



# **NUTRITION PROGRAMS: CHALLENGES AND OPPORTUNITIES**

## **Proceedings of the Maram Conference on Data for Decision-making in Nutrition**

**Amman, Jordan  
January 2004**

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## ACRONYMS

CISEPO	Canadian International Scientific Exchange Program Organization
CUIHN	Columbia University Institute for Human Nutrition
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
IDA	Iron Deficiency Anemia
IMCI	Integrated Management of Child Illness
JD	Jordanian Dinars
JUST	Jordanian University of Science and Technology
MOEd	Ministry of Education
MOH	Ministry of Health
RDA	Recommended Daily Allowance
UNICEF	United Nations
UNRWA	United Nations Refugee and Works Agency
USAID	United States Agency for International Development
USDA	U.S. Department of Agriculture
WHO	World Health Organization

## EXECUTIVE SUMMARY

In January 2004 the Maram Project and the Columbia University Institute for Human Nutrition, in cooperation with the Palestinian Ministry of Health and the Jordanian Ministry of Health and Royal Medical Society, hosted a regional conference on nutrition and evidence-based approaches to nutrition policy and program design, implementation and evaluation. Faculty and participants including experts from above-listed institutions and from the U.S. Agency for International Development (funder of the Maram Project) and the U.S. Department of Agriculture, the United Nations Refugee and Works Agency (UNRWA), UNICEF, the Food and Agriculture Organization (FAO), the Palestinian Ministries of Education, National Economy, and Institute of Standards, the Canadian International Scientific Exchange Program Organization (CISEPO), the Johns Hopkins University, Toronto University, Al Quds University, the Jordanian University of Science and Technology (JUST), and many other Palestinian and Jordanian universities and non-government organizations gathered in Amman to discuss the nutrition crisis in Palestine and evidence-based, state-of-the-art approaches to addressing that crisis.

The key objectives of the conference included facilitating participants' interactions and exposure to the current status of and challenges to the Palestinian nutrition sector, and approaches to and lessons learned from state-of-the-art nutrition policies and programs from the regional and international arenas. The conference was also intended to promote support for the Palestinian national nutrition strategy, and facilitate development of recommendations that would support implementation of that strategy, which was developed in response to internationally endorsed research indicating acute and chronic malnutrition of crisis proportions in the Palestinian population. Of particular emphasis during the presentations and plenary and working group discussions were issues related to adequate micronutrient intake throughout the life cycle, including the importance of appropriate breastfeeding; supplementation and fortification program challenges and success stories; overweight and underweight; and the critical contributions that current, valid data and appropriate, evidence-based policies make to successful nutrition programs at the service delivery, community and household levels.

Outcomes of the conference included

- formal adoption by the Palestinian Ministry of Health of the national nutrition strategy;
- donor agency representatives' commitment to include nutrition in their health agendas;
- acceptance of and commitment to implementation of the recommendations developed by the conference working groups on micronutrient adequacy, breastfeeding, and overweight/underweight;
- participants' commitment to support and encourage a life cycle approach to program and policy design, based on national and international data and standards;
- participants' commitment to develop and/or strengthen growth monitoring services, provider training programs promoting adherence to national and international standards and protocols for nutrition service delivery and counseling, school-based nutrition education programs, and a Palestinian nutrition surveillance program to monitor nutrition status and program effectiveness;
- recommendations that the Palestinian health sector adopt a strategy supporting exclusive breastfeeding for the first 6 months of life and establish a national breastfeeding committee;

- recommendations that a Palestinian national, multi-sectoral fortification committee with regional stakeholder participation be reconvened to explore the potential for, and if appropriate support development of a Palestinian fortification program; and
- unanimous commitment from participants and presenters to continue their efforts to improve nutritional health, and to meet again to further achievement of the conference objectives.



