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Institut Pertanian Bogor \* University of Wisconsin

# GRADUATE EDUCATION PROJECT



**Aid Project 497-0290**

REPORT NO. 9

JOHNSON

REPORT OF SHORT-TERM ADVISER

on

COMMUNITY NUTRITION

to

INSTITUT PERTANIAN BOGOR (IPB)  
Bogor, Indonesia

by

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March-April, 1982

Counterpart:

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## COMMUNITY NUTRITION

### I. DURATION OF CONSULTANT'S VISIT

The consultant left the United States March 7, 1982, arriving in Bogor, Indonesia, March 9, 1982. The consultant left Indonesia on April 2, 1982.

### II. OBJECTIVES OF VISIT

The objectives of the visit as defined by the Department of Community Nutrition and Family Resources (CN&FR) and the Institut Pertanian Bogor (IPB) were to:

- A. Develop S<sub>2</sub> curriculum on Community Nutrition and Family Resources
- B. Prepare guidelines for curriculum content
- C. Prepare a list of references, textbooks, journals, and equipment needed for developing the S<sub>2</sub> program.

### III. PLAN OF WORK

The primary activity was a series of meetings with the entire staff of the Department of CN&FR and with individual members of the Department to develop the S<sub>2</sub> curriculum and to develop course outlines and references to be used in the courses. Thus, the major activity was in planning and consultation.

Ancillary activities included providing direction to the activities of the short-term consultant (Diane Barrett) and meeting with administrative officers of IPB, the Wisconsin Project (Dr. John T.

Murdock), and other IPB faculty members associated with the Department of CN&FR.

In order to identify some of the institutional resources available to faculty members of the Department of CN&FR, visits were made to the Center for Nutrition Research and Development, Bogor, which is administered by the Ministry of Health, Indonesia, and to SEAMEO, Tropical Medicine and Public Health Project of the Faculty of Medicine, University of Indonesia, administered by the Ministry of Education.

Visits to the countryside, including rural villages and a typical rural home, were made to assess the family environment. A clinic visit was made to examine malnourished children and mothers and to determine the types of programs proposed to alleviate malnutrition in the Bogor area.

Facilities for the conduct of the S<sub>2</sub> curriculum were examined. Laboratory facilities in the department at IPB and in the Center for Nutrition Research and Development were examined.

Access to use of the Apple II computer was determined and interest in using the equipment as part of the S<sub>2</sub> program was assessed.

A detailed list of activities can be found in the Appendix (A1).

#### IV. PROPOSED S<sub>2</sub> (MASTERS DEGREE) CURRICULUM IN "COMMUNITY NUTRITION AND FAMILY RESOURCES."

The Department of CN&FR, formerly the Department of Home Economics, has adopted many of the recommendations made by Dr. C. J. Weidemann. One of these recommendations was a change in the name of the Department. Another was that an interdisciplinary degree in "Family Resources and Community Nutrition" be developed. Using the preliminary

proposal for an S<sub>2</sub> curriculum which was proposed by Dr. Weidemann, the Department of CN&FR prepared a draft curriculum for the S<sub>2</sub> degree which was reviewed by Dr. Johnson and all Department members at one of the initial joint meetings (March 11, 1982).

After a series of meetings and changes in the S<sub>2</sub> curriculum, the following program was proposed by the consultant (Dr. Johnson) and the Department of CN&FR as an initial program for S<sub>2</sub>. The S<sub>2</sub> program should be considered dynamic in nature and one which will evolve to meet the changing needs of students and of Indonesia. This initial program can be modified at a later date (1984-85) to focus on the two separate but related areas of community nutrition and family resources (human development).

CURRICULUM OF S<sub>2</sub> PROGRAM ON:  
"COMMUNITY NUTRITION AND FAMILY RESOURCES"

First Semester

GMS...1.	Socioeconomic and Cultural Influences on Family Food Habits*	2
GMS...2.	Family Health and the Environment*	3
SPD612...3.	Family Sociology**	3
STK511...4.	Statistics**	4
		<u>12</u>

Second Semester

GMS...1.	Food and Nutrition Systems*	3
GMS...2.	Nutrition and Development of children*	3
SPD562...3.	Demography**	3
PTK603...4.	Physiology and Biochemistry of Nutrition** or equivalent	3
		<u>12</u>

Third Semester

GMS...1.	Community Nutrition*	3
GMS...2.	Family Economics*	2
GMS...3.	Information Transfer Technology*	1
PWD651...4.	Basic Principles of Planning and Policy of Rural Development**	3
SPD590...5.	Methodology of Social Research**	3
		<u>12</u>

Fourth Semester

GMS699...1.	Research and Thesis	6
GMS690...2.	Seminar	1
		<u>7</u>

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\* Offered by Department of Community Nutrition and Family Resources, IPB.

