1.-.SOCIO-NUTRITIONAL STATE IN SLUMS IN GREATER BUENOS AIRES. Marcilla de Parada N.* y Río M.E.**, Convenio Facultad de C.E. Quím y Nat. Universidad de Morón*, Argentina. **Facultad de Farmacia y Bioquímica, Universidad de Buenos Aires**, Argentina.

2.- USE OF TAP WATER AS A MEANS OF NUTRIENTS: EXPERIMENTAL STUDY USING FERROUS SULPHATE IN AN URBAN CRECHE WITH ANAEMIC CHILDREN. Dutra de Oliveira J. E., Ferreira J.F. y Silva de Souza M.M. Departamento de Clínica Médica, Faculdade da Medicina, USP de Ribeirão Preto, Brasil.

3.-STUDY OF IRON DEFICIENCY IN CHILDREN ATTENDING A HEALTH CENTRE. Lemos Oliveira F.M., Tone L.G. y Dutra de Oliveira J.E.. Centro de Saúde Escola de Ipiranga (CSE) Faculdade de Medicina de Ribeirão Preto - USP, Ribeirão Preto - SP, Brasil.

4.-PROFILE OF CONSUMPTION AND NUTRITION OF FAMILIES OF STUDENTS IN PUBLIC SCHOOLS IN FIRST GRADE. Martins Galeazzi M.A. e Amorim S.de. Núcleo de Estudos e Pesquisas em Alimentação - UNICAMP - Brasil.

5.-ENDEF: NUTRITIONAL PATTERNS AND BASIC BASKET OF CONSUMPTION IN SEVEN REGIONS OF BRAZIL. Martins Galeazzi M.A., de A. Rodrigues M.A. Núcleo de Estudos e Pesquisas em Alimentação - UNICAMP - Brasil

6.-ANALYSIS OF STUDIES OF FAMILY (ORCAMENTOS) 1971/1972 AND 1981/1982: CHANGES OF FOOD HABITS AND THE ROLE OF INDUSTRY IN FOOD. Martins Galeazzi M.A. e Finazzi E.M. Núcleo de Estudos e Pesquisas em Alimentacao - UNICAMP - Brasil

7.- FOOD CONSUMPTION OF THE ELDERLY LIVING IN OLD PERSON'S HOME IN MACEIO, ALAGOAS, BRAZIL. Araujo M.A.A., Tavares E.M., Tavares D.A.S. Universidad Federal de Alagoas, Brasil.

8.- STUDY OF BASIC "NUTRITION AND HEALTH"IN MARGINAL URBAN ZONES OF CUCUTA, COLOMBIA. Atehortúa P.W.*, Knobloch U.**, List B.**, Wilches G.*, Santos M.*. * Instituto de los Servicios de Salud de Norte de Santander (NORSSALUD), **Proyecto de Atención Primaria en Salud-Deutsche Gessellschaft fur technische Zusammenarbeit (GTZ), Colombia.

9.- THE NUTRITIONAL DEVELOPMENT OF CHILDREN FROM KINDERGARDEN (1986) TO 5TH YEAR OF PRIMARY SCHOOL (1991). Prieto de Gómez N.* y Samper de Paredes B**. * Pontificia Universidad Joveriana, Colombia, ** Universidad de Cornell, EE.UU.

10.- URBAN NUTRITION IN PRESCHOOL CHILDREN IN COSTA RICA. Murillo, S. Escuela de Nutrición, Universidad de Costa Rica, San Pedro, San José, Costa Rica.

11.- CHILD GROWTH IN MARGINAL URBAN ZONES IN COSTA RICA. Muñoz L.M. Universidad de Costa Rica, San Pedro, San José, Costa Rica.

12.- FACTORS INFLUENCING THE IMPACT OF A COMPLEMENTARY FOOD PROGRAM IN URBAN AND RURAL SCHOLARS OF UBLE-CHILE. Plaza Ceballos N., Kaempfer A.M.*, Vidal Tapia W., González Stäger M.A. Universidad del Bío-Bío. VIII Región, Chillán, Chile; Facultad de Medicina, Universidad de Chile, Santiago, Chile.

13.- A STUDY OF HEIGHT INCREASES IN STUDENTS IN BASIC EDUCATION IN THE CITY OF CHILAN. Plaza C.N., Vidal T.W., González S.M.A. Departamento de Nutrición, Universidad del Bío-Bío, Chillán Chile.

