.

Examines fortification of nixtamalized corn flour (NCF) with iron. Discusses nutritional quality of NCF, lime-treated corn flour, micronutrient fortification of NCF, fortification of flours and other cereal-based products, and fortification and enrichment of corn tortillas.

Workshop on quality control and assurance in milling and fortification of corn masa flour, San Salvador, El Salvador, March 16-17, 1998. 1998. SUSTAIN; McFarlin, Keith; Lopez, Ximena. [70]p.

Outlines workshop on quality control and assurance in milling and fortification. Focuses on nutrition and fortification issues relevant to industry and public sector participants.

Iron fortification of flour in the Middle East region. 1998. *SUSTAIN*; Varchaver, Catherine. [60]p.

Provides information on 1998 flour fortification. Presents background on iron deficiency and iron fortification issues, covering fortification versus supplementation and nutrition education. Outlines programming opportunities.

Peru trip report, September 19-26, 1998. SUSTAIN Micronutrient Assessment Program. 1998. Schlossman, Nina P.; Ranum, Peter; Soria, Andreina. [60]p.

Reports on study of vitamin A content of samples of P.L. 480 Title II bulgur and wheat flour. Includes suggestions on how to revise the Commodities Reference Guide and provides information for effort to fortify P.L. 480 vegetable oil.

International workshop on micronutrient enhancement of rice, September 2 & 3, 1998, Stuttgart, Arkansas. 1998. *University of Arkansas; Micronutrient Initiative; SUSTAIN; ILSI; OMNI.* [80]p.

Summarizes workshop with the following objectives: discuss current rice fortification and enhancement technologies; promote better understanding of rice fortification and micronutrient enhancement technologies; and recommend follow-up activities to address micronutrient deficiencies through rice fortification and biotechnology. Panel sessions focus on plant breeding and biotechnology, status of rice fortification technology and program implementation, processing and marketing of rice, and policy and regulatory considerations for rice fortification.

PANamericano 1997 meeting: Growing the flour-based foods market in Latin America, Mexico, March 16-17, 1997. 1997. *SUSTAIN*; Ranum, Peter. [35]p.

Reports on conference for executives from Latin American flour, milling, baking, and other food industries to discuss "how their companies can benefit from and further stimulate increasing consumer demand for these foods." Includes discussion of USAID and SUSTAIN activities in fortification of milled cereal products with iron.

Russia flour enrichment assessment, June 29-July 10, 1998, Trip report. 1998. *SUSTAIN*; Gies, Bob. [40]p.

Reports on feasibility assessment tour for fortification in flourmills and bakeries in various regions of Russia, feasibility of flour enrichment, and outcomes of meetings with industry representatives in Russia.

Workshop: The problem of micronutrient malnutrition in the Russian Federation, Moscow, Russia, June 25-July 2, 1997. 1997. *SUSTAIN*; Ranum, Peter; Turner, Liz; Yeung, David. [45]p.

Presents summary of workshop on "Russian action plans to address micronutrient deficiencies relating to maternal and child health." Covers scientific, technical, regulatory, and policy issues. Presentations include discussion of iron fortification of bread flour.

MICAH matters. 1999. V.4, no. 1. *Micronutrient and Health (MICAH). World Vision Canada.* 4p. FSRC #7615.

Includes brief articles on training workshops, small-scale fortification of flour and maize blending systems, vegetable gardening, literacy programs, water and sanitation, and country updates.

Micronutrient fortification and enrichment of P.L. 480 Title II commodities: Recommendations for improvement. *Opportunities for Micronutrient Interventions (OMNI).* 1994. 70p. FSRC #7228.

Examines various options for micronutrient fortification of USAID food aid commodities (mainly CSB and WSB). Includes technical information about past and current enrichment and fortification practices, quality assurance of fortified commodities, product and fortificant stability, and appropriate and safe levels of fortification. Presents recommendations to improve micronutrient content of P.L. 480 Title II commodities.

Micronutrient deficiencies in Latin America and the Caribbean: Vitamins. *Mora, Jose O.; Mora, Olga L. PAHO/WHO; USAID; Roche; OMNI. 41p.*

Provides overview of micronutrient deficiencies in Latin America and the Caribbean, specifically focusing on vitamins. Discusses supplementation and food fortification (sugar, wheat and corn flour, milk, rice, vegetable oil, margarine, and infant cereals). Includes both English and Spanish language text.

Food fortification in developing countries. *Nestel, Penelope; USAID. 45p.*

Reviews literature on food fortification with vitamin A, iron, and iodine. Examines determination of fortification levels, issues involved in fortification activities, quality control, monitoring and evaluation of fortification programs, economic issues, and political and legal considerations. Discusses fortification of sugar, wheat flour, corn flour, rice, maize meal, salt, milk, biscuits, and condiments.

Requirements for effective fortification in food aid programmes. *1995. Dexter, Patricia. FAO Technical Consultation, Food Fortification: Technology and Quality Control, Rome, Italy, 20-23 November 1995. 19p. FSRC #7635.*

Examines "requirements for effective fortification for food aid programs." Considers existing fortification of food aid activities (blended foods, processed cereal, vegetable oil, high protein biscuits, dried skim milk powder, salt, whole grains). Discusses cost and nutritional impact issues, quality assurance, criteria for fortification of food aid, limiting factors, and need for international guidelines.

Food fortification: Technology and quality control. *FAO Technical Consultation. Istituto Nazionale della Nutrizione, Rome, Italy, 20 to 23 November, 1995. 34p. FSRC #7598.*

Reports on consultation concerning food fortification. Includes summary of conclusions and recommendations as well as background information on food fortification. Contains sections on iodine, iron, and vitamin fortification technologies; legislation information; monitoring procedures; and fortification in food aid programs. Discusses fortification of salt, oils, and cereals. Available at www.fao.org/WAICENT/FAOINFO/ECONOMIC/ESN/fortify/fortify.htm.

Food fortification to end micronutrient malnutrition: State of the art, Satellite conference of the XVIth International Congress of Nutrition, Symposium report, August 2, 1997, Montreal, Canada. *1998. Micronutrient Initiative. 113p. FSRC #7402.*

Reports from symposium on fortification. Includes sections on fortification of oils, fats, margarine, dairy products, milled grains and cereal products (wheat flour, corn flour, noodles, and rice), and condiments.

Vitamin C fortification of food aid commodities. *1997. Institute of Medicine; Committee on International Nutrition; Food and Nutrition Board. 87p. FSRC #7165.*

Discusses cost-effectiveness of scaling up vitamin C fortification in Title II commodities, mainly CSB and WSB, to improve recipients' diet, nutrition and health. Makes recommendations concerning its advisability, discusses alternative mechanisms for providing vitamin C to refugee populations at risk for deficiencies, and identifies areas in which additional research is needed.

SUSTAIN results report on the vitamin C pilot program. 1997. *SUSTAIN; Ranum, Peter; Chomé, Françoise.* 154p. FSRC #6883.

Contains results of USAID Vitamin C Pilot Program for use by USAID in consultation with National Academy of Sciences to determine appropriate vitamin C fortification levels in food commodities used in U.S. food aid programs. Focuses on two commodities provided in Tanzania and Haiti, CSB and WSB, that were fortified with higher levels of vitamin C.

Report of a technical review of vitamin C and iron levels in P.L. 480 Title II commodities. 1990. *USAID.* 20p. FSRC #401.

Reports from panel formed to investigate increased fortification of Title II commodities. Recommended actions include increased iron fortification, maintenance of current level of vitamin C, and investigation of alternate delivery systems due to stability problems.

Iron EDTA for food fortification. 1998. *International Nutritional Anemia Consultative Group.* 54p. FSRC #7631.

Reports on use of sodium iron ethylenediaminetetraacetic acid (NaFeEDTA) in food fortification. Covers physical properties and physiological effects of ethylenediaminetetraacetic acid (EDTA), studies of effects of NaFeEDTA on human iron absorption, and results of field trials of NaFeEDTA (using sugar and condiments). Discusses steps in developing an iron fortification strategy, choosing a vehicle for iron fortification, and use of NaFeEDTA in wheat flour and other cereals.

Interagency meeting: Iron fortification in the Americas. March 1998. *Pan American Health Organization (PAHO).* 9p. FSRC #7597.

Reports on March 1998 workshop on iron fortification programs. Provides background information on iron deficiency and its prevention and control. Includes discussion of quality assurance and epidemiological surveillance. Examines premix and compound strategies. Includes consensus points, research priorities, and discussion items. Available at www.paho.org/english/hpp/hpn9803.htm.

Early response to the effect of iron fortification in the Venezuelan population. December 1996. *Layrisse, Miguel; Chaves, José Félix; Mendez-Castellano, Hernán; Bosch, Virgilio; Tropper, Eleonora; Bastardo, Betsi; González, Eglis.* *The American Journal of Clinical Nutrition* (vol. 64, no. 6). 903-7. FSRC #7399.

Reports results of preliminary survey of sample of children aged 7, 11, and 15 in Caracas in 1994. Shows that prevalence of iron deficiency and prevalence of anemia were reduced as a result of an iron fortification program under which precooked yellow and white maize and wheat flours were enriched.

Iron interventions for child survival. 1995. *Nestel, Penelope (ed.). USAID; OMNI; ICH.* 170p. Summarizes proceedings of London workshop organized by USAID/OMNI and Institute for Child Health on reducing and controlling iron deficiency anemia in infants and young children. Discusses fortification of foods (cereal flours, beverages, and milk) and supplementation.

Use of food aid in locally processed infant foods: Sustainable approach to reduce hunger. 1994. *Huffman, Sandra; Nurture/Center to Prevent Childhood Malnutrition.* 8p. FSRC #1039. Urges availability of processed fortified instant cereals through U.S. food aid program.

Musaga child nutrition, final report. 1987. *Catholic Relief Services/Burundi*. 42p. FSRC #7620.