\*\* Offered by Other Departments, IPB.

\*Courses Offered by CN&FR

Courses offered by the Department of CN&FR include courses specifically related to community nutrition; family health and the environment; the entire system providing food for individuals, families, and nations; social, economic, and cultural factors influencing food selection; and special focus on children who are most at risk of nutritional deprivation. A total of 24 credits are to be offered by the department.

Course outlines and references for the following courses were developed and are in the Appendix (A2-4).

1. Socioeconomic and Cultural Influences on Family Food Habits (A2) ...GMS Suhardjo

2. Nutrition and Development of Children (A3)

...GMS Suprihatin Guhardja

Siti Nurisjah

3. Community Nutrition (A4)

...GMS Khumaidi

Suhardjo

Sudjana

The following courses need to be developed:

4. Family Health and the Environment

...GMS Mariyati Sukarni

5. Food and Nutrition Systems

...GMS Khumaidi

6. Family Economics

...GMS Suprihatin Guhardja

7. Information Transfer Technology

...GMS Sudjana

Of the courses cited above (4-7), the present faculty has the capability to develop 4 and 5. Family Economics course development will require faculty training and consultation with a family economics specialist.

The new course, "Information Transfer Technology," can be offered through the department with the major resources being the Apple II computer and the new Information Resource Center. Training students to use programs developed for dietary assessment will require about half the course time with the remainder of the time used to work with the Information Resource Center. Consultant Diane Barrett plans to develop nutrition programs for use on the Apple II. Staff can be trained in the use of the Apple

II immediately.

A statistical package should be developed by Diane in consultation with an IPB statistician. This package can be used by staff and students doing research projects.

Additional programs for student instruction can also be written.

\*\*Courses Outside of CN&FR

Courses offered by other departments which can contribute to the S<sub>2</sub> program have been indicated by \*\*. The courses selected include those needed to conduct research, education, and extension programs in the areas of community nutrition and family resources with a major emphasis on rural families and rural development. There are 19 credits that can be obtained in cooperating departments. These 19 credits can be considered "core courses" to the S<sub>2</sub> program currently proposed as well as to the S<sub>2</sub> program currently proposed for the future (1984-85). However, modifications in selection of "core courses" may be necessary as the S<sub>2</sub> program evolves.

V. BACKGROUND INFORMATION

Examination of S<sub>2</sub> curriculum.

An initial examination suggested two focus areas with central or "core courses" common to both curriculum. One focus area being Community Nutrition and the other focus area Human Development. Because of staff limitations and of a need to initiate the program in August, 1982, the staff and I believed it best to begin with an S<sub>2</sub> curriculum which is composed largely of common courses but with an emphasis on Community Nutrition so that students will be well trained in at least one area. In two or three years, when faculty members have been trained in the human development and family resources area,

the second focus can be developed and emphasized.

At the time the Department offers two focus areas, additional course electives can be offered to students. These electives can be in the more detailed areas of Nutrition Program Development and Nutritional Surveillance. Courses in horticulture and animal science nutrition can be used from other departments to complete this program.

The human development focus will need people with advanced training in human development, family economics, and child development. In addition, new courses or courses from other departments can be offered in place of the nutrition courses that are not included in the "core course" offerings. This would enable the department to have a second focus in family resources or human development.

## VI. STAFF TRAINING

### A. Immediate Needs

Additional staff training is needed to strengthen the proposed S<sub>2</sub> curriculum. The most immediate requirements are for utilization of the two consultants in nutrition and child development to offer either as a formal course or as a special problems course the following:

1. Socioeconomic and Cultural Influences in Family Food Habits--  
Jerelyn Pigott.
2. Nutrition and Development of Children--Diane Barrett and Mary  
Roach
3. Information Transfer Technology--Diane Barrett

Diane Barrett can teach the computer application section and outside resources in communication technology can be used for the rest of the course until the Information Resources Center becomes available.