14. ASSESSMENT OF THE NUTRITIONAL STATUS OF AN ELDERLY GROUP IN CHILE. Jiménez M., Truffello I., Valiente S. Instituto de Nutrición y Tecnología de los Alimentos (INTA) Universidad de Chile.

15. ASSESSMENT OF THE NUTRITIONAL STATUS IN WORKERS. Aguayo M., Guzmán E. y Yañez E. Universidad de Chile, INTA, Santiago, Chile.

16. DAILY CALCIUM INTAKE IN A GROUP OF POSTMENOPAUSAL WOMEN WITH OSTEOPOROSIS. Vega R., Jasqui S., Fernández M., Tamayo J. y Peña J.C. Departamento de Nefrología y Metabolismo Mineral. Instituto Nacional de la Nutrición Salvador Zubirán (INNSZ), México.

17. CARDIOVASCULAR RISK FACTORS IN A SUBURBAN MEXICAN POPULATION. Escamilla Cejudo.J.A.*, Duarte Melgosa M.E.**, Escandón Romero C.**, Escobedo de la P.J. *,**. Instituto Nacional de Salud Pública de México*. Escuela de Salud Pública de México*. Medicina Preventiva, IMSS**, México.

18. CHANGES IN DIET OF MIGRANTS TO CANCUN, QUINTANA ROO, MEXICO. Daltabuit Godas M. Instituto de Investigaciones Antropológicas, Universidad Nacional Autónoma de México, México.

19. FAMILY ALLOCATION PROGRAMME FOR UNDERNOURISHED CHILDREN (COFADE). Puentes Rojas R. Hospital Sotero del Río, Programa COFADE, Santiago-Chile.

20.-RESEARCH AND FOOD PROMOTION PROGRAMME (PROAL). Palma M y Vázquez M. Servicio Evangélico para el Desarrollo, Santiago, Chile.

21.-RESEARCH INTO THE FOOD SITUATION IN POPULATION SECTORS. Palma MM. y Vázquez M. Servicio Evangélico para el Desarrollo (SEPADE), Santiago, Chile.

22.-NEEDS AND FAMILY EXPECTATIONS OF THE PRESCHOOL SERVICES IN THE POOR URBAN SECTOR OF SANTIAGO. Atalah E, Rebolledo A, Bustos P, Edwards M, y Amesti A. Departamento de Nutrición, Facultad de Medicina, Universidad de Chile y Centro de Estudios del Desarrollo del Preescolar. Santiago, Chile.

23.-RESULTS OF FOOD EDUCATION IN THE ELDERLY. González T. G.Caritas-Chile, Santiago, Chile.

24.-PREVALENCE OF ABNORMAL CONJUNCTIVAL CELL IMPRINTS IN PERIURBAN POPULATION OF TEGUCIGALPA, HONDURAS. Arita M., Bulux J., Mendoza I., Alvarado V. Centro de Estudios de Sensoriopatías, Senectud e Impedimentos y Alteraciones Metabólicas, Ciudad de Guatemala, Guatemala y Fundación Internacional del Ojo, Tegucigalpa, Honduras.

25.-SOCIO-ECONOMIC AND HEALTH STATUS IN THE ELDERLY LIVING IN PERIURBAN AREAS OF GUATEMALA. Valdez C.J., Rivera A.de, Zepeda E.de, López C.V., Hokell M., Cardona R., Maya J.C., Solomons N. Centro de Estudios en Sensoriopatias, Senectud, Impedimentos y Alteraciones Metabólicas (CESSIAM), Guatemala, Guatemala.

26.-VITAMIN A STATUS IN PREGNANT WOMEN FROM THE METROPOLITAN AREA OF GUATEMALA: INFLUENCE OF CLIMATE, DIET AND HYPERTENSIVE DISEASE. López C.Y., Quán de Serrano J., Portocarrero L., Zepeda E., Vázquez A., Bulux J., Haskell M., Solomons N., Russell R.M., Morrow F.D. Centro de Estudios en Sensoriopatías, Senectud, Impedimentos y Alteraciones Metabólicas (CESSIAM), Guatemala, Guatemala.

27.-FOOD PATTERN OF STUDENTS IN GUATEMALA. Quán de Serrano J., y Portocarrero L. de. Centro de Estudios en Sensoriopatías, Senectud, Impedimentos y Alteraciones Metabólicas (CESSIAM), Guatemala, Guatemala.

