TECHNICAL CONSULTATION FOR DEVELOPING A TECHNICAL GUIDE IN FOOD AND NUTRITION SURVEILLANCE SYSTEM FOR COUNTRIES IN THE EASTERN MEDITERRANEAN REGION

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WHO Global Strategic focus

Area 1: Development and operationalization of integrated food and nutrition policies - *Putting health back in the food and nutrition policy agenda*

Area 2: Intelligence of needs and response - *Providing the factual dimension of nutrition issues*

Area 3: Development of evidence based programme guidance - *Selecting effective options for each context*

Area 4: Advocacy - *Providing the rationale for investment and action*
Identifying nutritional problems of a population in a clear and measurable way will help to:

- Define needs, opportunities and constraints, and prioritize solutions.
- Evaluate programme impact and improve efficiency.
- Influence decision making in strategic planning, policy formulation and resource allocation.
- Raise community awareness and participation to maximize long-term impact.
To define the nutritional problem of the targeted population, it is necessary to **measure** its **nutritional status**.

**Nutritional status assessments** enable to determine whether the individual is well-nourished or undernourished.
Guidelines for Designing a Monitoring System

• For whom the data are collected (stakeholders)?
• What data are collected (questions and indicators)?
• How data are collected (methodology)?
• Who collects the data (personnel)?
• When data are collected (frequency)?
• Who reports the data and when?
• Who does what based on the information?
Project management cycle

- Project Planning
- Project Implementation
- Impact & Efficiency Evaluation
- Feedback to Policy process

• M&E

• Adapted from Valadez (1991)
• Food Fortification Monitoring System

Locally Produced Foods

Quality Control & Assurance

Factory Inspection Technical Auditing

Retail Stores Inspection

Imported Food

• Certificate of conformity

Industry (internal)

External

Commercial

Monitoring System
What causes malnutrition?

Malnutrition

Immediate Causes
- Inadequate dietary intake
- Infection

Underlying Causes
- Inadequate household food security
- Inadequate maternal and child care
- Inadequate access to water, sanitation and health services
The conceptual framework developed by FAO’s Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS): Nutrition surveillance system

- Social-Economic and Political Environment
  - National level
    - Population
    - Education
    - Macroeconomy
    - Policy environment
    - Natural resource endowment
    - Agricultural sector
    - Markets
  - Subnational level
    - Household characteristics
    - Livelihood systems
    - Social institutions
    - Cultural attitudes

- Food Availability (trends and levels)
  - Production
  - Imports (net)
  - Utilization (food, non-food)
  - Stocks

- Stability of Food Supplies and Access (variability)
  - Food production
  - Incomes
  - Markets
  - Social entitlements

- Food Consumption
  - Energy intake
  - Nutrient intake

- Food Utilization by the Body
  - Health status

- Health and Sanitation
  - Health care practices
  - Hygiene
  - Water quality
  - Sanitation
  - Food safety and quality

- Access to Food (trends and levels)
  - Purchasing power
  - Market integration
  - Access to markets

- Care Practices
  - Child care
  - Feeding practices
  - Nutrition education
  - Food preparation
  - Eating habits
  - Intra-household food distribution

- Nutritional Status
Link between Food Security and Nutrition Status

- Food Security (Nutritional Status)
  - Food Intake
  - Health Status

- Availability
  - Own Production
  - Trade
  - Storage

- Access
  - Income
  - Prices
  - Subsidies
  - Access to market

- Use and Utilisation
  - Nutritional Knowledge
  - Nutritional behaviour

- Stability
  - Quality of water
  - Hygiene
  - Health facilities
  - Caring capacities

Socio-economic environment: e.g. Population growth, potential resources, education, public assistance, etc.
Target of the Nutrition Surveillance

- Women in the reproductive age 15-49 year
- Children less than 5 years
- School age children

Other groups
- Adolescent
- Elderly
Methods of FNSS

1. large scale national surveys
2. repeated small scale surveys
3. clinic-based monitoring
4. Sentinel site surveillance
5. school census data

In an emergency setting additional sources of data can be obtained from:

1. rapid nutrition assessments
2. rapid screening based on mid-upper arm circumference (MUAC)
Nutritional status can be assessed through:

- **Body (anthropometric) measurements**, used to measure growth in children and body weight changes in adults.

- **Clinical examination** and **biochemical testing**, used to diagnose deficiencies of micronutrients (e.g. iodine, vitamin A and iron).
Two major **sources of anthropometric information** are:

- Demographic and Health Surveys (DHS)
- Multiple Indicator Cluster Survey (MICS)

Four main **data collection methodologies** that provide anthropometric information are:

- Repeated Surveys
- Growth Monitoring
- Sentinel Site Surveillance
- School Census Data
Sentinel site surveillance involves surveillance in a limited number of sites, to detect trends in the overall well-being of the population.

The sites may be specific population groups or villages that cover populations at risk.

It can be:
- centrally-based sentinel site surveillance, or
- community-based sentinel site surveillance.

On page 9 of the Learner Notes you may find a table describing the features of sentinel site surveillance.
The objective is to identify high-risk children with poor health, malnutrition and low socio-economic status.

School census data relates to nutritional assessment occasionally undertaken in schools.