B. Intermediate Needs

Staff training is needed in the following areas:

1. Child Development
2. Economics
  - a. Family Economics
  - b. Economics and Nutritional Assessment
3. Community Development in Nutrition Programs
4. Nutrition and Preventative Medicine with special attention to Tropical Diseases.

C. Future Needs

In the future, staff capability in the areas of Human Development and Family Economics will need to be expanded. As part of human development, child development, adult growth and development, and aging should be covered. Family economics from a micro and macro perspective should be included. Specialists in these areas should be obtained for short-term consultant assignments.

D. Suggested Consultants

The following professors from the University of Wisconsin-Madison have specialties in the areas of training needed by the CN&FR faculty members. These professors have been contacted and have agreed to work with counterpart IPB faculty for short-term training at the University of Wisconsin-Madison.

1. Joe Lawton, Ph.D.--FR&CS, Child and Family Studies
2. Maurice MacDonald, Ph.D.--FR&CS, Family Economics
3. Jim Mayhew--Continuing and Vocational Education  
(Community Development)

## VII. RESEARCH

The Center for Research & Development in Nutrition has an active nutrition research program. The cooperation between the Center and IPB is excellent. The Center provides guest lecturers and an opportunity for community nutrition research projects. Students from IPB can benefit from this relationship. The Department can develop research projects which can be carried out within the structure of the Center for Research & Development in Nutrition. There are a number of other community nutrition programs in the various governmental ministries which can provide opportunities for research projects. The conduct of community nutrition research can be planned with other IPB departments.

## VIII. RECOMMENDATIONS

### A. Implementation

The new  $S_2$  curriculum should be initiated in August, 1982. There are six courses offered by other IPB departments that constitute "core courses" in the  $S_2$  curriculum in the Department of CN&FR and these courses can be taken by students interested in the graduate program offered by the Department.

Three new courses have been developed and can be offered by faculty of the Department in August, 1982.

An additional course "Information Transfer Technology" with a major focus on the use of computer technology should also be implemented in August, 1982.

The remaining courses proposed for the S<sub>2</sub> curriculum need to be developed during 1982-83 by faculty members in cooperation with short-term consultants specializing in areas dealing with the course content.

B. Modification of S<sub>2</sub> Curriculum

The new S<sub>2</sub> curriculum should be revised again in the near future (1984-85) so that two options or focus areas are available to students interested in obtaining a graduate degree in this department. The two options in the department should be Community Nutrition and Family Resources.

The present proposed S<sub>2</sub> curriculum allows little flexibility and limited opportunity for students to choose courses of special interest that could contribute to their training. As the number of students enrolled in the graduate program increases, and as the faculty becomes more highly skilled in specialty areas, the number of department and non-department course offerings for the S<sub>2</sub> curriculum should be increased.

In addition, by merging nutrition and family resources, competency in each of the two areas is diluted and greater specialization within the two areas is not possible. Additional skills and capabilities to deal with problems, provide training, and conduct research in each of the two areas are desirable. In order to accomplish this increased specialization, additional specialized courses in the two focus areas need to be developed.

The following courses should be considered central

to the curriculum and could be taken by students in both focuses or speciality areas:

First Semester

GMS...	Socioeconomic and Cultural Influences on Family Food Habits	2 cr
GMS...	Family Health and the Environment	3 cr
SPD612...	Family Sociology	3 cr
STK511...	Statistics	4 cr

Second Semester

GMS...	Nutrition and Development of Children	3 cr
SPD562...	Demography	

Third Semester

PWD651...	Basic Principles of Planning and Policy of Rural Development	3 cr
SPD590...	Methodology of Social Research	3 cr
GMS...	Information Transfer Technology	1 cr

Fourth Semester

GMS699...	Research and Thesis	6 cr
GMS690...	Seminar	1 cr

Community Nutrition Focus

The following courses should be components of the Community Nutrition focus (option) of the department:

Food and Nutrition Systems	3 cr
Physiology and Biochemistry of Nutrition	3 cr
Community Nutrition	3 cr

The following courses should be developed in 1984-85 to be offered as components of the Community Nutrition focus (option):

Nutritional Surveillance: Techniques and Methods

Nutrition Program Development: Planning, Implementation,  
and Evaluation

Additional courses should be considered as electives in 1984-85. These electives should be from other departments and should allow the student interested in Community Nutrition to choose from courses in animal science, horticulture, sociology, or economics.