Reports on use of Musalac weaning food among children in Musaga, Burundi. Discusses local acceptance of Musalac, nutritional values, pricing information, packaging, storage and milling information, and project goals. Includes progress report.

Acceptability and use of cereal-based foods in refugee camps: Case-studies from Nepal, Ethiopia, and Tanzania. 1998. Mears, Catherine and Young, Helen. *Oxfam Working Paper*. 135p. FSRC #7139.

Reports on nutritional study commissioned by Micronutrient Initiative on use and acceptability of cereal-based foods in refugee camps, as well as opportunities for fortification of cereals with micronutrients at household level. Case studies conducted in refugee camps in areas with histories of acute malnutrition and micronutrient deficiencies in Nepal, Ethiopia, and Tanzania.

Approaches to the micronutrient fortification of food for displaced populations in Africa: Project report. 1998. *Micronutrient Initiative*. 27p. FSRC #7415.

Reports on Refugee Policy Group mission to East Africa under contract by Micronutrient Initiative, to “examine how food aid for refugees and other emergency-affected populations could be fortified using in-country processes.” Examines fortification of cereals, primarily wheat and maize. Outlines findings and recommendations. Discusses local commercial millers and food processing capacity; stability of food aid; and role of NGOs, Red Cross, WFP, UNICEF, and UNHCR.

Fortification of foods for refugee feeding: An idea whose time has come? July 1997. *Micronutrient Initiative*. 6p. FSRC #7611.

Focuses on fortification of food for refugee feeding activities. Summarizes 1995 George Beaton report on topic. Discusses ways to fortify refugee foods, strategic approach, fortification of cereals, research and information needs, and Micronutrient Initiative activities in this area.

Provision of blended foods and high energy biscuits in the Great Lakes Region. Mission report (1st draft), 23 January - 26 February, 1998. Merx, Richard J.H.M. *World Food Programme*. 48p. FSRC #7617.

Reports on consultancy to “identify options for cost effective production for WFP of high-energy biscuits and blended food school meals in the Great Lakes Region.” Includes pre-assessment of regional “WFP lunch box concept.” Presents situation analysis. Discusses formulas, nutritive values, and production process for blended foods and high energy biscuits. Considers capacity requirements for UNIMIX and HEB production. Examines project feasibility and sustainability.

Fortification basics: Wheat flour. OMNI; Roche; USAID. FSRC #6882.

Describes nutritional qualities of wheat flour. Notes wheat fortification process, i.e., vitamins added, techniques used to add nutrients, costs, and impact on public health.

Fortification basics: Principles of assay procedures. OMNI/Roche/USAID. 4p.

Briefly describes different laboratory methods to analyze various micronutrients added to foods (vitamins A, B-complex, C, D, E, iron, and iodine).

Fortification basics: Maize flour/meal. MOST/Roche/USAID. 4p.

Presents information on fortification of maize flour/meal. Includes sections on fortification criteria, technology, stability of micronutrients, quality control, costs, legislation, and examples of interventions.

Fortification of wheat flour with vitamin A: Update. 1998. *USAID; UNICEF; OMNI Project/John Snow Inc.* 16p. FSRC #7221.

Discusses technology and issues related to stability of vitamin A, sensory characteristics, quality assurance and control, and cost of wheat flour fortified with vitamin A and other micronutrients.

Sri Lanka trip report: Fortification of wheat flour with vitamins and minerals. 1990. *Crowley, Paul R.; USDA.* [50]p. FSRC #2126.

Reports on trip to examine feasibility of fortification of Sri Lanka-milled wheat flour with vitamins and minerals. Discusses impact of fortification on wheat market in Sri Lanka.

Rice fortification for developing countries. 1998.

Provides overview of importance of rice as a staple food and food vehicle for fortification in countries where populations suffer from micronutrient deficiencies. Discusses available technology, current fortification practices, and limitations and opportunities for rice fortification.

Global directory of commercial manufacturers of micronutrient premixes and supplements. First edition. December 1997. *Micronutrient Initiative.* FSRC #7467.

Lists manufacturers worldwide that formulate and produce micronutrient premixes and supplements “that meet recognized international standards for production manufacture, quality assurance and use.” Includes background information on micronutrients and names of manufacturers of such fortified foods as salt, sugar, cereals and other flour products, and milk. Available on the Micronutrient Initiative website at <http://www.idrc.ca/mi/index.html>.

On order:

Micronutrient Assessment Project final report. *Forthcoming, September 1999. SUSTAIN.*

Reports on Micronutrient Assessment Project (MAP) three-year study to “determine the level of micronutrients in the fortified food commodities provided in the United States (U.S.) P.L.480 food assistance program which reaches the mothers, children, and refugees targeted by emergency and development feeding programs in developing countries.” Lists recommendations for improvements of U.S. food aid program as related to micronutrients.

Thiamine deficiency and its prevention and control in major emergencies. *WHO.*

Provides guidelines on assessment and prevention. Discusses several means of increasing intake of thiamin in an emergency situation, including fortification of wheat flour, corn meal, and salt.

Workshop on small scale milling. 1999. *The Micronutrient Initiative. Draft.*

Outlines proceedings from June 1998 Ottawa workshop on small-scale fortification. Small workshop (approximately 12 people) attended by representatives of NGOs planning and/or implementing fortification programs in small-scale settings such as refugee camps, or at community/household level, as well as representatives from donor agencies, nutrition specialists, and fortification and food technologists. Highlights issues discussed and available technology for small-scale fortification.

Technical manual on flour fortification. 1999. *MI/OMNI/USAID. In preparation.*

Under development, plans to outline in three-volumes milling practices, fortification procedures, selection of fortificants, equipment requirements, quality control procedures, and program development.

FORTIFICATION OF NON-GRAIN COMMODITIES

Fortification basics: Sugar. *OMNI/Roche/USAID. 4p.*

Provides information on rationale, fortification criteria, required technology, quality control, and cost associated with sugar fortification. Includes premix composition data.

Manual for sugar fortification with vitamin A:

Guidelines for the development, implementation, monitoring and evaluation of vitamin A sugar fortification program. 1996. *Arroyave, Guillermo; Dary, Omar. 57p. FSRC #7222.*

Manual for sugar fortification with vitamin A: Technical and operational guidelines for preparing vitamin A premix and fortified sugar. 1996. *Dary, Omar; Arroyave, Guillermo. 41p. FSRC #7223.*

Manual for sugar fortification with vitamin A: Analytical methods for the control and evaluation of sugar fortification of vitamin A. 1996. *Dary, Omar; Arroyave, Guillermo; Flores, Hernando; Campos, Florisbela A.C.S.; Lins, Maria Helena C.B. 81p. FSRC #7224.*

Based on experiences in sugar fortification at Institute of Nutrition of Central America and Panama (INCAP), Part I describes why it is important to prevent and reduce vitamin A deficiency and how to establish such a program, and discusses existing strategies and basic elements. Part II covers general aspects of fortification process; manufacture of premix and procedures for adding premix to sugar; and detailed description of quality control. Part III (for laboratory personnel responsible for laboratory analyses) presents field and laboratory methods to estimate content of vitamin A in premix and fortified sugar. Gives details on how to determine retinol levels in biological samples.

Capacity of sugar fortification to combat vitamin A deficiency: Evidence from an ISO/PAMM survey. 1997. *International Sugar Organization. Market Evaluation Consumption and Statistics Committee(97)20. 13p. FSRC #7480.*

Examines fortification of sugar with vitamin A to prevent and control vitamin A deficiency. Discusses cost, review of existing programs, and regions of the world where fortification is feasible.

Forum on iron fortification: Forum proceedings. Institute of Food Technologists annual meeting, June 21, 1997, Atlanta, Georgia. 1999. *SUSTAIN. 55p.*

Presents "current state of understanding of iron fortification" and outlines developments in iron fortification. Provides overview of iron deficiency, fortification methods, bioavailability, absorption, and Iron EDTA. Includes discussion of iron fortification of liquid formula and condiments. Available at http://www.sustaintech.org/publications_frameset.html.

Iron EDTA for food fortification. 1998. *International Nutritional Anemia Consultative Group. 54p. FSRC #7631.*

Reports on use of sodium iron ethylenediaminetetraacetic acid (NaFeEDTA) in food fortification. Covers physical properties and physiological effects of ethylenediaminetetraacetic acid (EDTA), studies of effects of NaFeEDTA on human iron absorption, and results of field trials of NaFeEDTA (using sugar and condiments). Discusses steps in developing an iron fortification strategy, choosing a vehicle for iron fortification, and use of NaFeEDTA in wheat flour and other cereals.

Micronutrient deficiencies in Latin America and the Caribbean: Vitamins. Mora, Jose O.; Mora, Olga L. PAHO/WHO; USAID; Roche; OMNI. 41p.

Provides overview of micronutrient deficiencies in Latin America and the Caribbean, specifically focusing on vitamins. Discusses supplementation and food fortification (sugar, wheat and corn flour, milk, rice, vegetable oil, margarine, and infant cereals). Includes both English and Spanish language text.

Fortified foods contribute one half of recommended vitamin A intake in poor urban Guatemalan toddlers. 1998. Krause, Vivian M.; Delisle, Helene; Solomons, Noel W. *Journal of Nutrition*, vol. 128, no. 5. pp. 860-864. FSRC #7599.

Reports on study of vitamin A intake from food sources among children in two poor communities in Guatemala City, showing that fortified foods (fortified sugar, Incaparina, and margarine) are important non-breast milk food sources for vitamin A intake in this sample.

Food fortification in developing countries. Nestel, Penelope; USAID. 45p.

Reviews literature on food fortification with vitamin A, iron, and iodine. Examines determination of fortification levels, issues involved in fortification activities, quality control, monitoring and evaluation of fortification programs, economic issues, and political and legal considerations. Discusses fortification of sugar, wheat flour, corn flour, rice, maize meal, salt, milk, biscuits, and condiments.