## PROCEEDINGS

### Background and Participants

The Maram Project: Improving Village and Community Health Services, funded by the United States Agency for International Development (USAID) is dedicated to improving the health status, and quality of health services for Palestinian families, particularly women and children. In support of this goal, Maram has played a significant role in facilitating national level dialogue on issues related to nutrition and to health sector research, monitoring and evaluation, as well as to technical capacity-building at all levels. In late 2002 the UN publicly recognized a humanitarian emergency in Palestine, based on research findings indicating a national nutrition crisis that continues to threaten the health of Palestinians, particularly children. Subsequently Maram, at the request of the Ministry of Health (MOH) and with support from USAID, worked with local stakeholders to facilitate the development of a national nutrition strategy in response to the research findings. Maram also facilitated research priority setting meetings with stakeholders in the West Bank and Gaza who emphasized the need for local capacity building in the areas of health sector research, monitoring and evaluation. Since then, Maram has been working in many ways with numerous local partners to support the nutrition strategy and facilitate enhanced local capacity nutrition and research arenas.

During the summer of 2003 Maram began working with Columbia University's Institute for Human Nutrition to develop a capacity building workshop focusing on nutrition-related research, monitoring, evaluation and surveillance. Key objectives of the planned conference included:

- Providing Palestinian professionals with exposure to state-of-the-art findings and approaches to nutrition related research and evidence-based nutrition policy and program design, monitoring and evaluation;
- Exposing international stakeholders to Palestinian nutrition programs and nutrition research findings, and the challenges to program implementation that Palestinian health professionals face;
- Facilitating international review of the Palestinian nutrition strategy and development of concrete ideas for evidence-based programs and/or policies to support the strategy;
- Facilitating development of action-oriented recommendations for improving nutrition to improve the health of the Palestinian population; and
- Facilitating dialogue and interaction between Palestinian and international health sector professionals.

Given the potential for political and security issues to restrict travel to and between the West Bank and Gaza Strip, the workshop was scheduled to take place in Amman, Jordan in January 2004. Representatives of the Jordanian Ministry of Health and Royal Medical Society contributed time and effort to facilitate the proceedings and provide guest speakers who added an important regional perspective to the agenda (See Annex 1 for the Conference Agenda). As time went on and interest in the conference grew, the regional and international aspects of the conference also grew. The faculty included the Maram Research, Monitoring and Evaluation technical team members from the Al Quds University, the Palestinian Nutrition and Health Research Institute, the Center for Development and Primary Health Care, the US-based University Research Co., LLC, and faculty from the Columbia University Institute for Human Nutrition in the U.S., Toronto University and the Canadian International Scientific Exchange Program Organization (CISEPO). Guest lecturers included representatives of USAID and the

USAID-funded PROFILES and LINKAGES Projects, the Palestinian Ministry of Health, Jordanian Royal Medical Services, the United Nations Refugee and Works Agency (UNRWA), Terres des Hommes, and Maram staff from American Near East Refugee Aid (ANERA), the Academy for Educational Development, and others. Together, they represented high level policy-making, implementing and donor organizations, and institutions of higher education (See the Agenda, Annex 1).

The participants were also comprised of a distinguished group of health sector decision-makers from:

- USAID;
- the Palestinian Ministries of Health, National Economy and Education;
- the Jordanian Ministry of Health and Royal Medical Services;
- UNRWA, UNICEF, and the Food and Agriculture Organization (FAO);
- Universities including Al Quds, Al Najjah and Johns Hopkins Universities and the Jordanian University of Science and Technology;
- Palestinian Health Sector NGOs; and
- Palestinian food and drug industry;

Their contributions to discussions, insightful and provocative questions, and efforts to develop practical recommendations to take back to their colleagues contributed enormously to the success of the conference.