Family Resource or Human Development Focus

Course development in this area depends on recommendations made by consultants in the areas of Child Development and Family Economics. In general, a similar number of courses should be developed within the Department (two courses and additional electives allowed outside the Department). Additional consultants have been recommended under VI.D, Page 8.

IX. IPB LINKS WITH THE UNIVERSITY OF WISCONSIN

This short-term adviser has agreed to act as a consultant as needed and as a research adviser to Suhardjo for his Ph.D. research project. In addition, this adviser has agreed to supervise the short-term training of Suhardjo at the University of Wisconsin-Madison.

The needs of other faculty members of the CN&FR, IPB, have been identified and counterpart faculty at the University of Wisconsin-Madison have been contacted about supervision of short-term training for these faculty.

Additional references, texts, journals, and resources will continue to be identified for use of IPB faculty.

APPENDIX

## CONSULTANT SCHEDULE

Dr. Nancy E. Johnson  
(Community Nutrition and Family Resources)

Arrival Time: March 9, 1982  
 Departure Time: April 2, 1982  
 Housing Accomodation: Suhardi (Taty)  
 Counterpart: Suhardjo

<u>DATE</u>	<u>WORK SCHEDULE</u>	<u>PLACE</u>
10 March	Meeting with Dr. John Murdock; Rector, Prof. Dr. Andi Hakim Nasoetion; Vice-Rector, Dr. Edi Guhardja; and Department of Community Nutrition and Family Resources	IPB
11 March	Meeting with Suhardjo and members of the Department of Community Nutrition and Family Resources. Review of S <sub>2</sub> curriculum.	IPB
12 March	Meeting with Suhardjo and members of the Department to consider revisions of S <sub>2</sub> curriculum.	IPB
13 March	Meeting with Suhardjo to discuss revisions of S <sub>2</sub> curriculum. Meeting with UW-Wisconsin Alumni group working at IPB. Meeting with Dr. Gentini Piliang, Poultry Nutrition.	IPB
14 March	Visit to farm of Dr. Guhardja with some members of the Department. Visit to rural village and typical village home.	near IPB
15 March	Work with Diane Barrett, M.S. consultant on development of new course for S <sub>2</sub> curriculum. (Socioeconomic and cultural influences on family food habits.)	IPB
16 March	Present course objectives to Department for review and suggestions. Course objectives revised. Course objectives for S <sub>2</sub> "Community Nutrition" prepared.	IPB
17 March	AID registration and visit to AID library to examine nutrition resources available.	Jakarta
18 March	Present course objectives and tentative course outline for "Community Nutrition" to the Department. Suggestions and revisions incorporated into course. Discussion with Dean Taken, Agriculture.	IPB

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<u>DATE</u>	<u>WORK SCHEDULE</u>	<u>PLACE</u>
19 March	Begin to develop course objectives for new course (S <sub>2</sub> ) "Nutrition and Development of Children."	IPB
20 March	Continue course development for "Nutrition and Development of Children."	IPB
22 March	AID library visit and conference with Diane Barrett, M.S. about course content of "Socio-economic and cultural influences on family food habits."	Jakarta
23 March	Conferences with Dr. Murdock, Suhardjo, and Diane Barret about progress of work, reports, and revisions of schedule. Resource material examination.	IPB
24 March	Center for Nutrition Research and Development, Bogor was visited. Dr. Darwin Karyadi explained the program of the Center. Nutritional Surveillance, and research in education and treatment of seven PCM programs were discussed.	Bogor
25 March	Visit to SEAMEO, Tropical Medicine and Public Health Project, Faculty of Medicine, University of Indonesia, Jakarta to discuss SEAMEO M.S. degree program in Applied Nutrition.	Jakarta
26 March	Conference with Diane Barrett on development of course on "Socioeconomic and Cultural Influences on Family Food Habits."	IPB
27 March	Conference with Diane Barrett on writing 2 computer programs on Apple II. One program to calculate dietary intake and one to plot infant growth development.	IPB
29 March	Department of Community Nutrition and Family Research meeting to discuss the 3 course outlines prepared and to assign responsibility for teaching courses. Lunch with Prof. Dr. and Mrs. Andi Hakim Nasoetion.	IPB
30 March	Visit to Center for Research and Development in Nutrition to examine the PCM clinic and obtain more information about the research program.	Bogor