28.-HAEMATOLOGICAL-NUTRITIONAL STATUS IN CHILDREN OF SCHOOL AGE FROM URBAN AND RURAL AREAS OF GUATEMALA. Romero M.E., Bulux J., Grazioso C., Valdéz C., Rivera C.E., Haskell M., Ramírez I. de, López C.Y., Serrano J., Rivera A. de, Santizo M. de, Guerrero A. de, Solomons N. Centro de Estudios en Sensoriopatías, Senectud Impedimentos y Alteraciones Metabólicas (CESSIAM), Guatemala, Guatemala.

29.-DIETARY INTAKE DURING THE THIRD TRIMESTER OF PREGNANCY IN WOMEN FROM A PERIURBAN COMMUNITY IN GUATEMALA. Portocarrero L. de, Quán de Serrano J., Vázquez A., López Y., Solomons N. Centro de Estudios en Sensoriopatias, Senectud, Impedimentos y Alteraciones Metabólicas (CESSIAM), Guatemala, Guatemala.

30.-CHANGES IN FOOD BEHAVIOUR IN THE PROCESS OF "MICRO-URBANIZATION" BETWEEN PLANTATIONS, VILLAGES AND THE CHIEF TOWN IN A COFFEE GROWING AREA WITHIN GUATEMALA. Saenz de Tejada E. y Mendoza I. Centro de Estudios en Sensoriopatias, Senectud, Impedimentos y Alteraciones Metabólicas (CESSIAM) Guatemala, Guatemala.

31.-BODY COMPOSITION OF ELDERLY GUATEMALANS OF RURAL AND PERIURBAN AREAS. Mendoza I., Vásquez A., Valdéz C., Breuer K., Haskell M., Mazariegos M. Centro de Estudios en Sensoriopatías, Senectud, Impedimentos y Alteraciones Metabólicas (CESSIAM), Guatemala, Guatemala.

32.- ETNO-BOTANICAL STUDY OF THE MOST COMMON EDIBLE WILD PLANTS IN THE WESTERN REGION OF HONDURAS. Mejía Ordoñez T.M. Universidad Nacional Autónoma de Honduras. Tegucigalpa, Honduras.

33.-INTERACTION BETWEEN LACTATION, MORBIDITY FROM DIARRHOEA AND GROWTH IN A COHORT OF CHILDREN LESS THAN SIX MONTHS. Villalpando H.S., López A.M., Fajardo G.A. Unidad de Investigación Clínica en Nutrición de Servicios de Investigación Médica "Luis Castelazo Ayala", IMSS, México.

34.- A LONGITUDINAL STUDY OF NUTRITION AND GROWTH IN A GROUP OF INFANTS IN HERMOSILLO, SONORA, MEXICO. Jiménez G.F., Román P.R. y Grijalva H.I. Centro de investigación y Desarrollo, A.C., Hermosillo,Sonora, México.

35.-FOOD CONSUMPTION IN MEXICO CITY ASSESSED BY FOOD WASTE IN THE EIGHTIES. Franco S., Gutierrez A. Centro de Ecodesarrollo, D.F., México.

36.-FAMILY STRUCTURE AND NUTRITION IN A VILLAGE IN THE NEIGHBOURHOOD OF XOCHIMIL-CO, MEXICO. Appendini K., Martínez C., Rubalcava R.M., Salles V. y Tarrés M.L. El Colegio de México. México.

37.-SUPPORT PROGRAMME FOR THE PROTECTION AND IMPROVEMENT OF HEALTH IN PRESCHOOL CHILDREN. Sentíes E. Y. Secretaría de Salud (SSA), Dirección General de Atención Materno Infantil. México.

38.-RELATIONSHIP BETWEEN URBAN DIET AND HYPERLIPIDAEMIA IN A LOW SOCIO-ECONOMIC LEVEL. Lisci R.E., Aranda G.P., Villalpando C.E.. México.

39.-ANTHROPOMETRIC STUDY IN WORKING MINORS. Tapia C.A., Rodríguez C.A.A., Barrera S.F. Facultad de Medicina, Universidad de Guadalajara. México.

40.-SOCIO-ECONOMIC CHARACTERISTICS, FOOD HABITS AND HEALTH IN A GROUP OF WORKERS IN MEXICO CITY. Aguirre, A.J. y Escobar P.M. Instituto Nacional de la Nutrición Salvador Zubirán. México.

41.-ADOLESCENTS AND PREGNANCY. IMPACT OF A PSYCHO-SOCIAL INTERVENTION ON MATERNAL NUTRITION. Casanueva E., Legorreta D. Instituto Nacional de Perinatología. México.

42.-EVALUATION OF A TEST FOR DIABETES MELLITUS IN WOMEN. Avila R.H. y Tavano C.L. Instituto Nacional de Perinatología. México.