## Conference Recommendations

### Key Outcomes/Recommendations

Outcomes of the conference included a set of four recommendations approved by all participants and endorsed by representatives of the Ministry of Health of Palestine:

- 1) formal adoption of the national nutrition strategy by the Ministry of Health;
- 2) commitment from the donor community that nutrition would be included in their health agenda;
- 3) acceptance of and commitment to implementation of the recommendations of the three working groups formed during the conference, which addressed breastfeeding, issues of undernutrition/underweight, and micronutrient intake.
- 4) commitment from all participants and presenters to continue their efforts to improve nutritional health and to use future meetings to further the aims addressed by the current conference;

### Working Group Recommendations

On the final day of the workshop, the participants identified 3 key concerns related to nutritional vulnerability of Palestinians and organized themselves into working groups to discuss issues and develop recommendations related to a) undernutrition/underweight; b) breastfeeding; and c) micronutrient adequacy. Their discussion put the combined knowledge and experience of the Palestinian leaders and international consultants to practical use, building on the theories, practical experiences, and Palestine-specific nutrition concerns that had been discussed during the previous days.

#### 1) Undernutrition/Underweight

The working group on undernutrition and underweight responded to findings of research conducted since the beginning of the 2<sup>nd</sup> Intifada and reviewed during the first day of the conference. Since 2002, when the situation was internationally identified as a crisis, acute malnutrition has decreased; however, chronic malnutrition, which limits physical growth (stunting), cognitive development, and future academic and economic attainment, has not improved significantly and both types of malnutrition remain a serious concern for the health sector. Undernutrition, also a problem of major public health significance, is even more widespread. The participants acknowledged the fact that both economic and physical access to food were among the primary constraints to good nutrition and that the political crisis introduces challenges that are beyond the direct control of the health sector. Nonetheless participants agreed that some steps could be taken to improve the situation. Recommendations included:

- Support and improve growth monitoring services and strengthen adherence to internationally approved and MOH approved guidelines and protocols to enhance quality;
- Support and encourage a life cycle approach to nutrition program and policy design, based on national and international data and standards;
- Support school-based education programs to improve children's diets, and potentially school-based supplementation programs such as the one currently being pilot-tested by the Ministries of Health and Education;
- Design and implement training programs for health providers to improve recognition and response to malnutrition and growth faltering, especially in children under 5 years of age;

- Design and implement education programs for mothers to improve their own diets, particularly during pregnancy and lactation, and to improve their knowledge and practices related to health diets for their families; and
- Establish a surveillance program to monitor nutritional status of vulnerable groups and determine effectiveness of programs.

## 2) Breastfeeding

The breastfeeding group recommendations stemmed from the findings of recent research indicating that while the vast majority of Palestinian infants are breastfed, only a small percentage are exclusively breastfeeding during the first six months, as recommended by WHO. The breastfeeding recommendations focused on adopting the international definition of exclusive breastfeeding and achieving a 30% increase in exclusive breastfeeding of infants up to 6 months of age, for all Palestine, by 2005. Participants agreed that the Ministry of Health should endorse the objective and lead implementation of a strategy to achieve that objective. Recommended elements for that strategy included:

- supporting and implementing Integrated Management of Child Illness (IMCI) guidelines and MOH-approved protocols for breastfeeding;
- endorsing a strategy supporting IMCI guidelines for complementary feeding beginning at six months of age, and breastfeeding to two years of age to reduce morbidity and mortality and promote health among Palestinian children
- establishing a national breastfeeding committee;
- in coordination with appropriate Palestinian Ministries and stakeholders, improving regulation of imported infant formula and breastmilk substitutes;
- developing and implementing breastfeeding curricula for providers at multiple levels to promote and support appropriate breastfeeding;
- engage local and regional media in promoting awareness of appropriate breastfeeding practices throughout Palestine and the region;
- developing and implementing school-based curricula to educate future mothers regarding breastfeeding and promote healthy practices;
- researching the underlying factors that lead to non-exclusive breastfeeding and early introduction of foods other than breastmilk; and
- establishing a sentinel surveillance program to monitor progress toward the defined objective.