Micronutrient deficiencies in Latin America and the Caribbean: Iodine, calcium, and zinc. Mora, Jose O.; Mora, Olga L. PAHO/WHO; USAID; Roche; OMNI. 33p.

Provides overview of micronutrient deficiencies in Latin America and the Caribbean. Focuses on iodine, calcium, and zinc. Discusses salt iodization and zinc supplementation. Includes both English and Spanish language text.

Sustaining elimination of iodine deficiency disorders in South Asia. 1997. Pandav, Chandrakant S. *Malnutrition in South Asia: A regional profile*. UNICEF, Regional Office for South Asia. ROSA Publication No. 5. 189p. FSRC #6893.

Examines Iodine Deficiency Disorders (IDD) in South Asia and discusses iodized salt activities.

Quality assurance workshop for salt iodization programs. October 1996. OMNI; PAMM; USAID; UNICEF; MI. 43p. FSRC #7206.

Summarizes workshop on improving quality assurance systems for salt iodization programs. Covers salt production, processing, and iodization; packaging and labeling; wholesale and retail level quality assurance; standards and enforcement; laboratory analyses and salt test kits; and policy and program issues.

Requirements for effective fortification in food aid programmes. 1995. Dexter, Patricia. *FAO Technical Consultation, Food Fortification: Technology and Quality Control, Rome, Italy, 20-23 November 1995*. 19p. FSRC #7635.

Examines "requirements for effective fortification for food aid programs." Considers existing fortification of food aid activities (blended foods, processed cereal, vegetable oil, high protein biscuits, dried skim milk powder, salt, whole grains). Discusses cost and nutritional impact issues, quality assurance, criteria for fortification of food aid, limiting factors, and need for international guidelines.

Food fortification: Technology and quality control. *FAO Technical Consultation. Istituto Nazionale della Nutrizione, Rome, Italy, 20 to 23 November, 1995*. 34p. FSRC #7598.

Reports on consultation concerning food fortification. Includes summary of conclusions and recommendations as well as background information on food fortification. Contains sections on iodine, iron, and vitamin fortification technologies; legislation information; monitoring procedures; and fortification in food aid programs. Discusses fortification of salt, oils, and cereals. Available at www.fao.org/WAICENT/FAOINFO/ECONOMIC/ESN/fortify/fortify.htm.

Fortification basics: Oils and margarine. *OMNI/Roche/USAID. 4p.*

Describes nutritional qualities of oils and fats, fortification criteria, technology available, stability issues of micronutrients used to fortify, acceptability of fortified margarine and oil products, quality control, costs of fortification, legislation necessary, and history of successful interventions using fortified fats.

Vitamin A fortification of PL480 vegetable oil. *1998. SUSTAIN. 54p. #7348.*

Examines vitamin A fortification of P.L. 480 vegetable oil. Report “suggests that distribution of fortified P.L. 480 vegetable oil could significantly reduce the rate of childhood blindness as well as the morbidity of mortality rates stemming from common childhood infections.” Provides technical analysis of fortification studies and offers recommendations. Discusses safety and technology issues.

Food fortification to end micronutrient malnutrition: State of the art, Satellite conference of the XVth International Congress of Nutrition, Symposium report, August 2, 1997, Montreal, Canada. *1998. Micronutrient Initiative. 113p. FSRC #7402.*

Reports on symposium on fortification. Includes sections on fortification of oils, fats, margarine, dairy products, milled grains and cereal products (wheat flour, corn flour, noodles, and rice), and condiments.

Iron interventions for child survival. *1995. Nestel, Penelope (ed.). USAID; OMNI; ICH. 170p.*

Outlines proceedings of London workshop organized by USAID/OMNI and Institute for Child Health on efforts to reduce and control iron deficiency anemia in infants and young children. Discusses fortification of foods (cereal flours, beverages, and milk) and supplementation.

Influence of ascorbic acid on iron absorption from an iron-fortified, chocolate-flavored milk drink in Jamaican children. *May 1998. Davidsson, Lena; Walczyk, Thomas; Morris, Audrey; Hurrell, Richard F. The American Journal of Clinical Nutrition (vol. 67, no. 5). 873-7. FSRC #7398.*

Reports on evaluation of influence of ascorbic acid on iron absorption from an iron-fortified, chocolate-flavored milk drink in 6- and 7-year-old Jamaican children. Finds iron absorption significantly greater with addition of ascorbic acid and concludes that regular consumption of iron-fortified chocolate milk drinks containing added ascorbic acid could have positive effect on iron nutrition in population groups vulnerable to iron deficiency.

Effects of iron fortification in a school feeding scheme and anthelmintic therapy on the iron status and growth of six- to eight-year-old schoolchildren. *March 1996. Kruger, Marita; Badenhorst, Charl J.; Mansvelt, Erna P.G.; Laubscher, Jacoba A.; Benadé, A. J. Spinnler. Food and Nutrition Bulletin. Vol. 17, No. 1.*

Studies effect of iron fortification of soup (iron and vitamin C) in school feeding scheme and effect of anthelmintic therapy on haematological and iron status and growth in 6- to 8-year-old schoolchildren in South Africa.

Enhancing the nutritional quality of relief diets: Overview of knowledge and experience.

April 1999. Hansch, Steve. 48p.

Prepared for Enhancing the Nutritional Quality of Relief Diets workshop (April 28-30, 1999, Washington, DC), provides background information on malnutrition in emergencies; humanitarian relief standards for nutrition; approaches to addressing malnutrition in emergencies; use of fresh foods and supplementation; donor country measures to process foods; in-theater fortification and enrichment methods; comparison of food vehicles used; inputs necessary for in-country fortification; IEC, agriculture, and other interventions; and problems associated with vitamin C. Discusses fortification of grain, flour, CSB, WSB, biscuits, oil, and sugar.

Global directory of commercial manufacturers of micronutrient premixes and supplements.

First edition. *December 1997. Micronutrient Initiative. FSRC #7467.*

Lists manufacturers worldwide that formulate and produce micronutrient premixes and supplements “that meet recognized international standards for production manufacture, quality assurance and use.” Includes background information on micronutrients and manufacturers of such fortified foods as salt, sugar, cereals and other flour products, and milk. Available on Micronutrient Initiative website at <http://www.idrc.ca/mi/index.html>.

On order:

Thiamine deficiency and its prevention and control in major emergencies. WHO.

Provides guidelines on assessment and prevention. Discusses several means of increasing intake of thiamin in emergency situations, including fortification of wheat flour, corn meal, and salt.

An investment in the future: The fortification of staple foods with vitamin A. 1998. BASF Health and Nutrition. 11p.

Describes BASF vitamin A fortification of staple foods. Addresses problems of and solutions to vitamin A deficiency, describes BASF’s products for fortification (such as microencapsulated vitamin A), and covers technical issues involved in fortifying sugar, flour and oil with vitamin A.

The costs and effectiveness of three vitamin A interventions in Guatemala. 1996. Phillips M.; Sanghvi T.; Suarez R.; McKigney J.; Fiedler, J.. *Soc. Sci. Med.* 42 (12):1661-1668.

FOOD FORTIFICATION IN RELIEF/REFUGEE SETTINGS
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Fortification of foods for refugee feeding. Final report to the Canadian International Development Agency. 1995. 113p. Beaton, G.H. FSRC #5552.

Considers role and specifications of fortified foods, existing and potential. Studies nutritional inadequacies of refugee diets and presents strategies to address these deficiencies. Discusses supplementation, fortification of staple cereal, and promotion of gardens. Considers effectiveness and cost issues, and argues strongly for fortification of staple cereal rather than reliance on blended foods to supply micronutrients for refugee populations.

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and blended foods. Tests use of supplements in non-refugee population. Discusses food composition data used in calculations.

Preventing micronutrient deficiency diseases. 1994. Toole, Michael J. *Background document #2, Workshop on the Improvement of the Nutrition of Refugees and Displaced People in Africa, Machakos, Kenya, 5-7 December, 1994, ACC/SCN; UNHCR.*

Outlines micronutrient “basic emergency strategy” to provide minimum daily micronutrient requirements during first 6 months to a year of food assistance. Discusses common micronutrient deficiency problems and treatment options.

Acceptability and use of cereal-based foods in refugee camps: Case-studies from Nepal, Ethiopia, and Tanzania. 1998. Mears, Catherine and Young, Helen. *Oxfam Working Paper. 135p. FSRC #7139.*

Reports on nutritional study commissioned by Micronutrient Initiative on use and acceptability of cereal-based foods in refugee camps, as well as opportunities for fortification of cereals with micronutrients at household level. Case studies conducted in refugee camps in Nepal, Ethiopia, and Tanzania, in areas with histories of acute malnutrition and micronutrient deficiencies.

Approaches to the micronutrient fortification of food for displaced populations in Africa: Project report. 1998. *Micronutrient Initiative. 27p. FSRC #7415.*

Reports on Refugee Policy Group mission to East Africa under contract by Micronutrient Initiative to “examine how food aid for refugees and other emergency-affected populations could be fortified using in-country processes.” Examines fortification of cereals, primarily wheat and maize. Outlines findings and recommendations. Discusses local commercial millers and food processing capacity; stability of food aid; and role of NGOs, Red Cross, WFP, UNICEF, and UNHCR.

Fortification of foods for refugee feeding: An idea whose time has come? July 1997. *Micronutrient Initiative. 6p. FSRC #7611.*

Focuses on fortification of food for refugee feeding activities. Summarizes 1995 George Beaton report on topic. Discusses how to fortify refugee foods, strategic approach, fortification of cereals, research and information needs, and Micronutrient Initiative activities in this area.

Regulation of fortified foods to address micronutrient malnutrition: Legislation, regulations and enforcement, Manual. *Third edition. February 1999. Nathan, Rose. 70p.*

Serves “as a guide for governments wishing to ensure that their food laws and regulations contain adequate provisions for food fortification and related (e.g., enforcement) activities” and assists program managers in understanding regulatory provisions. Available at <http://www.sph.emory.edu/PAMM>.