43.-GASTRIC CANCER AND THE CONSUMPTION OF CHILLI. López Carrillo L. y Hernández Avila M. Instituto Nacional de Salud Pública. México.

44.-FEEDING OF NEWBORNS IN MEXICAN HOSPITALS Ríos E., Neuhauser L., Mergen S. y Melnick V. Instituto Nacional de la Nutrición Salvador Zubirán. México.

45. FLUORIDE INGESTION FROM WATER AND ITS RELATIONSHIP WITH DENTAL HEALTH IN THE STATE OF SONORA, MEXICO. Grijalva M.I., Valenzuela A.J., Benítez M.A., Silveira M.I. Centro de Investigación en Alimentación y Desarrollo A.C.. México.

46.-NUTRITIONAL FOOD PROFILE IN ELDERLY FROM THE JALICIENCE CENTRE FOR THE ELDERLY, JALISCO, MEXICO. Arias Merino E.D., Arias Merino M.J. y Evangelista de León A. Universidad de Guadalajara. México.

47.-AFLATOXIN B1-DNA (ADUCTOS) AS AN IMPORTANT FACTOR OF COLON CANCER IN HUMANS. Carvajal M.*, Harrison J.C.**, Froggatt N.J.**, Leveson S.H.*** y Garner R.C.**. Depto. de Botánica, Instituto de Biología,

48.-SUPPORT PROGRAM FOR FOOD AND ITS IMPACT FOR THE HEALTH OF THE POPULATION OF POPULAR SUBURBS. THE CASE OF THE METROPOLITAN ZONE OF MEXICO CITY. Schteingart M., Ortega E. y Martínez F. El Colegio de México. México.

49-THE ROLE OF EDUCATION AND THE MEDICAL RESOURCES IN HEALTH AND NUTRITION. Tapia U.M. y Rodríguez F. Centro Regional de Investigaciones Multidisciplinarias, Universidad Nacional Autónoma de Morelos. México.

50-NUTRITION AND QUALITY OF LIFE: AN APPROXIMATION TO THE SOCIO-SPATIAL HETEROGE- NITY OF A POOR URBAN SECTOR IN THE METROPOLITAN ZONE OF MEXICO CITY. Puente S. El Colegio de México. México.

51. DETERMINANT FACTORS IN THE PATTERNS OF LACTATION IN TIJUANA. Pacheco L.R, Bacardi G.M., Jiménez Cruz A. Instituto de Nutrición, Universidad Autónoma de Baja California. México.

52.-ASSESSMENT OF THE NUTRITIONAL STATUS IN PRESCHOOL CHILDREN IN TIJUANA, MEXICO: ANTHROPOMETRIC ASPECTS. Martínez M.E., Jiménez C.A., Reyes R.R., Bacardi G.M. Instituto de Nutrición, Universidad Autónoma de Baja California. México.

53.-REFERENCE TABLES FOR THE MUSCULAR AND FATTY AREAS OF THE ARM IN PRESCHOOL CHILDREN IN TIJUANA. Martínez M.E., Jiménez C.A., Reyes R.R., Bacardí G.M. Instituto de Nutrición, Universidad Autónoma de Baja California.

54-TELEVISION AND ITS INFLUENCE ON THE FOOD CULTURE IN CHILDREN FROM 6 TO 11 YEARS FROM THE SCHOOL "PRIMERO DE MAYO" IN PERU. Alcántara P.C. y Alfaro P.G. Instituto Peruano de Seguridad Social. Perú.

55.-"THE BEST BUY" AN ALTERNATIVE FOR THE NUTRITIONAL DIRECTION FOR THE CONSUMER IN THE CONTEXT OF ECONOMIC CRISIS AND LIBERATION OF THE ECONOMY. Benavides B., Creed K.H, Jacoby E. Instituto de Investigación Nutricional. Lima, Perú.

56.-FUNCTIONAL CLASSIFICATION OF URBAN POPULATIONS FOR THE ASSIGNMENT OF RESOURCES. Chile 1980 - 1991. Avila B. y Vega G. Instituto de Nutrición y Tecnología de alimentos. Universidad de Chile. Chile.

57.-NUTRITIONAL ASSESSMENT USING THE STABLE PROTEIN RESERVE IN ADULT POPULATIONS. Cabrera P.C.E., Gomez M.G. Universidad de Guadalajara. México.

58.-REPERCUSSIONS OF UNDERNUTRITION IN THE MENTAL HEALTH OF THE PUBLIC. Sánchez B.H.C. Universidad de Guadalajara.