## 3) Micronutrient Adequacy

The 3<sup>rd</sup> working group, which was particularly well-attended, responded to issues of micronutrient deficiencies as opposed to macronutrient or protein energy malnutrition, discussing these primarily in the context of children under five years of age and pregnant women. Of particular interest were iron, iodine, folic acid, and vitamin A, and approaches to addressing deficiencies including supplementation and fortification. Many emphasized the need for a food-based approach to improving overall micronutrient status of the Palestinian population; however, there was also concern that an appropriate diet is not adequately available to the Palestinian population, especially vulnerable groups such as pregnant and lactating women, given the deterioration of the economy and limited access to marketplaces.

Key micronutrient recommendations included:

- Reconvene the national fortification committee established in 2002 and ensure multi-sectoral participation from within Palestine, and potentially participation of other regional stakeholders who could offer relevant information from their own experiences, and potentially facilitate access to micronutrient mixes or other imports that might be required;
- Explore the potential for a Palestinian fortification program, reviewing the data already collected in Palestine, the experiences of the Jordanian flour fortification program and other fortification efforts in the Middle East region, and ensuring participation of all relevant Ministries and stakeholders in any fortification effort that is implemented. The working group called for:
  - Reemphasis on iodine supplementation of salt to ensure sustainable reductions in iodine deficiency;
  - Fortification of flour or another staple with folic acid, B vitamins including B12, and iron; and
  - Administration of high dose vitamin A supplements to neonates and infants using a strategy supportive of the need for age-related doses.
- Review the results of the current MOH/MOEd pilot-test of a school-based micronutrient supplementation program and support testing of new micronutrient supplements, with the caveat that they meet the recommended micronutrient mix identified for Palestine by an international expert supported by USAID and endorsed by the MOH;
- Identify the most appropriate and effective means of delivering micronutrient supplements to the population in general and to specific highly vulnerable groups, and establish distribution, monitoring and promotion systems to ensure their success.
- Establish effective nutrition education programs for providers, counselors and the general public to promote appropriate food choices at all stages of life;



## **The Evidence Base**

### Research Findings on the Nutritional Status of the Palestinian Population

(See 12 January: Abdeen, Shaheen; 14 January: abu Hamad)

A limited number of studies of various nutrition status and nutrition service delivery issues have been conducted in the past decade. Studies conducted since 2001 indicate significant concerns relative to the nutrition status of Palestinian families and the constraints faced by nutrition service delivery organizations:

- Data collected in 2002 indicates that nearly 10% of males and 9% of females aged 6-59 months were suffering from acute malnutrition, while 13% of children in the same age group were chronically malnourished. In 2003 the situation among children 6-59 months of age was somewhat better, with acute malnutrition at just 3.4% and chronic malnutrition at 10.7%.
- Nearly 21% of children in the West Bank and 19% of children in Gaza aged 6-59 months were suffering from anemia in 2002.
- In 2002, diets of women of reproductive age were low in energy and offered less than 80% of the recommended daily allowance (RDA) of key micronutrients including iron, folate, vitamin A and zinc.
- Also in 2002, only 60% of child health records in clinics that offered growth monitoring services included a record of the child's weight. Of the 60% of children diagnosed as malnourished 67% were provided only with parental counseling. Data collected in 2003 indicates a somewhat better situation in which 80% of children less than 36 months of age (a slightly smaller group than that included in the 2002 study) received growth monitoring assessments during their most recent well child visits.
- In 2002, 28% of clinics in the West Bank and Gaza Strip lacked iron supplements for children.

### Challenges to Research

The deteriorating nutritional status of the Palestinian population will have to be addressed by families and health sector professionals operating under significant economic and resource constraints:

- The World Bank report for 2003 indicated that the per capita income in Palestine was \$700, and more than 60% of Palestinians lived on less than \$2.10 per day.
- The MOH reports that per capita health expenditure is around US \$100, and totals approximately 8% of the Gross Domestic Product (GDP). (Source??)
- MOH reports indicate that about 50% of the population have medical insurance through government sponsored-programs, a decrease from the 70% coverage enjoyed prior to the beginning of the 2<sup>nd</sup> Intifada in 2001. Medical insurance fees received by the health sector have declined sharply as a result of the difficult political and economic situation.