Enhancing the nutritional quality of relief diets: Overview of knowledge and experience. April 1999. *Hansch, Steve. 48p.*

Prepared for Enhancing the Nutritional Quality of Relief Diets workshop (April 28-30, 1999, Washington, DC), provides background information on malnutrition in emergencies; humanitarian relief standards for nutrition; approaches to addressing malnutrition in emergencies; use of fresh foods and supplementation; donor country measures to process foods; in-theater fortification and enrichment methods; comparison of food vehicles used; inputs necessary for in-country fortification; IEC, agriculture, and other interventions; and problems associated with vitamin C. Discusses fortification of foods in refugee settings.

Field exchange. Special focus: Micronutrients. *October 1998, Field Exchange, Issue 5. Emergency Nutrition Network. 27p. FSRC #5769.*

Focuses on micronutrients. In addition to wide range of articles on emergency feeding programs, includes sections on micronutrient deficiency diseases among Bhutanese refugees in Nepal and various strategies to address micronutrient deficiencies during emergency situations. Discusses vitamin C fortification of CSB as well as WFP program examining in-country capacity for food fortification.

Nutritional issues in food aid: Papers from the ACC/SCN 19th Symposium. *August 1993. ACC/SCN Symposium Report, Nutrition Policy Discussion Paper No. 12. 97p. FSRC #1051.*

Discusses role of public works, supplementary feeding, and nutrition of refugees in food aid programming. Includes information on micronutrient deficiencies among refugees as well as strategies of food aid programs in addressing these issues. Considers food fortification option.

Vitamin C fortification of food aid commodities. *1997. Institute of Medicine; Committee on International Nutrition; Food and Nutrition Board. 87p. FSRC #7165.*

Discusses cost-effectiveness of scaling up vitamin C fortification in Title II commodities, mainly CSB and WSB, to improve recipients' diet, nutrition and health. Makes recommendations concerning its advisability, discusses alternative mechanisms for providing vitamin C to refugee populations at risk for deficiencies, and identifies areas for additional research.

SUSTAIN results report on the vitamin C pilot program. *1997. SUSTAIN; Ranum, Peter; Chomé, Françoise. 154p. FSRC #6883.*

Contains results of USAID Vitamin C Pilot Program for use by USAID in consultation with National Academy of Sciences to determine appropriate vitamin C fortification levels in food commodities used in U.S. food aid programs. Focuses on two commodities provided in Tanzania and Haiti, CSB and WSB, that were fortified with higher levels of vitamin C.

Global directory of commercial manufacturers of micronutrient premixes and supplements. First edition. *December 1997. Micronutrient Initiative. FSRC #7467.*

Lists manufacturers worldwide that formulate and produce micronutrient premixes and supplements “that meet recognized international standards for production manufacture, quality assurance and use.” Includes background information on micronutrients. Includes manufacturers of such fortified foods as salt, sugar, cereals and other flour products, and milk. Available on Micronutrient Initiative website at <http://www.idrc.ca/mi/index.html>.

On order:

Micronutrient Assessment Project final report. *Forthcoming, September 1999. SUSTAIN.*

Reports on Micronutrient Assessment Project (MAP) three-year study to “determine the level of micronutrients in the fortified food commodities provided in the United States (U.S.) P.L.480 food assistance program which reaches the mothers, children, and refugees targeted by emergency and development feeding programs in developing countries.” Lists recommendations for improvements of U.S. food aid program as related to micronutrients.

Food provisioning among Mozambican refugees in Malawi: A study of aid, livelihood and development. *1989. Wilson, K.; Cammack, D.; Shumba, F. Refugee Studies Program.*

Examines trading issues and sale of food by refugees to purchase clothes and other articles.

Thiamine deficiency and its prevention and control in major emergencies. WHO.

Provides guidelines on assessment and prevention. Discusses several means of increasing intake of thiamin in an emergency situation, including fortification and supplementation.

Workshop on the improvement of the nutrition of refugees and displaced people in Africa. 1994.

SPECIALTY FOODS

Provision of blended foods and high energy biscuits in the Great Lakes Region. Mission report (1st draft), 23 January - 26 February, 1998. Merx, Richard J.H.M. World Food Program., 48p. FSRC #7617.

Reports on consultancy to “identify options for cost effective production for WFP of high-energy biscuits and blended food school meals in the Great Lakes Region.” Includes pre-assessment of regional “WFP lunch box concept”. Presents situation analysis. Discusses formulas, nutritive values, and production process for blended foods and high energy biscuits. Considers capacity requirements for UNIMIX and HEB production. Examines project feasibility and sustainability.

Humanitarian Daily Rations (HDRs) - Draft. 1998. Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict. Office of the Secretary of Defense, Peacekeeping and Humanitarian Assistance. 16p. FSRC #7499.

Outlines draft guidelines for Humanitarian Daily Rations (HDRs) compiled by Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict. Provides information on specifications (nutritional guidelines, menu composition, preparation requirements, packaging), acquisition, distribution, requesting HDRs, storage/handling, inspection, and program reviews.

Production of pre-cooked fortified blended foods in Kenya: A success story. 1997. Göte, Hertz. Field Exchange. August 1997. 2p. FSRC #5769.

Discusses Kenya program that developed local production capacity for fortified pre-cooked blended food. The operation has handled millet, wheat, maize, and soya flour and has produced UNIMIX and high protein biscuits. Discusses output, uses, and packaging of blended food as well as challenges faced by factory.

CARE India's RTE experience in Uttar Pradesh (an assessment): Supplementary nutrition food for pre-school children, pregnant women and lactating mothers. 1998. CARE India; Integrated Export & Shipping Services Company Pvt. Limited. 104p. FSRC #7404.

Discusses CARE India's experience with Ready to Eat (RTE) feeding programs in its Integrated Child Development Services (ICDS) program that provides supplementary nutrition to combat childhood malnutrition. Discusses appropriateness of RTE.

The use of BP-5 biscuits in supplementary feeding programmes. Assafa, Fitsum. Field Exchange, August 1997. 1p. FSRC #5769.

Presents lessons learned from supplementary MSF feeding program in Afghanistan that made use of BP-5 biscuits. Discusses operational challenges faced by program when making use of biscuits.

Requirements for effective fortification in food aid programmes. 1995. Dexter, Patricia. *FAO Technical Consultation, Food Fortification: Technology and Quality Control, Rome, Italy, 20-23 November 1995.* 19p. FSRC #7635.

Examines “requirements for effective fortification for food aid programs.” Considers existing fortification of food aid activities (blended foods, processed cereal, vegetable oil, high protein biscuits, dried skim milk powder, salt, whole grains). Discusses cost and nutritional impact issues, quality assurance, criteria for fortification of food aid, limiting factors, and need for international guidelines. Briefly discusses use of high protein biscuits.

Enhancing the nutritional quality of relief diets: Overview of knowledge and experience. April 1999. Hansch, Steve. 48p.

Paper prepared for Enhancing the Nutritional Quality of Relief Diets workshop (April 28-30, 1999, Washington, DC). Provides background information on malnutrition in emergencies; humanitarian relief standards for nutrition; approaches to addressing malnutrition in emergencies; use of fresh foods and supplementation; donor country measures to process foods; in-theater fortification and enrichment methods; comparison of food vehicles used; inputs necessary for in-country fortification; IEC, agriculture, and other interventions; and problems associated with vitamin C. Discusses fortification of the following commodities: grain, flour, CSB, WSB, biscuits, oil, and sugar.

OPERATIONAL ISSUES/PROGRAMMING (Guidelines on Policy, Management, M&E, Quality Control, Assessment Issues)

Fortification rapid assessment guidelines & tool (FRAT). December 1997. *Micronutrient Initiative.* 28p. FSRC #7605.

Presents guidelines “designed to help programmers work through the steps of examining food consumption patterns in order to, first, decide whether fortification could be considered as a viable public health intervention for eliminating vitamin A deficiency in the country, second to identify potential food vehicle(s), and third, to select the most appropriate vehicle(s) for fortification with vitamin A.” Developed by PATH Canada under contract by the Micronutrient Initiative, covers target groups, fortification rapid assessment, preliminary assessment, selection of appropriate vehicle, and results analysis.

Anemia detection methods in low-resource settings: A manual for health workers. December 1997. *PATH; OMNI; USAID.* 51p.

Presents anemia detection tests for health workers in settings with limited health care facility resources. Provides instructions for performing tests, suggestions for improving test performance, descriptions of test characteristics, advantages and disadvantages of each test, and required equipment and supplies.

Indicators for assessing vitamin A deficiency and their application in monitoring and evaluating intervention programmes. 1996. *WHO Micronutrient Series.* 66p. FSRC #6888.

Presents principles for use of biological indicators for vitamin A deficiency surveillance and discusses each indicator and its limitations. Intended for managers of national programs for prevention and control of micronutrient malnutrition, specifically vitamin A deficiencies. Identifies non-biological indicators.

Peru trip report, September 19-26, 1998. SUSTAIN Micronutrient Assessment Program.

1998. Schlossman, Nina P.; Ranum, Peter; Soria, Andreina. [60]p.

Reports on study of vitamin A content of samples of P.L. 480 Title II bulgur and wheat flour. Includes information from interviews with Cooperating Sponsors regarding Commodities Reference Guide as well as meetings with millers and other groups regarding fortification. Provides suggestions on how to revise Commodities Reference Guide and presents information on effort to fortify P. L. 480 vegetable oil.

International workshop on micronutrient enhancement of rice, September 2 & 3, 1998,

Stuttgart, Arkansas. 1998. University of Arkansas; Micronutrient Initiative; SUSTAIN; ILSI; OMNI. [80]p.