On page 10 of the Learner Notes you may find a table describing the features of school census data.
Other key factors to consider are:

- **Response capacity** at different levels (household, community, district, national and international).
- **Environmental factors**, such as security, geographical terrain and infrastructure.
- **Seasonality** of malnutrition in most developing countries.
- **Emergency versus non-emergency** contexts.
- **Organizational mandate** and implementation capacity.
Selection Nutrition and Food Surveillance System

Before undertaking any survey, consider:
- are there any existing data?
- national surveys are very expensive and time-consuming compared to community based systems: is it necessary to look for donor funding?
- is there a need to sustain a system over a period of time?

When deciding which type of information source should be used, one must match costs with resource availability.
Monitoring system

- **Access**: are the fortified products available and affordable to the target population?
- **Utilization**: are the fortified products being purchased by the target households?
- **Coverage**: are the fortified products being consumed by the target population?
- **Impact**: has the nutritional status of the target population improved?
# Internal, External and Commercial Monitoring

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Examples of aspects to be monitored</th>
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| To ensure that fortified foods meet nutrient quality and safety standards (from factory to retail store). | 1. Are Good Manufacturing Practices (GMP) applied?  
2. Are Hazard Analysis Critical Control Points (HACCP) in place? Is Quality Assurance/Quality Control (QA/QC) correctly done?  
3. Are inspection and technical auditing at factory and packers levels implemented satisfactorily?  
4. Is verification of legal compliance at retail stores done as planned? |
Monitoring Flour Fortification*

- Does target population purchase fortified flour?

- Determine what you need to know to answer question
- Determine what, who, where to survey
- Determine how and who collect information
- Determine frequency of data collection

- Question
  - Is fortified flour available in household?

- Indicator
  - Product label; iron content
  - Households

- Method
  - Spot test for iron

- Who collects
  - Health Department team

- Frequency
  - Depends on maturity of program; less frequently over time

*Parvanta, 2003
Impact Monitoring

- Impact: expected effects (changes) of a project/program on a target population
- To assess if prevalence of a micronutrient deficiency is at or below pre-determined level – e.g.
  - Reduce prevalence of iron deficiency in non-pregnant women to 20% or less
- Likely sufficient for most country program evaluations
When to do impact monitoring?

- Once process monitoring system indicates:
  - Adequate program implementation
  - Adequate program coverage for minimum period (depends on target nutrient)

- Not Before!
Impact monitoring**

- **Is iron status of target population improving?**

  - Determine what you need to know to answer question
  - Determine what, who, where to survey
  - Determine who, how to collect the information
  - Determine frequency of data collection

  - **Question**
    - Has anemia decreased?*

  - **Indicator**
    - Hb*

  - **Method**
    - Mothers of children in growth monitoring clinics*

  - **Who collects**
    - Growth monitoring clinic nurses*

  - **Frequency**
    - Bi-annually*

  - **Sample answers**
    - Parvanta, 2003

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**World Health Organization**
Regional Office for the Eastern Mediterranean

EMRO-CDC Monitoring Workshop March 2004
DECREASE PREVALENCE OF ANEMIA

MILLERS COMPLY WITH QUALITY SPECIFICATIONS IN PRODUCTION OF FORTIFIED BALADI WHEAT FLOUR

AVAILABILITY OF FORTIFIED BALADI BREAD IN MARKET

PRODUCTION AND DISTRIBUTION OF FORTIFIED BALADI BREAD

PURCHASE OF FORTIFIED BALADI BREAD IN HOUSEHOLDS

REGULAR CONSUMPTION OF FORTIFIED BALADI BREAD

INTAKE OF IRON AND FOLIC ACID IN TARGET POPULATION

DECREASE PREVALENCE OF ANEMIA

IMPROVE NUTRITIONAL STATUS OF IRON AND FOLIC ACID IN WOMEN OF REPRODUCTIVE AGE AND CHILDREN

CASES OF NEURAL TUBE DEFECTS

REDUCE INFANT MORTALITY (MDG)

DECREASE MATERNAL HEALTH (MDG)

NATIONAL FORTIFICATION ALLIANCE (PRIVATE SECTOR, GOVERNMENT SECTOR, INTERNATIONAL DEVELOPMENT AGENCIES, NGOs, RESEARCH INSTITUTIONS), GAIN GRANT, OTHER CONTRIBUTIONS IN-KIND FROM PARTNERS

LEGAL FRAMEWORK (GUIDELINES & PROCEDURES) FOR REGULATORY MONITORING

IMPLEMENTATION OF EXTERNAL REGULATORY MONITORING (TECHNICAL AUDITING AND INSPECTIONS) IN MILLS AND COMMERCIAL LEVEL

IMPLEMENTATION OF STRATEGY FOR INFORMATION, COMMUNICATION, AND EDUCATION

ADVOCACY AND PUBLIC RELATIONS (LEGISLATORS, POLITICIANS, UNIVERSITIES, TEACHERS, INDUSTRY, BAKERIES, RETAILERS AND CONSUMERS)

ADDITIONAL IRON AND FOLIC ACID INTERVENTIONS

IMPROVE KNOWLEDGE AND ATTITUDES ABOUT FORTIFIED BALADI BREAD AMONG MILLERS, BAKERIES, RETAILERS AND CONSUMERS

CONSUMERS KNOW ABOUT FORTIFIED BALADI BREAD

REGULAR CONSUMPTION OF FORTIFIED BALADI BREAD

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