### Recommendations for Research, Monitoring and Evaluation

- Develop a research agenda that includes clear national definitions of indicators, terms, and establishes standards for research that will promote compatibility of data and research findings over time (trends analysis) and in different studies, different locations, etc.;
- Build local capacity for research, particularly qualitative research;
- Promote cooperation among key multi-sectoral stakeholders including health professionals, educators, and community leaders to support behavior change communications and health education at all levels;

- Promote and monitor utilization of nutrition protocols for growth monitoring, counseling, etc. to strengthen nutrition monitoring and service delivery
- Establish a nutrition monitoring and surveillance program in the West Bank and Gaza Strip; and
- Establish fortification and supplementation programs as necessary based on nutrition data and assessment of appropriateness of programs.

Palestinian National Nutrition Strategy (See 12 January: Ramlawi)

In response to the findings of the USAID-funded research conducted jointly by Al Quds University, Care International, Global Management Consulting Group and ANERA in 2002, the MOH requested that the Maram Project work with local stakeholders to facilitate development of a national nutrition strategy. The strategy calls on the health sector to:

- Develop a strategic plan for nutrition programs;
- Manage malnutrition;
- Establish strategies for behavior change communications in support of efforts to improve nutritional status;
- Support and promote appropriate breastfeeding and complementary feeding;
- Design and implement appropriate micronutrient supplementation programs for vulnerable groups;
- Identify and implement appropriate food fortification programs and support public consumption of micronutrient rich foods;
- Develop protocols and guidelines for nutrition activities in the health sector;
- Build capacity of health personnel to address nutrition issues;
- Support applied research on food and nutrition issues; and
- Strengthen monitoring and surveillance for nutritional status and nutrition programs



### Program Summary

The initial presentations on the first day of the conference, 12 January, set the context, providing an overview of nutrition research conducted in Palestine over the past 10 years; key findings from the most recent studies; and constraints to good nutrition, quality health service delivery, and nutrition research (12 January: *Abdeen, Rizkallah, Ross, Shaheen*). Other presentations on the first day described gold standards and the most up-to-date approaches to nutrition programming from the international health sector. Subsequent discussion indicated that while there remains a need for monitoring and surveillance, and possibly for some targeted research on specific issues, there is enough data to support the need for enhanced, cohesive nutrition programming and policies to support nutrition programs and good nutritional choices at the household level. Presentations on nutrition programs currently under way in Jordan provided a regional perspective on successes that could potentially be replicated in Palestine (12 January: *Takrouri*). The next two days of presentations and discussion sessions (13 and 14 January) focused on key current knowledge and issues in the nutrition arena. The final day, 15 January, focused on developing recommendations for next steps to address nutrition issues in Palestine, as described above.

The importance of using up-to-date evidence to establish nutrition-related policies and programs, and modify them when the evidence indicates such a need, was clear from the presentations. One of the key underlying themes highlighted nutrition as one of the key contributors to health status throughout the life cycle, beginning with the nutritional health of the mother and continuing from infancy through adulthood to the end of life. Throughout the life cycle nutrition impacts not only health and survival, but also cognitive function, productivity, and educational and socioeconomic attainment (See 12 January: *Deckelbaum, Ross*, 13 January: *Kaluski, Kennedy*). Other recurring themes emphasized the importance of a diverse diet offering adequate protein, calorie, carbohydrate and micronutrient intake, which in many environments requires supplementation and/or fortification programs (13 January: *Davidson, Kaluski, Kennedy*). Such programs and other aspects of ensuring good nutrition at the population, family and individual level require multi-disciplinary approaches involving not only health sector stakeholders, but also the agriculture, education, import/export, and industry sectors. (See 12 January: *Ross, Takrouri*; 13 January: *Kennedy*). Further, interventions should be designed for community-level activities as well as for the health sector/health professionals (See 12 January: *Rizkallah*, 13 January: *Greenup, Khatib, Mousa*). These interventions should be evidence-based, and should include in their design monitoring and evaluation or surveillance activities, as appropriate, to support sustained positive results (13 January: *Kennedy*; 14 January: *Greenup, Kaluski*).