Summarizes workshop with following objectives: discuss current rice fortification and enhancement technologies; promote better understanding of rice fortification and micronutrient enhancement technologies; and recommend follow-up activities to address micronutrient deficiencies through rice fortification and biotechnology. Includes panel discussion of policy and regulatory considerations for rice fortification.

Workshop on quality control and assurance in milling and fortification of corn masa flour,

San Salvador, El Salvador, March 16-17, 1998. 1998. SUSTAIN; McFarlin, Keith; Lopez, Ximena. [70]p.

Outlines workshop on quality control and assurance in milling and fortification. Focuses on nutrition and fortification issues relevant to industry and public sector participants. Includes discussion of how to improve and make sustainable fortification and quality control programs.

Russia flour enrichment assessment, June 29-July 10, 1998, Trip report. 1998. SUSTAIN;

Gies, Bob. [40]p.

Reports on feasibility assessment tour for fortification in flourmills and bakeries in various regions of Russia. Reports on feasibility of flour enrichment as well as outcomes of meetings with industry representatives in Russia. Includes discussion of operational and programming considerations.

Workshop: The problem of micronutrient malnutrition in the Russian Federation,

Moscow, Russia, June 25-July 2, 1997. 1997. SUSTAIN; Ranum, Peter; Turner, Liz; Yeung, David. [45]p.

Summarizes workshop that reviewed "Russian action plans to address micronutrient deficiencies relating to maternal and child health." Covers scientific, technical, regulatory, and policy issues.

African Micronutrient/Small Enterprise Activity (AMSEA) mission report, Malawi,

June/July 1998 (second edition). 1998. SUSTAIN; Hammond, Neal; Wurdemann, Willem; Adams, Tony. [50]p.

Reports on visit of feasibility assessment team to Malawi for project aimed to reduce malnutrition and develop small and medium business sector. Includes list of recommendations for technical assistance and marketing.

1998 Congress of (AGTA), The Guatemalan Association of Food Technologists, September 8-11, 1998, Trip report. 1998. SUSTAIN; Prakash, Anuradha; Vasconcellos, Andres. [35]p.

Summarizes conference on "Guatemalan food industry's development through the continuing education of food industry professionals and managers." Presentation topics include nutrition and health issues in food industry; irradiation; modified atmosphere packaging; and functional foods.

Seminar: Packaging - AGTA, Guatemala, May 13-17, 1997. 1997. *SUSTAIN*; Lindemann, Donald. [40]p.

Outlines topics discussed at Guatemalan Association of Food Technologists (AGTA) seminar "Trends and Technology in Packaging for the Food and Beverage Industries." Includes presentations on packaging materials.

Workshop series: Food safety and quality, El Salvador, February 4-5, 1997, March 11-12, 1997, May 13-14, 1997. 1997. *SUSTAIN*. [50]p.

Reports on workshop series to train food processing company staff in sanitation, hygiene, manufacturing practices, and hazard analysis.

Assessment of soy processing operation, Nicaragua, June 2-8, 1997. 1997. *SUSTAIN*; Hahn, Richard. [30]p.

Reports on trip to Nicaragua to examine processing operation to produce soy milk and other soy products. Assesses equipment for soy processing and recommends types of food products.

Regulation of fortified foods to address micronutrient malnutrition: Legislation, regulations and enforcement, Manual. *Third edition. February 1999. Nathan, Rose. 70p.*

Serves as "guide for governments wishing to ensure that their food laws and regulations contain adequate provisions for food fortification and related (e.g., enforcement) activities" and to assist program managers in understanding regulatory provisions. Available at <http://www.sph.emory.edu/PAMM>.

Sustainable control of vitamin A deficiency: Defining progress through assessment, surveillance, evaluation. 1997. *International Vitamin A Consultative Group. 139p. FSRC #6892.*

Reports on XVIII International Vitamin A Consultative Group Meeting in Cairo, Egypt, on September 22-26, 1997. Representatives from 52 countries presented research and programmatic information on implementing effective programs. Includes discussion of food fortification activities as well as gardening programs.

MICAH guide: A practical handbook for micronutrient and health programmes (Draft).

MICAH; World Vision Canada. [200]p. FSRC #7626.

Serves as handbook for staff involved in Micronutrient and Health (MICAH) program. Describes MICAH program activities. Includes chapters on project proposal development, program monitoring indicators, and design and implementation of surveys.

Food fortification in developing countries. *Nestel, Penelope; USAID. 45p.*

Reviews literature on food fortification with vitamin A, iron, and iodine. Examines determination of fortification levels, issues involved in fortification activities, quality control, monitoring and evaluation of fortification programs, economic issues, and political and legal considerations. Discusses fortification of sugar, wheat flour, corn flour, rice, maize meal, salt, milk, biscuits, and condiments.

Food fortification: Technology and quality control. *FAO Technical Consultation. Istituto Nazionale della Nutrizione, Rome, Italy, 20 to 23 November, 1995. 34p. FSRC #7598.*

Reports on consultation concerning food fortification. Includes summary of conclusions and recommendations as well as background information on food fortification. Contains sections on iodine, iron, and vitamin fortification technologies; legislation information; monitoring procedures; and fortification in food aid programs. Discusses fortification of salt, oils, and cereals. Available at www.fao.org/WAICENT/FAOINFO/ECONOMIC/ESN/fortify/fortify.htm.

Fortification basics: Choosing a vehicle. *OMNI/Roche/USAID. 4p.*

Presents guidelines for choosing a food vehicle for fortification. Discusses criteria for vehicle selection, consumption patterns, marketing and distribution, stability of micronutrients in fortified foods, sensory characteristics, and data sources. Provides information on sugar, wheat flour, corn flour, salt, fats and oils, and milk.

Nutritional issues in food aid: Papers from the ACC/SCN 19th Symposium. *August 1993.*

ACC/SCN Symposium Report, Nutrition Policy Discussion Paper No. 12. 97p. FSRC #1051.

Discusses role of public works, supplementary feeding, and nutrition of refugees in food aid programming. Includes information on micronutrient deficiencies among refugees as well as strategies of food aid programs in addressing these issues. Considers food fortification option.

Prevention of micronutrient deficiencies: Tools for policymakers and public health workers.

1998. Institute of Medicine. National Academy Press. 207p. FSRC #7163.

Reports on and presents background papers from workshop on micronutrient deficiencies, specifically iron, vitamin A and iodine. Provides framework for planning intervention programs and other recommendations. Includes information on fortification programs. FSRC also has summary version - **Prevention of micronutrient deficiencies: Summary and key elements.** *1998. 41p. FSRC #7167.*

Preventing micronutrient malnutrition: A guide to food-based approaches. Why policy makers should give priority to food-based strategies. *1997. FAO, International Life Sciences Institute. 11p. FSRC #7550.*

Gives overview of food-based means to address micronutrient malnutrition. Includes background information on micronutrient malnutrition and discusses measures to prevent and control micronutrient malnutrition as well as implementation and cost of food-based strategies.

Preventing micronutrient malnutrition: A guide to food-based approaches. Manual for policy makers and programme planners. *1997. FAO, International Life Sciences Institute. 105p. FSRC #7549.*

Discusses food-based approaches to combating micronutrient malnutrition and provides guidelines for policy makers for implementing these strategies. Includes sections on increasing small-scale (e.g., gardening programs) as well as commercial production of micronutrient-rich foods, maintaining micronutrient levels in common foods (improved storage, food safety, and preparation), plant selection and breeding, food fortification, and communication strategies.

Requirements for effective fortification in food aid programmes. *1995. Dexter, Patricia. FAO Technical Consultation, Food Fortification: Technology and Quality Control, Rome, Italy, 20-23 November 1995. 19p. FSRC #7635.*

Studies “requirements for effective fortification for food aid programs.” Examines existing fortification of food aid activities (blended foods, processed cereal, vegetable oil, high protein biscuits, dried skim milk powder, salt, whole grains). Discusses cost and nutritional impact issues, quality assurance, criteria for fortification of food aid, limiting factors, and need for international guidelines.

Economic rationale for investing in micronutrient programs. A policy brief based on new analyses. *1995. USAID; VITAL. 12p.*

Discusses economic reasons for micronutrient programs, including labor productivity, education, health impacts. Examines economic dividends from micronutrient programs.

Interagency meeting: Iron fortification in the Americas. *March 1998. Pan American Health Organization (PAHO). 9p. FSRC #7597.*

Reports on March 1998 workshop on iron fortification programs. Provides background information on iron deficiency and its prevention and control. Includes discussion of quality assurance and epidemiological surveillance. Examines premix and compound strategies. Includes consensus points, research priorities, and discussion items. Available at www.paho.org/english/hpp/hpn9803.htm.

Enriching lives: Overcoming vitamin and mineral malnutrition in developing countries. *1994. Development in Practice Series. The World Bank. 73p. #5195.*

Presents lessons learned for micronutrient policy and program design purposes. Discusses food fortification, supplementation, targeting, and social mobilization and education. Fortification section addresses voluntary fortification, consumer participation and education, and universal and mandatory fortification.

Micronutrients: Increasing survival, learning, and economic productivity. *1993. USAID. 28p. FSRC #7218.*

Reports on USAID micronutrient program, including topics of iron, vitamin A, iodine, fortification programs, USAID-supported interventions, prevention of disease, and malnutrition.

Sharing risk and reward: Public-private collaboration to eliminate micronutrient malnutrition. Report on the forum on food fortification: International dialogue on micronutrient malnutrition. *1996. Ottawa Forum on Food Fortification; Micronutrient Initiative; Program Against Micronutrient Malnutrition; Keystone Center. 57p. FSRC #7220.*

Reports on Ottawa forum in December 1995 attended by public and private sector leaders to discuss collaborative approach to elimination of micronutrient malnutrition and need to establish national dialogues and other action-oriented linkages.