59.-SOCIAL ENVIRONMENT AND NUTRITION IN THE FIRST YEAR OF LIFE. SOME CONSIDERATIONS. Vega L.M.G., González P.G.J., Vega L.M.E., Vega L.S. Instituto Regional de Investigación en Salud Pública. Universidad de Guadalajara.

60. FACTORS ASSOCIATED WITH THE NUTRITIONAL STATUS OF CHILDREN OF ONE YEAR IN PERIPHERAL AREAS OF GUADALAJARA, MEXICO. González P.G.J., Vega L.M.G. Instituto Regional de investigaciones en Salud Pública Universidad de Guadalajara. México.

61.-PREVALENCE OF OBESITY AND ITS RELATIONSHIP WITH DIABETES MELLITUS, ARTERIAL HYPERTENSION AND (DISLIPOPROTEINEMIA) IN HEALTH INSTITUTIONS IN URBAN AREAS OF THE PROVINCE OF PANAMA. De Mas M., Sinisterra O., Sugasti M. de, Chen de Santiago L., Atencio de Espinoza A. y Valdéz V. Ministerio de Salud. Panamá.

62.-ECONOMIC CRISIS, FOOD ADQUISITION POWER AND CHILD NUTRITIONAL STATUS IN A POOR URBAN COMMUNITY "EL MILAGRO", GUATEMALA. Ruel T. M. and Rivera J. Instituto de Nutrición de Centro América y Pánama. Guatemala.

63.-THE LACTO-OVO-VEGETARIAN DIET AND ITS RELATIONSHIP WITH ARTERIAL PRESSURE. Velázquez Alva M.C.*, Gijalva I., Waytt J. y Valencia J.M.**. Instituto Nacional de Nutrición Salvador Zubirán*, Centro de Investigación en Alimentación y Desarrollo A.C., Hermosillo, Sonora. México.

64.-NUTRITIONAL EDUCATION IN MARGINAL TOWNS IN MEXICO CITY. Padilla N.E., Vara A.M.y Nuñez B.Y. Centro de Animación para el Desarrollo Social (CADES). México.

65.-HISPANIC DIET FOR RENAL INSUFFICIENCY. Ascencio, C., Pasquetti, A. Departamento de Nutriología Clínica, Instituto Nacional de la Nutrición Salvador Zubirán.

66.-DIARREHOEA, LENGTH OF BREASTFEEDING AND GROWTH OF CHILDREN OF 18 MONTHS IN AN AREA OF RIO DE JANEIRO, BRAZIL. Bittencourt S., Leal M.C., Rivera J. Secretaria Municipal de Saúde do Río de Janeiro. Brasil.

67.-VALIDATION OF A QUESTIONNAIRE ON HABITUAL DIET FOR USE IN AN EPIDEMIOLOGICAL STUDY Hernández M., Romieu I., Parra S., López C.L., Orozco S., Lazcano E. Instituto Nacional de Salud Publica. México.

68.-NUTRITIONAL CONDITION OF CHILDREN FROM 6 TO 9 YEARS ATTENDING THE PRIMARY SCHOOLS IN MEXICO CITY. Jiménez A. DIF-Nacional. México.

69.-FOOD PRACTICES USED IN BREASTFED INFANTS IN TIJUANA, MEXICO. Leyva P.R., Bacardi G.M., Jiménez C, A. Instituto de Nutrición, Universidad de Baja California Autónoma de Baja California México.

70. ASSESSMENT OF THE NUTRITIONAL STATUS IN ADULT MEN AND WOMEN IN A MARGINAL URBAN ZONE OF SONORA, MEXICO. Valencia M.E., Saucedo S., Grijalva M.I., Cruz R. División de Nutrición y Desarrollo , A.C. Hermosillo Sonora México.

71.FOLLOW-UP PROGRAM OF CHILDREN WITH METABOLIC DISEASES IN CHILE. Cornejo V., Raimann E., Perales C.G. y Colombo M. Unidad de Neuropsicología INTA, Universidad de Chile. Chile.

72.-SALT INTAKE AND BLOOD PRESSURE IN AN URBAN POPULATION OF MEXICO CITY. Sánchez- Castillo C.P., Velázquez Alva M.C., Solano M.L. Departamento de Fisiología de la Nutrición, Instituto Nacional de la Nutrición Salvador Zubirán. México.