During the presentation and discussion of many of the issues described above, particularly related to food safety, supplementation and fortification, Palestinian, Jordanian and international experts were able to provide not only theoretical information but also practical examples of successful programs that could be replicated in the West Bank and Gaza, and lessons learned from less successful programs (See 12 January: *Takrouri*, 13 January, *Davidson, Kaluski, Kennedy, Khatib, Mousa, Qarqash*). A presentation on the Jordanian flour fortification program was of particular interest, generating much discussion and playing a key role in the deliberations of the micronutrient adequacy working group described above (See 13 January: *Qarqash*).



## **Key Nutrition Issues**

### Nutrition and the Life Cycle

Nutritional status is a key contributor to health throughout the life cycle. The mother's nutritional status before and during pregnancy and lactation impact the nutritional status and birthweight of her child, and can prevent birth defects including neural tube defects (folic acid). These birth outcomes can have long-term impact on the infant's future health and well-being.

### Adequate nutrient intake

In the last decade it has become clear that it is not only the amount of protein, carbohydrates and micronutrients, but also the quality of the sources and the nutrients themselves that contribute to nutritional status. As a result, involving and educating food producers, suppliers and consumers in efforts to improve nutritional status; and establishing and ensuring compliance with appropriate regulatory policies to ensure the safety and quality of foods, both locally produced and imported, is crucial to achieving and maintaining healthy nutritional status in a population.

### Dietary Diversity

Presenters at all levels stressed the importance of a diverse diet to achieve the appropriate quantity and balance of macro and micronutrients. Increasingly countries with national nutrition strategies are including recommendations on a varied diet, and the number of recognized and recommended food groups has grown from the traditional 'four food groups' to a variety of models.

### Fortification

While many nutritionists have sought food-based solutions, it is increasingly clear that particularly for populations with inadequate food security, fortification and/or supplementation programs may be required to achieve adequate dietary intake, although their success requires a significant, on-going investment in monitoring program quality and promoting public use of the fortified products and/or supplements.

In Jordan, a successful iodized salt program has helped to address iodine deficiency and goiter. Further, in response to recent data indicating iron deficiency anemia among 22% of women and 10% of pre-school aged children, a multi-sectoral effort based on lessons learned from the iodized salt program led to design of a flour fortification program. Fortification is estimated to cost 0.03 JD per capita per year, compared to 4.49 JD per capita per year to treat anemia. A multi-sectoral national committee involving representatives of the Ministries of Health and Interior and the Jordanian Royal Medical Society, laboratories, flour millers and food industry representatives helps to ensure the program's success. Consumers, appropriately, are also viewed as a critical partner.

### Food safety

The availability of safe foods is a crucial factor for good nutrition. This requires participation and monitoring of a number of public and private sector players, e.g. the health, agriculture, import/export and education sectors, along with food production, packaging, supply and preparation/service industries. All of these must be involved in a sensitive monitoring and surveillance program supported by policy and regulatory systems that promote quality and minimize risk.

### Nutrition Research

Although there have been significant variations in the approaches and findings of different nutrition studies conducted in the West Bank and Gaza Strip, there is consensus that malnutrition and anemia pose significant health threats to Palestinians, especially pregnant women and children, and serious challenges to the health sector. Research results have been limited, and have had limited influence on policy and program development. Standardizing approaches, definitions, and reference points within the nutrition research sector could improve that situation. The need for further research is limited; however, some areas do require further investigation:

- specific micronutrient deficiencies;
- factors disrupting exclusive breastfeeding;
- nutrition throughout the lifecycle, particularly women's pre-pregnancy nutritional status;
- nutrition and pre-maturity;
- impact of providers' knowledge, attitudes and practices toward IMCI;
- food safety and security; and
- nutrition-related diseases other than malnutrition.

The Jordanian health sector faces many of the same challenges to research and has similar data needs. It could be useful to explore sharing information and potentially taking a more regional approach to investigating nutrition-related issues.