Combating iron deficiency anemia through food fortification technology: An action plan. *5-7 December 1990 XII INACG meeting, Washington, DC. 11p. FSRC #7631.*

Presents action plan developed at December 1990 International Nutritional Anemia Consultative Group meeting. Outlines plan for developing national iron fortification programs in cooperation with industry, donor agencies, and governments. Focuses on iron fortification of food.

Food-based approaches to preventing micronutrient malnutrition: An international research agenda. Summary report of an international workshop. *1996. G.F. Combs, Jr. et al (eds.). Cornell University (CIIFAD). 68p. #5279.*

Summarizes workshop on food system-based strategies to address micronutrient malnutrition. Includes discussion of micronutrient malnutrition issues; existing knowledge and new knowledge; priority research needs; and action items.

Progress in controlling vitamin A deficiency. *Micronutrient Initiative, UNICEF, Tulane. 1998. 36p.*

Summarizes findings of survey on vitamin A supplementation. Discusses current situation of vitamin A deficiency (VAD) as well as implementation of programs for reducing VAD.

Commodities reference guide (incomplete draft). *April 1999. USAID/Food for Peace.*

Provides information on Title II commodities. Currently posted on http://www.info.usaid.gov/hum_response/crg/ are commodity facts (nutritional content, specifications, storage issues, and shelf life). Part II and Annexes still under construction.

Commodities reference guide. 1988. *USAID/Food for Peace. [150]p. FSRC #113.*

Provides information on Title II commodities. Covers ration selection process, commodity selection guidelines, nutritional values for commodities, commodity fact sheets (nutritional content, packaging, and preparation information), packaging and storage, and rodent and insect control. Includes micronutrient values. Updated version forthcoming.

Carotenoids and food preparation: The retention of provitamin A carotenoids in prepared, processed, and stored foods. 1997. *Rodriquez-Amaya, Delia B.; USAID; John Snow, Inc./OMNI. 88p. FSRC #7214.*

Covers properties, functions, and actions of carotenoids, difficulties in measuring provitamin A levels, important food sources of provitamin A, as well as effects of home processing and industrial processing on provitamin A content food.

Street foods in developing countries: Potential for micronutrient fortification. 1996. *Draper, Alizon; John Snow, Inc./OMNI Project. 8p. FSRC #7230.*

Gives a brief overview of nutritional value of street foods in developing countries and recommendations on how to launch a fortification program.

Street foods in developing countries: Potential for micronutrient fortification. 1996. *Draper, Alizon,; USAID; John Snow, Inc./OMNI Project. 67p. FSRC #7231.*

Reviews information on availability, cost, and consumption of street and snack foods in developing countries and assesses potential for fortifying these foods with micronutrients to prevent and control micronutrient deficiencies. Considers such related issues as safety of street foods and their production and sale as a business activity for women.

Fortification update. *No. 1, 1995. UNICEF. 8p. FSRC #7469.*

Fortification update. *No. 1, 1996 7470 4p. FSRC #7470.*

Discusses recent events, upcoming activities, and other news concerning micronutrient fortification. Includes country program updates. Available at www.idrc.ca/mi/fort196.htm and www.idrc.ca/mi/fort195.htm.

On order:

Monitoring vitamin A programs. 1998. *Cervinkas, Jenny; Houston, Robin. Micronutrient Initiative. 94p.*

Serves as reference document for program managers on monitoring interventions to eliminate vitamin A deficiency (i.e., supplementation, dietary diversification and food fortification). Introduces key concepts, principles, issues and terminology, provides guidance and monitoring framework, suggests examples of key indicators for measuring progress of these interventions, provides information about monitoring methods and tools, and includes references and sources of technical support.

Preventing iron deficiency in women and children: Consensus on key technical issues. 1999. *UNU/UNICEF/WHO/MI. 69p. In preparation.*

Reports on October 1998 UNU/UNICEF/WHO/MI Technical Workshop in New York. Clarifies technical issues to accelerate iron deficiency control programmes. Summarizes issues, clarifies technical points, makes consensus statements, outlines action points for assessment and the integration of multiple interventions; food fortification; oral supplementation; communication for dietary change; integration with public health programmes; safety; monitoring, evaluation, and research. Provides references and sources of technical assistance.

Design and implementation of nutrition surveys. *World Vision Canada. 137p.*

Indicators to monitor impact of nutrition programmes. *World Vision Canada. 66 p.*

Controlling vitamin A deficiency. 1994. *Gillespie, Stuart; Mason, John.*

Controlling iron deficiency. 1991. *ACC/SCN. Hetzel B.S.*

Prevention and control of iodine deficiency disorders. 1988. *ACC/SCN.*

NUTRITION IN EMERGENCIES

WFP/UNHCR guidelines for estimating food and nutritional needs in emergencies.

December 1997. 10p.

Revises guidelines established by UNHCR and WFP for determining food and nutritional needs in emergencies. Presents guidelines for calculating food rations for refugees.

UNHCR/WFP guidelines for selective feeding programmes in emergency situations.

February 1999. 20p.

Provides principles and design guidelines for food and nutrition issues related to selective feeding programs in emergencies and relief settings.

Famine-affected, refugee, and displaced populations: Recommendations for public health issues. *July 1992. MMWR. Centers for Disease Control.*

Compiles information on public health for refugee camps and displaced population programs. Examines nutritional and health problems and present recommendations. Discusses micronutrient malnutrition. Available at

<http://www.cdc.gov/epo/mmwr/preview/mmwrhtml/00019261.htm>.

Specific deficiencies versus growth failure: Type I and type II nutrients. 1995. *Golden, Michael H.N. SCN News 12: 10-14.*

Examines nutrients that “give rise” to two types of responses: 1) continued growth with specific deficiencies and 2) reduced growth with no specific signs of deficiencies. Outlines differences between type I and II nutrient deficiency and discusses supplementation options.

Enhancing the nutritional quality of relief diets: Overview of knowledge and experience.

April 1999. Hansch, Steve. 48p.

Prepared for Enhancing the Nutritional Quality of Relief Diets workshop (April 28-30, 1999, Washington, DC), provides background information on malnutrition in emergencies; humanitarian relief standards for nutrition; approaches to addressing malnutrition in emergencies; use of fresh foods and supplementation; donor country measures to process foods; in-theater fortification and enrichment methods; comparison of food vehicles used; inputs necessary for in-country fortification; IEC, agriculture, and other interventions; and problems associated with vitamin C.

Fortification of foods for refugee feeding. Final report to the Canadian International Development Agency. 1995. *113p. Beaton, G.H. FSRC #5552.*

Considers role and specifications of fortified foods, existing and potential. Studies nutritional inadequacies of refugee diets and presents strategies to address these deficiencies. Discusses

supplementation, fortification of staple cereal, and promotion of gardens. Considers effectiveness and cost issues, and argues strongly for fortification of staple cereal rather than reliance on blended foods to supply micronutrients for refugee populations.

Fortification of foods for refugee feeding. Technical background report: Derivations and analyses. Report to the Canadian International Development Agency. 1995. Beaton, G.H. 79p. FSRC #5553.

Provides “supporting technical details” for Fortification of Foods for Refugee Feeding report (see FSRC #5552). Explains derivation of reference nutrient density profiles. Compares fortification and blended foods. Tests use of supplements in non-refugee population. Discusses food composition data used in calculations.

Health care for refugees and displaced people. 1994. Mears, Catherine; Chowdhury, Sue; Oxfam. Oxfam Practice Health Guide No. 9. 112p. FSRC #7160.

Provides information on provision of health care in emergencies, covering assessment of health-risk factors and needs for health care, e.g, discussion of common diseases, HIV/AIDS, food and nutrition, and conducting surveys. Nutrition sections examine nutritional status, food availability, rations, general feeding, selective feeding, supplementary feeding, therapeutic feeding, and monitoring.

Third report on the world nutrition situation. 1997. UN Sub-Committee on Nutrition (ACC/SCN). 111p. FSRC #6887.

Provides information on nutritional status of populations in developing countries. Topics include reports on underweight preschool children, information on global and regional trends in stunting, micronutrient malnutrition, and vitamin and mineral deficiencies. Also included is a review of issues related to nutritional status of refugees and displaced persons.

Nutritional issues in food aid: Papers from the ACC/SCN 19th Symposium. August 1993. ACC/SCN Symposium Report, Nutrition Policy Discussion Paper No. 12. 97p. FSRC #1051.

Discusses role of public works, supplementary feeding, and nutrition of refugees in food aid programming. Includes information on micronutrient deficiencies.

World Declaration and Plan of Action for Nutrition, International Conference on Nutrition, Rome, December 1992. FAO; WHO. 1992. 43p. FSRC #667.

Outlines Plan of Action agreed to by International Conference on Nutrition in 1997. Includes sections on nutrition of refugees, preventing micronutrient deficiencies, and nutrition during famine situations. Presents policy guidelines, intersectoral issues, and strategies.

Human nutrition in the developing world. 1997. FAO. 515p. FSRC #7156.

Covers nutritional problems of developing countries, providing science-based information on food, nutrients, causes of malnutrition, nutritional disorders and prevention. Includes sections on fortification, outlining information on methods of fortification and suitable foods.

The FSRC holds subscriptions to the following periodicals:

SCN News. *UN ACC Sub-Committee on Nutrition.*

Compiles developments in international nutrition sector. Includes conference summaries, profiles of nutrition projects, announcements, and resource information. Also includes articles on such issues as nutrition surveillance, vitamin deficiencies, fortification, supplementation, training, assessment, vulnerability, and public education.

RNIS (Report on the Nutrition Situation of Refugees and Displaced Populations). *UN Sub-Committee on Nutrition.*

Contains overviews and statistics of nutritional status of refugees and displaced population groups.

ENN, Field Exchange. *Emergency Nutrition Network, Department of Community Health & General Practice, Trinity College, Ireland.*

Includes articles on emergency feeding, supplementary and fortified foods, field nutrition program experiences, micronutrients, measurements and nutrition assessments, and several other issues.