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<u>DATE</u>	<u>WORK SCHEDULE</u>	<u>PLACE</u>
31 March	Seminar for the Department of Community Nutrition and Family Resources and invited guests concerning the proposed S <sub>2</sub> curriculum.	IPB
1 April	To AID, Embassy in Jakarta to obtain passport and visit AID library. Luncheon with the Department of Community Nutrition and Family Resources.	Jakarta IPB
2 April	Leave Indonesia	

## SOCIO-ECONOMIC AND CULTURAL INFLUENCES ON FAMILY FOOD HABITS

Many socioeconomic and cultural factors influence the selection, purchase and consumption of foods in a family environment.

These factors and their effect on the nutrition quality of the family diet are analyzed, and methods for changing food behavior are studied. The capability to assess, quantify and interpret individual, household, and national food production, consumption, and balance data is developed.

### Course Objectives

1. Understand the many factors that influence selection, purchase, and consumption of foods in a family environment.
2. Know how economic variables affect food purchase and consumption patterns.
3. Become aware of regional and country differences and similarities of food consumption.
4. Understand ways in which attitudes, food beliefs, and taboos affect food consumption patterns.
5. Examine the impact of media and advertising on food behaviors.
6. Understand the impact of changes in food patterns on the nutritional quality of diets.
7. Learn methods useful in changing food behaviors.
8. Develop the capability to assess, quantify, and interpret data on food consumption patterns of individuals and households.
9. Understand methods of evaluating national food production, consumption, and balance data.

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COURSE OUTLINE

	<u>Number of Weeks</u>
I. Nutrition is a Biocultural Phenomenon	2
A. Interactions Between Various Processes	
1. Social	
2. Economic	
3. Political	
4. Cultural	
B. Interaction Between Nutrition and the Environment	
1. Biological environment	
a. Nutrition and human disease	
b. Malnutrition	
2. Social environment	
a. Urban spread	
b. Tradition and acceptance of change	
3. Economic environment	
a. Rural economy	
b. Poverty	
II. Factors Which Influence the Selection, Purchase, and Consumption of Food in a Family Environment	5
A. Use of Models to Show Interrelationships Between Nutrition and Various Factors	
1. Biosocial factors and low weight gain	
2. Homemakers employment status and food consumption	

Number  
of  
Weeks

B. Factors Which Influence Family Food Habits

1. Physical availability

a. Food production

1) Natural environment

- (a) geography
- (b) soil fertility
- (c) climate
- (d) ecology

2) Technological development

- (a) cultivation practices
- (b) mechanization practices
- (c) facilities for storing, processing and transporting food
- (d) road and type of transporting system
- (e) stage of industrialization

3) Economic forces

- (a) subsistence vs. market economy
- (b) level of purchasing power
- (c) percentage of food imports in region

4) Social forces

- (a) land tenure system
- (b) level of education of farmers and homemakers
- (c) availability of health facilities and services

b. Food preservation

- 1) Home-drying
- 2) Smoking
- 3) Canning
- 4) Dehydration
- 5) Freezing

Number  
of  
Weeks

- c. Food distribution
    - 1) Between nations
    - 2) Between regions of a country
    - 3) Within a community
    - 4) Intrafamily
  - d. Food preparation
    - 1) Tradition
    - 2) Cooking method
    - 3) Health
    - 4) Convenience
    - 5) Appearance
    - 6) Taste, aroma, temperature
  - e. Equipment and facilities
    - 1) Utensils
    - 2) Fuel
2. Cultural availability
- a. Social status of food
    - 1) Relation to nutrient content
    - 2) Economic conditions affecting status
    - 3) Availability
  - b. Physical status of foods
    - 1) Age
    - 2) Sex
    - 3) Illness state
    - 4) Pregnancy and lactation
  - c. Social or ceremonial role
    - 1) Social celebrations
    - 2) Special days
    - 3) Attitudes, food beliefs, and taboos
  - d. Food etiquette
    - 1) Use of utensils
    - 2) Indication of preference

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Number  
of  
Weeks

- e. Division of Labor
  - 1) Child
  - 2) Mother
  - 3) Father
  - 4) Urban vs. rural environment
  