73.-METABOLIC RESPONSE TO THE INGESTION OF URBAN AND RURAL DIETS IN MEXICO. Rosado Jorge L., López Patricia., Muñoz Elsa. Departamento de Fisiología de la Nutrición Salvador Zubirán.

74.-DEMOGRAPHIC SITUATION AND ADVANCES IN THE NATIONAL POPULATION PROGRAMME Urbina F.M.. Comisión Nacional de Población. México.

TABLE 1
VARIABLE-INDICATOR-MATRIZ(VIM)

No.	Variable	Reference	Indicator	Method	Reference
0	Central variable				
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Effective objectives can only be decided upon if underlying causes of problems to be addressed have been analysed with problem analysis procedure. Problems do not constitute abstract hypotheses but are always stated in the problems experienced by people, social groups or institutions. Before analysing the problem therefore, all affected groups and their interests must be discussed using participation analysis procedures

Next, analysis of objectives indicates potential solutions. The project's are derived from this analysis and, using a planning matrix, are arranged into a coherent, convincing and realistic system of objectives for the project. The project planning matrix produced in this way indicates at 4 different levels (expressed in rows) the purpose of the project, to which overall goal the project is to contribute and what activities and results/outputs are to make this project purpose materialise (Ist column of matrix). The different levels on the matrix interlink as a hypothesis, which is to be translated into an actual situation by the project at the activities and results/output levels and which forecasts the anticipated impacts at the objectives levels (project purpose, overall goal).

External influences that increase the risk of problems during implementation are described "important assumptions" (4th column). These demonstrate how dependent a project is on its environment and enable planners to evaluate and reduce the risks which may threaten the success of a project.

Indicators are formed for the objectives and the results/outputs (column 2). These indicators serve to verify, by recourse to the given sources of means/verification (column 3), how far the objectives have been achieved.

The project can be quantitatively analysed and monitored through the indicators and the specification of inputs and costs. The quantitative analysis indicates the extent to which objectives which are to be achieved with the scheduled funding and other inputs. The indicators define the project phases and the sub-objectives to be achieved within given deadlines, and thus allow on going evaluation and monitoring.

ZOPP teamwork produces a recommendation ready for decision-making. The authorities involved can determine the objectives of technical cooperation, estimate the costs and risks entailed and plan in more detail the contributions required by each party. The jointly designed and agreed ZOPP plan must be periodically adjusted and updated in line with experiences made. When applied in this fashion ZOPP is an aid towards a systematic dialogue between the project partners concerning the aim and objective of their cooperation and is the basis for a learning process which develops from analysing joint experiences made.

ZOPP planning analysis are carried out at all stages of project preparation and project implementation; the duration, intensity and participants in the ZOPP can vary.

At the beginning of a project, which is the stage of formal preliminary commentary and project ZOPP analysis carried out in GTZ hy interdisciplinary planning teams. However using the results of the project appraisal stage either operations planning, replanning, or updating the project, ZOPP must be carried out on location together with the project team and other involved, local authorities. It is essential that the planning team be interdisciplinary and also incorporate the main interest groups and the management decision makers. Their participation is not only significant for the planning process but also an indication of commitment to the joint project and thus a precondition for project success.

The number of persons in the planning team and the duration of the ZOPP planning analysis depend on the specific terms of reference for the project and can range fron 5 to 30 participants. A ZOPP-workshop can last from 1 day to 2 weeks. Workshops with more participants must be supported by additional moderators. Senior management, i.e. decision makers who motivate staff and are expected to use the results of the potential projects, play a decisive role Though their appointment schedule may not allow them to participate in the whole ZOPP analysis, they should participate and exercise their management functions at least when interim results are formulated or important strategies or directives are set. The ZOPP results do not limit the decision making competence of authorities in any way, but rather embed their decision in a richer knowledge basie so that they can better steer the course of the project, and more precisely assess success or failure.

2. Logical Framework Research Planning.

   Logical Framework Research Planning based on the experience of ZOPP. The method is particulary valid for interdisciplinary research since it helps to collect the expertise of a heterogenic group and assemble it into a joint project.

   In the first step a causal model is developed with the central variable which describes the core situation mentioned in the hypothesis. The **objective of a causal model**, or frame of thinking model helps to:

   - Identify all important variables which contribute to the hypothesis;
   - Define the cause-effect relationship of the variables;
   - The cause effect relationship can be proven as an
   - **If... then...**

   The development of the causal model starts with the definition of the core situation which results from the central hypothesis.