On order:

Nutrition guidelines. 1995. *Médecins Sans Frontières.*

Designed to “facilitate the application of fundamental concepts and principles necessary for the assessment of nutritional problems and the implementation of nutritional programs in emergency situations,” covers various stages of food programming including nutritional strategies, surveys, and nutritional programs. Discusses wide range of issues including anthropometric surveys, assessments, supplementary feeding, therapeutic feeding, registration, and discharge.

Workshop on the improvement of the nutrition of refugees and displaced people in Africa. 1994.

AGRICULTURAL APPROACHES TO ADDRESS MICRONUTRIENT MALNUTRITION

Improving nutrition through home gardening: A training package for preparing field workers in Southeast Asia. 1995. *Food and Nutrition Division, FAO. 171p. FSRC #7596.*

Includes materials for training agricultural extension agents and field workers in Southeast Asia in home gardening. Covers role of home gardening, nutrition information, household food and nutrition data collection, promotion of home gardening for better nutrition, and home garden technology. Includes course materials for participants and trainers, technical notes for trainers, information sheets, and home gardening technology leaflets.

Mitigation practitioner’s handbook. October 1998. *USAID/BHR/OFDA/PMPP. 76p.*

Covers planning for interventions in emergencies. Focuses on prevention, mitigation, and preparedness. Section on seeds and tools programs discusses garden interventions. Includes seeds and tools case studies from southern Sudan and Rwanda.

Promotion of vitamin A garden as a sustainable intervention strategy to promote vitamin A nutrition. 1997. *Devadas, Rajammal P.; Chandrasekhar, U.; Avinashilingam Deemed University. 3p. FSRC #7586.*

Presents results of feasibility study on promotion of school gardens to combat vitamin A deficiency in India.

Food from dryland gardens: An ecological, nutritional, and social approach to small-scale household food production. 1991. *Cleveland, David A.; Soleri, Daniela. Center for People, Food and Environment. 387p. FSRC #2049.*

Serves as reference book on dryland gardens. Provides overview of gardens in development as well as information on nutritional value of gardens, financial and economic issues surrounding

gardens, monitoring and evaluation of garden projects, garden management, use of harvest from gardens, and measurements, and resources. Nutrition section discusses nutritional needs in dryland areas and impact of gardens on nutrition.

Does urban agriculture help prevent malnutrition? Evidence from Kampala. 1998.

Maxwell, Daniel; Levin, Carol; Csete, Joanne. *Food Policy*, vol. 23, no. 5, pp. 411-424. FSRC #7044.

Examines impact of urban agriculture on household food security and nutritional status among children under 5 in Kampala, Uganda.

Gardens for Bangladesh: A ten year initiative to sustainably improve the health, nutrition and food security of the poorest in rural Bangladesh. Helen Keller International. 4p.

Reports on home gardening program designed to address undernutrition and vitamin A deficiency.

Large-scale model for delivering homestead horticultural technologies in Bangladesh. 1996.

Baker, Shawn; Talukdar, Aminuzzaman; Helen Keller International. *Micronutrients and Agriculture*. 3p.

Reports on Helen Keller International home gardening program to improve vitamin A status of poor households in Bangladesh.

International workshop on micronutrient enhancement of rice, September 2 & 3, 1998, Stuttgart, Arkansas. 1998. University of Arkansas; Micronutrient Initiative; SUSTAIN; ILSI; OMNI. [80]p.

Summarizes workshop with following objectives: discuss current rice fortification and enhancement technologies; promote a better understanding of rice fortification and micronutrient enhancement technologies; recommend follow-up activities to address micronutrient deficiencies through rice fortification and biotechnology. Includes panel session on plant breeding and biotechnology approaches to micronutrient content enhancement.

Final summary report, Ten-year food-based action, 1989-1995. 1996. The Vitamin A Programme; FAO. 80p. FSRC #7600.

Summarizes technical assistance provided during 10 years of UN vitamin A deficiency program. Covers food-based strategies including home, school, and community gardening; production of oil palms and processing of palm oil; promotion of traditional vegetable and fruit crops; seed and seedling distribution; fruit and vegetable preservation; nutrition education; and food and cooking demonstrations. Outlines food-based strategies, achievements and results of activities, constraints, and conclusions.

MICAH matters. 1999. V.4, no. 1. Micronutrient and Health (MICAH). World Vision Canada. 4p. FSRC #7615.

Includes brief articles on training workshops, small-scale fortification of flour and maize blending systems, vegetable gardening, literacy programs, water and sanitation, and country updates.

Combating micronutrient deficiencies through vegetables - a neglected food frontier in Asia. 1997. Food Policy (vol. 22, no. 1) pp. 17-38. FSRC #6357.

Studies policy and technology options to integrate micronutrient-rich vegetables in diets. Examines role of vegetables in overcoming micronutrient deficiency; trends of vegetable consumption in Asia; and supply problems and other constraints. Discusses drawbacks of fortification and food supplement strategies and looks at home-gardening approach.

Solar drying for vitamin A. 1993. *Vitamin A Field Support Project, VITAL; USAID.* 47p. FSRC #6858.

Serves as basic instruction manual on construction and use of solar dryer and methods for preserving vitamin A-rich foods for VITAL programs. Designed as program guide for use by field and community-level development workers and trainers working with community groups to promote increased production and consumption of vitamin A-rich foods.

Enrichment of food staples through plant breeding: New strategy for fighting micronutrient malnutrition. 1996. Bouis, Howarth. *IFPRI. Nutrition Reviews.* v.54(5): 131-137. FSRC #7177. Explores possibilities of enriching grains with micronutrients through plant breeding to improve nutritional value of food.

Linking adaptive and process research to improve technology development and dissemination. CGIAR. 5p. FSRC #7627.

Examines organic and inorganic soil fertility technologies and types of research that need to be linked to ensure soil fertility advances. Presents case study of research on use of fertilizers to address micronutrient deficiencies for maize in Malawi. Describes research sequence and outputs.

Improving iron status through diet: Application of knowledge concerning dietary iron bioavailability in human populations. 1997. Allen, Lindsay H.; Ahluwalia, Namanjeet. 83p. FSRC #7212.

Reviews current knowledge about important factors affecting dietary iron bioavailability. Integrates available information on iron bioavailability in a way that is useful for designing the most effective and practical strategies to improve absorption of iron from specific staple foods and diets.

Angola agricultural programmes: An ICRC evaluation. *Field Exchange, Issue 5.* 2p. FSRC #5769.

Reports on impact evaluation of ICRC agricultural activities in Angola. Includes information on seed distribution programs in the region.

Distributing seeds and tools in emergencies. 1998. Johnson, Douglas. *Oxfam.* 96p. FSRC #7528.

Presents guidelines for programs distributing seeds and tools in emergency situations. Discusses concepts surrounding seeds and tools projects, information needed to develop seeds and tools distribution programs, initial assessment work, project design, technical information on seeds and tools, project implementation, and relationship between these interventions and development. Includes seed selection and nutritional information.

Sustainable control of vitamin A deficiency: Defining progress through assessment, surveillance, evaluation. 1997. *International Vitamin A Consultative Group.* 139p. FSRC #6892.

Reports on XVIII International Vitamin A Consultative Group Meeting held in Cairo, Egypt, on September 22-26, 1997, in which representatives from 52 countries presented research and programmatic information on implementing effective programs. Includes discussion of food fortification activities as well as gardening programs.

Preventing micronutrient malnutrition: A guide to food-based approaches. Manual for policy makers and programme planners. 1997. *FAO, International Life Sciences Institute.* 105p. *FSRC #7549.*

Discusses food-based approaches to combating micronutrient malnutrition and provides guidelines for policy makers on implementing these strategies. Includes sections on increasing small-scale (e.g., gardening programs) as well as commercial production of micronutrient-rich foods, maintaining micronutrient levels in common foods (improved storage, food safety, and preparation), plant selection and breeding, food fortification, and communication strategies.

On order:

IFPRI working papers on agricultural strategies for micronutrients:

Breeding for staple crops with high micronutrient density. 1996.

Household behavior and micronutrients: What we know and what we don't know. 1995.

Human nutrition: Food and micronutrient relationships. 1995.

Plant breeding: A long-term strategy for the control of zinc deficiency in vulnerable populations. *FCND Discussion Paper 30. IFPRI.*

Determinants of demand for micronutrients: An analysis of rural households in Bangladesh. *FCND Discussion Paper 32. IFPRI.*

Vitamin A deficiency: Scientific progress and links to policy. 1995. *Bouis, Howarth; Mason, J. Beyond Nutritional Recommendations: Implementing Science for Healthier Populations Symposium, 5-7 June, 1995, Washington. DC.*

SUPPLEMENTATION

Guidelines for the use of iron supplements to prevent and treat iron deficiency anemia. 1998. *Stoltzfus, Rebecca J.; Dreyfuss, Michele L.; INACG; WHO; UNICEF.* 39p.

Presents guidelines on appropriate use of iron supplements to treat iron deficiency anemia in public health programs. Provides recommendations for use of iron supplements in anemia control programs. Addresses prevention and treatment of anemia.

Iron/multi-micronutrient supplements for young children. Summary and conclusions of a consultation held at UNICEF, Copenhagen, Denmark, August 19-20, 1996. *Nestel, Penelope and Alnwick, David.* 8p.

Reports on results of meeting held to discuss following iron supplementation issues: iron supplementation for child under 2 years of age; dosage; duration of supplementation; and combining iron supplementation with other minerals and vitamins.

Specific deficiencies versus growth failure: Type I and type II nutrients. 1995. *Golden, Michael H.N. SCN News 12: 10-14.*

Examines nutrients that "give rise" to two types of responses: 1) continued growth with specific deficiencies and 2) reduced growth with no specific signs of deficiencies. Outlines differences between type I and II nutrient deficiency and discusses supplementation options.