### Monitoring and Evaluation

Monitoring, evaluation and nutrition surveillance are crucial to ensuring the success of nutrition programs; however, effective monitoring systems are not currently available in Palestine. Monitoring and evaluation activities should focus not only on household level issues, but also on the community level, the food pipeline and food supply.



- ANNEX 1: CONFERENCE AGENDA

**Nutrition Programs: Challenges & Opportunities**  
**January 12 – 16, 2004**  
**Amman-Jordan-Third Circle**  
**Le Royal Hotel**

**Sunday, January 11, 2004**

**Registration and Reception**

**6-8:00 pm**

**Monday, January 12, 2004**

**WELCOME AND INTRODUCTION**

9:00 **Welcome speeches**  
– **Dr. Umaiye Khammash**, Chief of Party, MARAM  
9:30 **HE: Dr. Munther Al-Sharif**, Palestinian Ministry of Health  
**HE: Dr. Sa'd Kharabsheh**, Jordanian Ministry of Health  
**Mr. Larry Garber**, USAID Mission Director, WBG  
**HE: Dr. Manaf Hijazi**, Jordanian Royal Medical Services

**ORIENTATION TO THE CONFERENCE**

9:30- **Workshop Objectives: Richard Deckelbaum**, Columbia  
10.00 University, **Ellen Coates**, MARAM  
**Workshop Agenda: Mohammad Shaheen**, MARAM  
**Administrative Issues, Hasna Dajani**, MARAM

**NUTRITION IN THE REGION**

**Co-Chair: Sa'd Kharabshe**, Ministry of Health, Jordan  
**Yehia Abed**, MARAM

10- **Palestinian Nutrition Status- Research Findings**  
10:45 Research Matrix: **Mohammad Shaheen**, MARAM  
Malnutrition and Food Security: **Ziad Abdeen**, MARAM  
Vitamin A: **Asa'd Ramalawi** (MoH) & **Rand Salman**, MARAM

10:45-11:15 **Coffee Break**

- 11:15-11:45                    **Nutrition Profiles: Jay Ross**, Profiles Project, AED
- 11:45-12:15                    **Nutrition Survey in Jordan: Attitudes and Practices: Riad Al-Sarayra**, Royal Medical Services, Jordan
- 12.15– 12.30                    **Palestinian Nutrition Strategy: Asa'd Ramlawi**, Palestinian Ministry of Health
- 12.30– 13.00                    **Jordan Nutrition Strategy-Lessons learned: Hamed Takroui**, Jordan Ministry of Health
- 13.00 – 13.30                    **Other country Strategies: Stanley Zlotkin**, Toronto University, Canada
- 13:30 – 14:30                    **Lunch**

### The Research Rationale for Better Nutrition Throughout the Lifecycle

**Chair: Ellen Coates, MARAM**

- 13:30 – 14:30                    **Health Outcomes: Richard Deckelbaum**, Columbia University, New York, USA  
**Benefits to Society: Bassam abu Hamad**, MARAM Behavioral Change and Communication: TIPS Research: **Najwa Rizkallah**, MARAM.
- 15.30 –16:30                    **General Discussion**  
**Evaluation of the first day**

Tuesday, January 13, 2004

Evaluation of Nutritional Status in Individuals and Populations

Chair: Frances Davidson, USAID-Washington

- 9:00- 9:30                    **Macronutrient and Micronutrient Status:**  
**Ziad Abdeen**, MARAM and **Dorit Kaluski**, Columbia University, New York, USA
- 9:30- 10:00                **Evaluating Co-Morbidities:**  
**Richard Deckelbaum**, Columbia University, New York, USA
- 10:00-10:30                **Food Security, Eileen Kennedy**, Columbia University, New York, USA
- 10:30 - 11:00              **Nutrition Education for the Community:**  
**Marion Greenup**, Columbia University, New York, USA
- 11:00-11:30                **Coffee/Tea Break**
- 11:30 -12:00                **Community-Based Nutrition-Lessons learned in Palestine:**  
**I'tedal Al-Khateeb**, Ard Al-Ensan  
**Fathi Mousa**, UNRWA, Jordan  
**Malek Qutteineh**, MARAM
- 12:00-12:30                **Food Safety: Dorit Kaluski**, Columbia University, New York, USA
- 12:30- 13:00                **Nutrition and Food Policy: Eileen Kennedy**, Columbia University, New York, USA
- 13:00 –14:00                **Lunch**