- III. Economic Situation and Its Influence on Family Food Habits 2
  - A. Household Purchasing Power
    - 1. Measures of purchasing power
      - a. Gross income
      - b. Disposable income
      - c. Permanent income
      - d. Net wealth
    - 2. Variables included in purchasing power
      - a. Land area cultivated
      - b. Capital goods owned
      - c. Consumer goods owned
      - d. Land area owned
      - e. Type of house owned
  - B. Household Size and Composition
    - 1. Size
    - 2. Occupation of members
    - 3. Education of members
    - 4. Total yearly expenditures per household member
    - 5. Total weekly expenditures per household member
  - C. Market Prices for Food and Non-food Items and Services
  
- IV. Food Consumption Pattern Data 3
  - A. Dietary Surveys

	<u>Number of Weeks</u>
1. Purpose, uses, limitations	
2. Individual	
3. Household	
4. National	
B. Data Processing and Interpretation	
C. Dietary Standards	
V. Regional and Country Differences and Similarities in Food Consumption	2
A. Food Consumption in Indonesia	
1. Island to island differences and similarities	
2. Within Java--regional differences and similarities	
3. Factors influencing differences and similarities in food consumption in Indonesia and other coun- tries	
B. Differences and Similarities Between Food Consumption in Indonesia and Other Countries	
1. Southeast Asia	
2. Developing countries	
3. Developed countries	

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	<u>Number of Weeks</u>
VI. Impact of Changes in Food Patterns on Nutritional Quality of Diet	2
A. Causes for Changes	
1. Environmental	
2. Economic	
3. Faddism	
4. Acquisition of Knowledge	
5. Cultural	
6. Attitudes, Beliefs, Taboos	
7. Migration	
B. Mechanism for Change	
1. Advertising	
2. Mass Media	
3. Extension	
4. Nutrition Education	

RESOURCES

- Sanjur, Diva. "Social and Cultural Perspectives in Nutrition," Prentice-Hall Inc., Englewood Cliffs, N.Y., 1982.
- Schmitt, Bernard A. "Protein, Calories and Development: Nutritional Variables in the Economics of Developing Countries," Westview Press, Boulder, CO, 1979, Chapters 3, 5, and 6.
- Tan, et al, "Social and Cultural Aspects of Food Patterns and Food Habits in Five Rural Areas in Indonesia," National Institute of Economic and Social Research (LEKNAS) LIPI and Directorate of Nutrition, Department of Health, Republic of Indonesia, Jakarta, 1970.

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Whyte, Robert Orr. "Rural Nutrition in Monsoon Asia," Oxford University Press, London, 1974, Chapters 1,2.

Abelson, Philip H., ed. "Food: Politics, Economics, Nutrition and Research," American Association for Advancement of Sciences, 1975.

1  
WP

### NUTRITION AND DEVELOPMENT OF CHILDREN

Nutrition, physical growth, and mental development are all closely related in children. Ability to solve problems and integrate complex information has been shown to be related to the diet of infants and small children. Also, the nutritional status of the pregnant woman can affect the birth weight of the infants as well as the normal development of the fetus. Children are an important family and national resource and the optimum conditions for their growth and development need to be studied.

#### Course Objectives:

1. Learn the nutritional requirements of the pregnant women.
2. Be aware of health and environmental factors that affect the outcome of the pregnancy.
3. Be able to evaluate various methods of infant feeding with special attention to advantages of breast feeding.
4. Understand relationships between nutrition and environment and the physical and mental development of infants and children.
5. Learn special nutrition needs and the development processes that occur at different age levels from birth to adulthood.
6. Be able to assess and monitor the physical growth, and intellectual and behavioral development of children.
7. Appreciate the role of the child in the family and in social and economic development of the nation.
8. Recognize the economic contribution of children to national resource development.

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9. Examine current national policies related to children and child care facilities.
10. Learn about national and community health and day care programs for children from birth to 2 years; from 2 to 5 years; from 5 to 12 years; and from 12 to 18 years.