Fortification of foods for refugee feeding. Final report to the Canadian International Development Agency. 1995. 113p. Beaton, G.H. FSRC #5552.

Considers role and specifications of existing and potential fortified foods. Studies nutritional inadequacies of refugee diets and presents strategies to address these deficiencies. Discusses supplementation, fortification of staple cereal, and promotion of gardens. Considers effectiveness and cost issues, and argues strongly for fortification of the staple cereal rather than reliance on blended foods to supply micronutrients for refugee populations.

Fortification of foods for refugee feeding. Technical background report: Derivations and analyses. Report to the Canadian International Development Agency. 1995. Beaton, G.H. 79p. FSRC #5553.

Provides “supporting technical details” for Fortification of Foods for Refugee Feeding report (see FSRC #5552). Explains derivation of reference nutrient density profiles. Compares fortification and blended foods. Tests use of supplements in a non-refugee population. Discusses food composition data used in calculations.

Iron interventions for child survival. 1995. Nestel, Penelope (ed.). USAID; OMNI; ICH. 170p. Outlines proceedings of a London workshop organized by USAID/OMNI and Institute for Child Health to address efforts to reduce and control iron deficiency anemia in infants and young children. Discusses fortification of foods (cereal flours, beverages, and milk) and supplementation.

Weekly iron intervention: The case for intermittent iron supplementation. 1998. Beard, John L. *American Journal of Clinical Nutrition*, v. 68. 4p. FSRC #7621.

Discusses debate on intermittent versus daily iron supplementation programs. Examines data from studies in Indonesia, China, and Bolivia. Calls for weekly iron supplementation.

Combating iron deficiency: Daily administration of iron is far superior to weekly administration. 1998. Hallberg, Leif. *American Journal of Clinical Nutrition*, v. 68. 5p. FSRC #7622.

Examines debate on daily versus weekly administration of iron supplementation. Looks at mucosal block argument and pregnancy issues. Calls for daily supplementation.

Strategies for promoting vitamin A production, consumption, & supplementation: Four case studies. 1996. USAID; Academy for Educational Development; OMNI. FSRC #7211. 79p. Reports on USAID experiences in affecting behavioral changes in vitamin A supplementation. Includes case studies in Niger, Philippines, and Indonesia.

Vitamin A supplements: Guide to their use in the treatment and prevention of vitamin A deficiency and xerophthalmia. 1997. WHO/UNICEF/IVACG Task Force; World Health Organization. 27p. FSRC #7169.

Presents case for vitamin A supplementation to treat xerophthalmia and other infections. Guide to preparations and dosages.

Effectiveness of vitamin A supplementation in the control of young child morbidity and mortality in developing countries. 1992. *International Nutritional Program; University of Toronto; Beaton, G. H.; Martorell, R.; L'Abbé, K. A.* 160p. FSRC #7203.

Presents summary and full report to Canadian International Development Agency of vitamin A project conducted by University of Toronto International Nutrition Program.

Vitamin A deficiency and its consequences: Field guide to detection and control. Third edition. 1995. Sommer, Alfred; World Health Organization. 70p. FSRC #7172.

Serves as guide for detecting and controlling vitamin A deficiency. Discusses assessment and evaluation; conducting surveys; and treatment and control options. Includes information on fortification as well as supplementation.

Global vitamin A initiatives. July/August 1998, Issue #6. PATH Canada. 2p. FSRC #7606.

Includes "Universal distribution of vitamin A supplements: A guide to their use in the prevention of vitamin A deficiency and xerophthalmia." Discusses target population and dosing schedule and provides tips. Examines Canadian Physicians for Aid and Relief (CPAR) vitamin A project activities.

Micronutrient deficiencies in Latin America and the Caribbean: Iodine, calcium, and zinc. Mora, Jose O.; Mora, Olga L. PAHO/WHO; USAID; Roche; OMNI. 33p.

Provides overview of micronutrient deficiencies in Latin America and the Caribbean. Focuses on iodine, calcium, and zinc. Discusses salt iodization and zinc supplementation. Includes both English and Spanish language text.

Micronutrient deficiencies in Latin America and the Caribbean: Vitamins. Mora, Jose O.; Mora, Olga L. PAHO/WHO; USAID; Roche; OMNI. 41p.

Provides overview of micronutrient deficiencies in Latin America and the Caribbean, specifically focusing on vitamins. Discusses supplementation and food fortification (sugar, wheat and corn flour, milk, rice, vegetable oil, margarine, and infant cereals). Includes both English and Spanish language text.

Enriching lives: Overcoming vitamin and mineral malnutrition in developing countries.

1994. *Development in Practice Series. The World Bank.* 73p. #5195.

Presents lessons learned for micronutrient policy and program design purposes. Discusses food fortification, supplementation, targeting, and social mobilization and education. Supplementation section focuses on training and support of health care workers, supply issues, programming, and targeting.

Enhancing the nutritional quality of relief diets: Overview of knowledge and experience.

April 1999. Hansch, Steve. 48p.

Paper prepared for the Enhancing the Nutritional Quality of Relief Diets workshop (April 28-30, 1999, Washington, DC). Provides background information on malnutrition in emergencies; humanitarian relief standards for nutrition; approaches to addressing malnutrition in emergencies; use of fresh foods and supplementation; donor country measures to process foods; in-theater fortification and enrichment methods; comparison of food vehicles used; inputs necessary for in-country fortification; IEC, agriculture, and other interventions; and problems associated with vitamin C. Supplementation section discusses distribution of vitamin C and vitamin A capsules and tablets.

On order:

Effect of zinc supplementation on the weight gain of Somali refugee children recovering from moderate protein-energy malnutrition. 1992. Robertson, J. *Save the Children UK.*

Vitamin A supplementation for refugees and famine victims. 1988. Nieburg, P.; Waldman, R.J.; Leavell, R.; Sommer, A.; De Maeyer, E.M. *Bulletin of the World Health Organization* 66 (6): 689-697.

Presents argument for distribution of vitamin A supplements in emergencies to prevent measles and child mortality.

Thiamine deficiency and its prevention and control in major emergencies. WHO.

Provides guidelines on assessment and prevention. Discusses several means of increasing intake of thiamin in an emergency situation, including supplementation.

USEFUL FORTIFICATION WEBSITES

PFEDA Project

<http://www.univ-lille1.fr/pfeda>

Contains PFEDA (Partners and Food in Emergency and Development Aid) database of information on relief foods. Provides nutritional and logistical information on relief food items. Includes fortification information. Posts archives of NGONUT discussions, which include fortification topics.

Emergency Nutrition Network (ENN)

<http://www.tcd.ie/ENN>

Describes ENN and its activities and provides links to other useful sites. Posts articles from Field Exchange, several of which focus on fortification issues.

Program Against Micronutrient Malnutrition

<http://www.sph.emory.edu/PAMM/>

Includes technical reports, information sources, Micronutrient Malnutrition News issues, and links to other sites.

Opportunities for Micronutrient Interventions (OMNI)

<http://www.jsi.com/intl/omni/home>

Outlines OMNI activities. Posts information on several OMNI publications, which include fortification topics. Provides links to OMNI partners and other useful links.

Federation of American Scientists (FAS) Micronutrient Project

<http://www.fas.org/mnp/>

Provides background information on micronutrients and project activities, links to publications and other sites. Posts issues of Micronutrients and Agriculture, a newsletter focusing on research on plant breeding strategies for improving micronutrient nutrition.

The Micronutrient Initiative

<http://www.idrc.ca/mi/index.html>

Describes Micronutrient Initiative's mission and approach to fulfilling its mandate, as well as brief description of MI program framework. Includes MI's activity highlights, publication lists, summary workplan, micronutrient information sources, on-line directory of premix and supplement manufacturers, listings of events, data and relevant articles, links to other agencies involved in elimination of micronutrient deficiencies, and MN-Net database.

MN-Net, A Global Micronutrient Network

<http://www.idrc.ca/mi/mnnet.htm>

Houses MN-Net, micronutrient network of Micronutrient Initiative (Ottawa, Canada), designed to facilitate access to data and information on micronutrient malnutrition. Contains data from relevant databases maintained by WHO, UNICEF, International Center for the Control of Iodine

Deficiency Disorders, USAID, and Micronutrient Initiative.

SUSTAIN

<http://www.sustaintech.org>

Outlines SUSTAIN activities in nutrition and fortification. Posts SUSTAIN publications.

United Nations, Administrative Committee on Coordination/Sub-Committee on Nutrition (ACC/SCN)

<http://www.unsystem.org/acccsn/>

Contains news updates and issues of *RNIS* and *SCN News*. Also provides access to Third Report on the World Nutrition Situation and other publications. Includes links to other sites.

Specialty Foods Vendors:

Breedlove Dehydrated Foods

<http://www.breedlove.org/index.html>

Provides overview of Breedlove Dehydrated Foods and their products.

Survivor Industries, Inc.

<http://www.survivor-ind.com/>

Contains information on Survivor Industries, Inc., which manufactures Mainstay product. Includes Mainstay nutritional information.

BASF, Human Nutrition page

<http://www.basf.com/businesses/consumer/humannutrition/>

Overview of BASF nutrition products and activities, including fortification work.

Defense Supply Center Philadelphia pages:

<http://www.dpsc.dla.mil/subs/rations/hdr.htm>

Provides background and nutritional information on Humanitarian Daily Ration (HDR).

<http://www.dpsc.dla.mil/subs/rations/mres.htm>

Provides background and nutritional information on Meals, Ready-to-Eat (MREs).

If you would like copies of materials that appear on this bibliography, or if you have any questions regarding these resources or other topic areas, please contact

Technical Information Specialist

Food Aid Management/Food Security Resource Center

300 I Street, N.E., Suite 212

Washington, DC 20002

202-544-6972 (phone), 202-544-7065 (fax)

e-mail address: jgraef@foodaid.org

website URL: www.foodaid.org