## Micronutrients

### Co-Chairs:

**Hamed Takroui- Jordan University**

**Asa'd Ramlawi- Palestinian Ministry of Health**

- 14:00-14:20      ***The impact of iron supplements on anemia in infants and young children:*** **Stanley Zlotkin**, Toronto University, Canada
- 14:20-14:40      ***The impact of Fortification on anemia in infants and young children:*** **Frances Davidson**, USAID, Washington, USA
- 14:40-15:10      ***Food Based Strategies :*** **E. Kennedy**, Columbia University, New York, USA
- 15:10-15:30      ***Coffee/Tea Break***
- 15:30-16:00      ***Supplementation and Fortification:*** **Dorit Kaluski**, Columbia University, New York, USA
- 16:00-16:30      ***Fortification- The Jordanian Experience:*** **Wisam Qarqash**, Ministry of Health, Jordan
- 16:30-17:00      ***General Discussion***
- Evaluation of the second day***

**Wednesday, January 14, 2004**

**Research, Monitoring, and Evaluation**

**Chair: R. Deckelbaum, Columbia University, New York, USA**

- 9:00-9:45      **Nutrition Surveillance and Forecasting:**  
**Dorit Kaluski**, Columbia University, New York, USA
- 9:45-10:30    **Essential Laboratory Services:** **David Talmage** , Columbia  
University, New York, USA
- 10:30-11:00   **Coffee Break**
- 11:00-11:30   **Challenges of Nutrition Research and Evaluation:**  
**Bassam Abu Hamad**, MARAM, **Naji Abu Rmeileh**, Jordan  
University Science & Technology
- 11:30-12:30:   **General Discussion**
- 12:30-13:30   **Lunch**

**Implementing Research-Based Nutrition Programs**

**Chair: Ziad Abdeen, Research, Monitoring and Evaluation Team, MARAM**

- 13:30-14:00    **Overview:** **Marion Greenup**, Columbia University,  
New York, USA
- 14:00-14:30    **Efficacy of Micronutrients Fortification:**  
**Frances Davidson**, USAID, Washington, USA
- 14:30-15:00    **Coffee/Tea Break**
- 15:00-15:30    **Building research/evaluation and sustainability into  
nutrition programs:** **Marion Greenup**, Columbia University,  
New York, USA
- 15:30-16:00    **General Discussion**
- Evaluation of the third day**

**Thursday, January 15, 2004**

**Developing Research-Based Action Plans for Nutrition**

**Chair: Mohamad Shaheen, MARAM**

- 9:00-9:45            ***Review of Key Points***  
General Discussion – All Participants
- 9:45-10:00        ***Templates for Action Plans***  
**Ellen Coates**, MARAM, **Marion Greenup**, Columbia  
University, **Richard Deckelbaum**, Columbia University
- 10:00-10:30       ***Coffee/Tea Break***
- 10:30-13:00       ***Group Discussions***
- 13:00-14:00       ***Lunch***
- 14:00-16:00       ***Continuation of Group Discussions***
- 16:00-17:00       ***Presentations of group work***  
***Evaluation of the fourth day***

**Friday, January 16, 2004**

**Overall Recommendations & Wrap up**

**Co-Chairs: Umaiye Khammash and Frances Davidson**

- 9:00-10:30:**    ***Overview of Workshop Recommendations: Panel  
discussion***
- 10:30-11:00**    ***Coffee/Tea Break***
- 11:00: 11:30** ***Wrap up and final evaluation***

## ANNEX 2: REFERENCE LIST

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