COURSE OUTLINE

	<u>Number of Weeks</u>
I. The Effect of Maternal Nutrition on the Outcome of Pregnancy	2
A. Indexes of Maternal and Infant Health	
B. Risk Factors	
1. Age	
2. Number of pregnancies	
3. Health history	
4. Race	
5. Social class	
6. Length of gestation	
7. Maternal height and weight	
8. Cigarettes	
9. Alcohol	
10. Dietary factors	
11. Food beliefs	
II. Physiological Changes in Mother and Fetus	2
A. Maternal Physiology in Pregnancy	
1. Changes in body composition	
2. Weight gains	
3. Nutrient requirements	
B. Growth and Development of the Fetus	
1. Stages of cell growth	
2. Brain cell growth and development	
3. Effect of nutrition on cell growth and development	
4. Effects of fetal malnutrition on growth and development	
5. Mental development of the fetus	
III. Special Needs of the Newborn Infant	2
A. Health Care	
1. Monitoring of growth and health needs	
2. Diarrhea	
3. Sanitation	

	<u>Number of Weeks</u>
B. Food and Fluid Needs	
1. Water as a critical nutrient	
2. Breast Feeding	
3. Infant formulas	
C. Emotional Needs	
D. Family Environment	
E. Nutrient Requirements for the First Six Months	
IV. Growth and Development in Infancy	2
A. Growth, Physiological and Developmental Changes from Birth to Twelve Months	
1. The first three weeks	
2. Changes in the first three months	
3. From three to six months	
4. From six to twelve months	
V. Growth and Development of Pre-school Children	2
A. The First Year	
1. Physical growth and nutrient needs	
2. Mental growth and development	
3. Emotional growth and development	
B. Family Members	
C. Child Care Providers	
1. Who	
2. Where	
3. How	
D. From 2 to 5 years	
1. Physical growth and nutrient needs	
2. Mental growth and development	
3. Emotional growth and development	

	<u>Number of Weeks</u>
VI. The Child From Five to Ten Years	2
A. Physiological Growth and Development	
B. Mental Growth and Development	
C. The Role of the Child in the Family Structure	
D. Social Institutions for Children	
1. Schools	
2. Recreational facilities	
E. Peer influence	
VII. The Adolescent Years	2
A. Physiological Growth and Development	
B. Mental and Emotional Growth and Development	
C. The role of the Adolescent in the Family Structure	
D. Social Environment	
E. Changing Roles and Responsibilities	
F. Cultural Influence on Behaviors	
VIII. The Nation and Its Children	2
A. Children as a Natural Resource	
B. Future Planning for Children	
C. Development and Regulation of Day Care Centers and Institutions for Children	
D. Education	
E. Economic Costs and Contribution of Children	
F. Child Health Care Systems	

REFERENCES

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1980.
- McWilliams, M. "Nutrition for the Growing Years, 3rd edition, John Wiley  
and Sons, 1980.
- Latham, M. C. "Human Nutrition in Tropical Africa," F.A.O.. Rome, 1979.

## COMMUNITY NUTRITION

Nutrition in a community is determined by a variety of environmental, social, cultural, economic, political, and biological factors.

A number of programs have been designed to alleviate malnutrition; these programs are analyzed and evaluated. Methods of assessing, planning, implementing, and evaluating community nutrition programs are studied.

### Course Objectives

1. Understand the many factors and characteristics of countries and local communities that affect the nutritional status of individual family members.
2. Understand the unique relationship between population pressure and nutrition of the community.
3. Understand the role of public policy in the development of community nutrition programs.
4. Learn procedures for the design and development of effective community nutrition programs.
5. Understand the structure, function, and scope of the various nutrition programs in Indonesia.
6. Learn to design, develop, and evaluate nutrition education and nutrition intervention programs.
7. Know and understand the system of linkages and interrelationships between agencies and organizations that have a responsibility for nutrition research, education, and intervention programs.
8. Be able to identify situations and provide temporary and long-range solutions to crisis.

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9. Learn of similarities and differences between nutrition programs in Indonesia and those of other countries.

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COURSE OUTLINE

## Community Nutrition

	<u>Number of Weeks</u>
I. Community Characteristics and Nutritional Status <sup>1</sup>	
A. Characteristics of local communities	2
1. Political organization	
2. Social organization	
3. Cultural characteristics	
4. Economic stratification	
5. Health care systems	
6. Transportation	
7. Housing	
8. Climatic variables	
9. Family composition and hierarchy	
10. Communication facilities	
11. Land and water practices	
12. Energy supplies	
13. Religious views	
14. Food availability	
B. Assessment of the Nutrition Status of the Community	2
1. Information requirements	
a. Vital statistics	
b. Socioeconomic data	
c. Food consumption data	
d. Health statistics	
e. Nutritional status studies	
f. Vulnerable groups	
g. Food production	
h. Preparation practices	
2. Survey techniques and data interpretation	

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<sup>1</sup> McLaren, D. S., "Nutrition in the Community," John Wiley and Sons, N.Y., 1976, Chapters 2,6,7.  
Frankle and Owen, "Nutrition in the Community," Chapter 4.