The model is then constructed as follows:

- Each team member writes down direct and indirect causes which are related to the central variable and writes it down on a card.
- Each direct cause (Variable) which could lead the core situation is identified and written down in a card by each team member. Each card is pinned below the card containing the core situation if the team agrees. Redundant cards will be eliminated.
- Each card should be consecutively numbered for later identification. The variable is always number 0.
- In the next step the cards should be reordered on the board according to their cause effect-relationship. Relationship should be manifested by connecting the cards with lines

At the end of the exercise a hierarchical model has been developed which contains all coreproblem-related variables. An example of a casal model is included on the next page.

In a second step a Variable-Indicator-Matrix is established with the team. The **objective of the development of a Variable-Indicator-Matrix (VIM)** is to:

- Identify whether a cause-effect relationship is hypothetical or has been proven;
- relate every variable of the causal model to at least one indicador;
- describe the methodology by which the indicator will be surveyed.

In the first column the number of each variable is noted the number reflects the effect relationship of the variable mentioned on the card with the cause on the card above it.

In the second column fo the VIM each variable of the causal model is listed and identifed by box number. (Due to the hierachical nature of the box numbering, the numbers will not be consecutive.)

In the third columns the literature source which confirms that variable is a cause of the core situation is cited. If no literature source can be found an H for a hypothetical cause-effect relationship is entered. In the case of the central variable the first row of the third column cannot be filled in. A causal model with many hypothetical cause effect relationship indicates a very uncertain frame of thinking which makes the outcome of the research work very unpredictable and planning more complex.

In the fourth column, indicators of variables are specified. Each variable should be related to at least one indicator which defines precisely the variable (e.g. variable nutritional status indicator. Z-score of weight/height index according to the NCHS reference population) the indicators should be selected according to the following criteria:

- relevance
- reliability
- appropriateness.

In the fifth column the method of measuring each indicator is listed. The methods should be selected according to the following criteria:

- reliability
- sensitivity
- specificity
- feasibility

In the sixth column a literature reference for the validation of each method should be cited, if the method has not been validated, this must be done before a major portion of the research project can be undertaken..

The number of the card and the variable can be filled in according to the causal model. Each additional suggestion should be written on the cards, discussed by the group and the consensus reached and integrated into the matrix.

Once the variables have been identified and the indicators have been defined, the third step is the definition of the study design. The most common types of designs of the studies are:

- Experimental studies
  - Clinical Assays
  - Community Assays
- Observational studies
  - Retrospective studies (case studies)
  - Prospective studies (cohort prospective studies)
  - Transverse studies

The criteria for selecting the most appropriate design should be noted, including its advantages or disadvantages. Special attention should be paid to the possible confounding factors related to the selected study design.

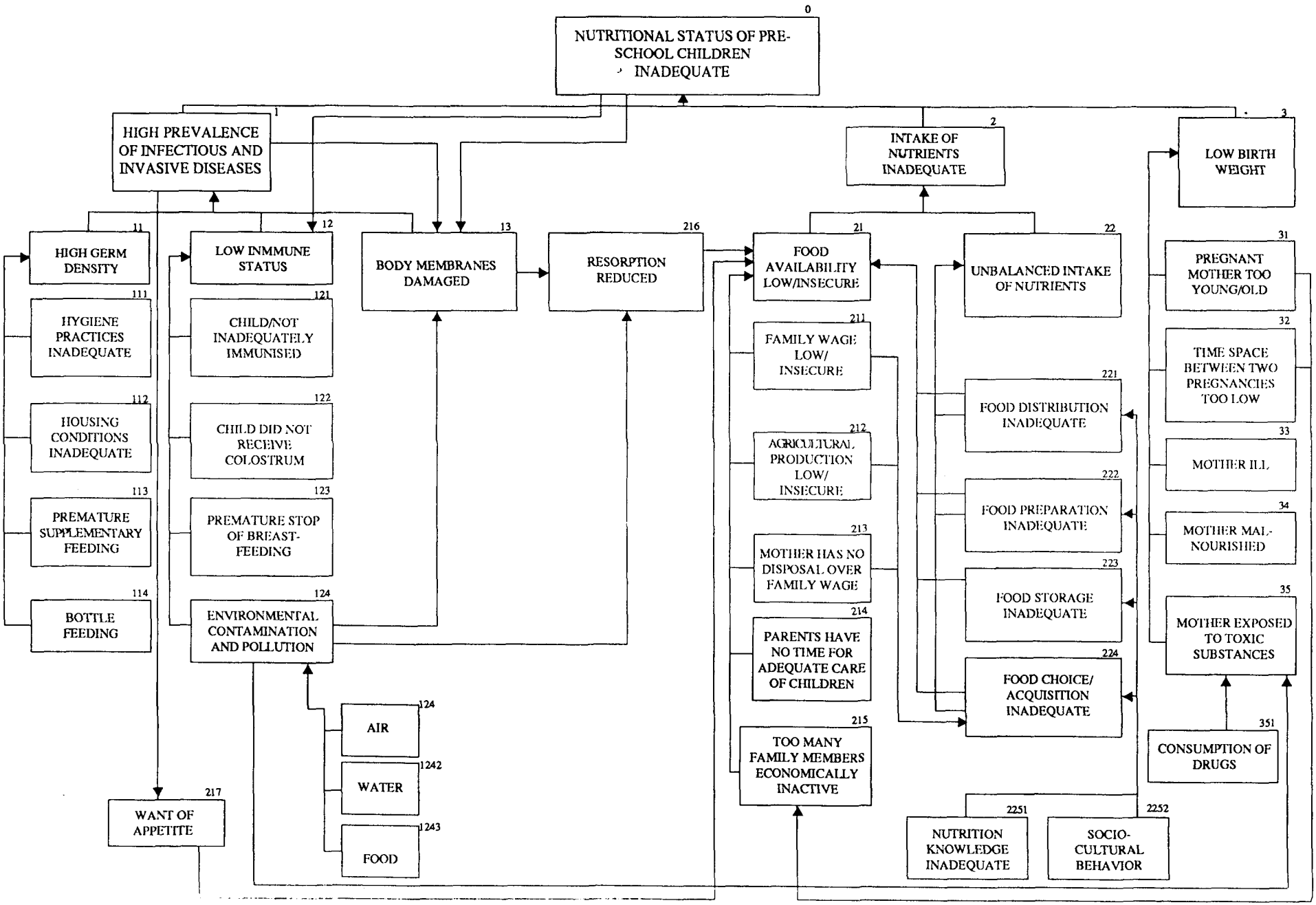
Once the design has reached the fourth stage, the population or the individuals involved in the study should be described.

In the fifth stage the procedure for defining the size of the sample and the method of sampling should be established.

And finally, for the sixth stage the statistical analysis should be selected.

In the next section the results of the work carried out during the workshop using the Zopp methods both in intervention and research projects will be shown.

CAUSAL TREE


0
NUTRITIONAL STATUS OF PRE-SCHOOL CHILDREN INADEQUATE
1
HIGH PREVALENCE OF INFECTIOUS AND INVASIVE DISEASES
2
INTAKE OF NUTRIENTS INADEQUATE
3
LOW BIRTH WEIGHT
11
HIGH GERM DENSITY
111
HYGIENE PRACTICES INADEQUATE
112
HOUSING CONDITIONS INADEQUATE
113
PREMATURE SUPPLEMENTARY FEEDING
114
BOTTLE FEEDING
12
LOW INMMUNE STATUS
121
CHILD/NOT INADEQUATELY IMMUNISED
122
CHILD DID NOT RECEIVE COLOSTRUM
123
PREMATURE STOP OF BREAST-FEEDING
124
ENVIRONMENTAL CONTAMINATION AND POLLUTION
124
AIR
1242
WATER
1243
FOOD
13
BODY MEMBRANES DAMAGED
216
RESORPTION REDUCED
217
WANT OF APPETITE
21
FOOD AVAILABILITY LOW/INSECURE
211
FAMILY WAGE LOW/ INSECURE
212
AGRICULTURAL PRODUCTION LOW/ INSECURE
213
MOTHER HAS NO DISPOSAL OVER FAMILY WAGE
214
PARENTS HAVE NO TIME FOR ADEQUATE CARE OF CHILDREN
215
TOO MANY FAMILY MEMBERS ECONOMICALLY INACTIVE
22
UNBALANCED INTAKE OF NUTRIENTS
221
FOOD DISTRIBUTION INADEQUATE
222
FOOD PREPARATION INADEQUATE
223
FOOD STORAGE INADEQUATE
224
FOOD CHOICE/ ACQUISITION INADEQUATE
2251
NUTRITION KNOWLEDGE INADEQUATE
2252
SOCIO-CULTURAL BEHAVIOR
31
PREGNANT MOTHER TOO YOUNG/OLD
32
TIME SPACE BETWEEN TWO PREGNANCIES TOO LOW
33
MOTHER ILL
34
MOTHER MAL-NOURISHED
35
MOTHER EXPOSED TO TOXIC SUBSTANCES
351
CONSUMPTION OF DRUGS