	<u>Number of Weeks</u>
3. Multi-factorial causation of malnutrition.	
4. Identification of the nutritional problem.	
II. Population Pressure and Nutrition <sup>2</sup>	1
A. Population Projections	
B. Food Production Projections	
C. Relationships Between Family Size and Nutrition	
D. Special Needs of Infants and Children	
1. New foods	
2. Formula feeding	
3. Working mothers	
E. Rural Migration and Urban Resources	
III. Public Policy and Community Programs <sup>3</sup>	2
A. Government Policy for Indonesian Nutrition Programs	
B. Implementation of Policy by Ministries and by Other Agencies and Organizations	
C. An Example of Policy and Program Development From the Philippine Experience	
D. Advisory Policy Committees: National, Regional, and Local.	

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<sup>2</sup>McLaren, Chapter 4.

<sup>3</sup>McLaren, Chapter 13; Suhardjo (Indonesian Policy and Plans)

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	<u>Number of Weeks</u>
IV. Development of Community Nutrition Programs	2
A. Program Planning and Design	
1. Role of planner	
2. The planning process	
3. Goal, objective setting	
4. Identification of strategies	
5. Identification of resources	
6. Programmatic activities	
7. Evaluation and program reporting	
B. Different Types of Intervention Programs	
C. Nutrition Education Programs	
1. Curriculum planning	
2. Outcome evaluation	
V. Assessment and Analysis of Program Effectiveness and Benefit/Cost Ratios	1
A. Evaluation Framework	
B. Measures of Effectiveness	
C. Output Indicators	
D. Performance Indicators	
E. Evaluation Approaches	
F. Case Studies	
VI. Crisis Programs: A Special Case	1
A. Identification of Crisis Situations	
B. Actions for Crisis Alleviation	
C. Preparation for Crisis	
1. Training	
2. Stockpiling food	
D. Food Security	

	<u>Number of Weeks</u>
VII. Community Nutrition Programs in Indonesia	4
A. Program Name	
B. Program Purpose or Goal	
C. Agency Responsible	
D. Scope of Activities	
E. Nature of Activities	
F. Fiscal Expenditure	
G. Administrative and Operational Structure	
H. Target Group	
I. Interagency Linkages	
J. Evaluation Procedures	
K. Effectiveness	
VIII. Community Nutrition Programs in Other Countries	
A. Developing Countries	
B. Developed Countries	

REFERENCES

Frankle and Owen. "Nutrition in the Community," C. V. Mosby Co., 1978, Chapters 3 and 4.

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McLaren, D. S. "Nutrition in the Community." John Wiley and Sons, N.Y., 1976, Chapters 2, 4, 6, 7, 13, 29.

Suhardjo. "Food Security and Food Self Sufficiency in Indonesia," Inst. S. E. Asian Studies, Singapore, 1981.

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## GUIDELINES FOR COURSE DEVELOPMENT

Each course should be developed with specific learning and competency objectives in mind and stated explicitly. From these objectives course content is developed from a variety of resources including books, journals, technical publications, and consultation with technical experts. For each unit of the course, a series of classes need to be developed to fit the time schedule allotted to the class and to achieve course objectives. Student evaluation procedures must be developed at regular intervals during the course.

Course materials should be gathered together into a syllabus or course outline which can be provided to the students.

The following procedure should be followed for each class period included in the course outline:

1. Statement of appropriate course objective.
2. Outline of topics to be covered. The broad outline should be filled in with fine detail from the references.
3. Charts, graphs, tables, models, and other educational aids should be prepared.
4. Visual resources that will aid in instruction should be identified. (Slides, films, exhibits.)
5. Student activities or field visits should be included when appropriate to the topic.
6. Four or five discussion questions should be developed to facilitate student involvement in the learning process.
7. Student activities may be designed to facilitate the development of technical competencies.