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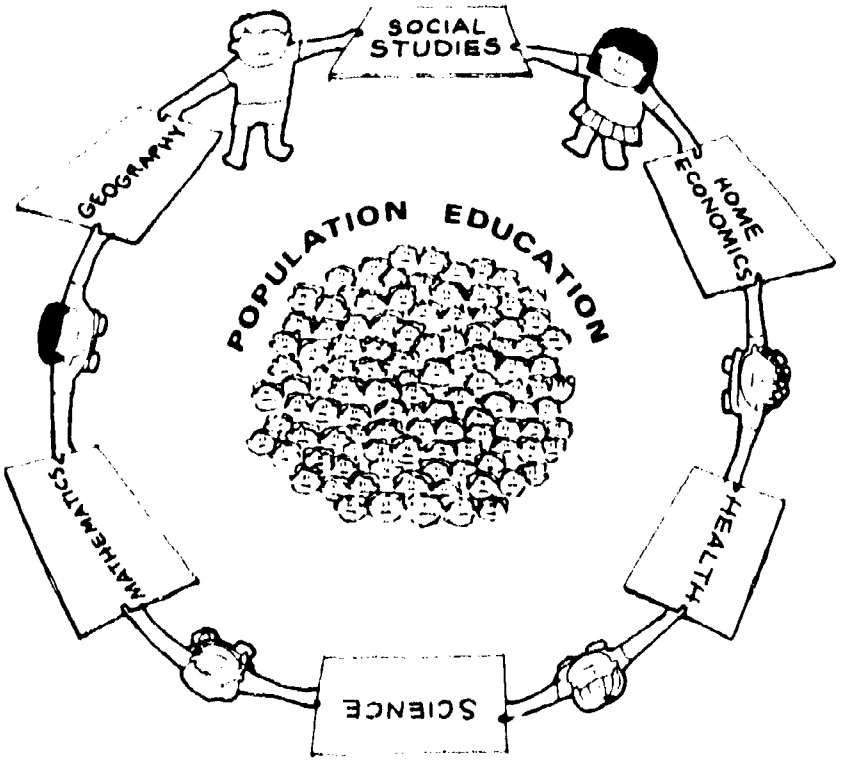
ABSTRACT

This booklet contains five sample lessons integrating population education into health and home economics instruction. It is one of four in a series. Materials differ from those in an earlier series (1980) in that lessons are presented at the secondary level only; there is no duplication of lessons from the earlier series in content and teaching strategies. Following an introduction, the five lessons focus on the consequences of rapid growth on community health; health programs to reduce the mortality rate; effects of rapid population growth on food production and nutrition; effects of family size and spacing on the health of mother and child; and age at marriage. Each lesson contains a box which provides the user with information on content, objectives, grade level, and subject into which population education should be integrated. In most cases lessons include an entry point topic, suggested time allotment, suggested procedure, summarizing techniques, suggestions for evaluation, and where applicable, necessary materials and student readings. Lessons were adapted from materials derived from India and the Philippines. (LH)

Population Education Programme Service

population education in HEALTH AND HOME ECONOMICS

some sample lessons for the secondary level



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POPULATION EDUCATION IN HEALTH AND HOME ECONOMICS

CONTENTS

INTRODUCTION

This booklet consisting of sample lessons integrating population education into health and home economics, is one of the four in a series prepared to provide more innovative lessons in addition to the six booklets developed and disseminated in 1980. First conceived to provide teachers, educators and curriculum developers with useful tools for disseminating population education concepts in the school setting, the first six booklets consisted of sample lessons integrating population education concepts into social studies, health, mathematics, science, home economics and geography which are taught at the primary and secondary levels. While the 1980 booklets contained lessons for use at both primary and secondary levels, the present set of four booklets consists of sample lessons introducing population concepts into selected subjects (social studies, science, mathematics, and home economics) for use at the *secondary level* only. The main reason for this focus is that more and more countries in Asia are introducing population education at the secondary rather than the primary level. Many of them, whether they have new or on-going population education programmes have developed a wider range of lessons and learning materials for secondary courses - many of which are in their respective national languages.

Compared with the past, more and more population education programmes are at present paying closer attention and devoting more time to the development of curriculum materials in population education. Integrating population education concepts into various subject areas is not as easy as it might seem. Although a number of content analyses of school textbooks have shown that population education concepts already exist in these materials, they are more there by accident than by design. Some programmes on the other hand go to the other extreme. In their case, too many population education concepts are introduced into the subjects, overburdening the curriculum material and thus overwhelming the teacher with an extra teaching load. This naturally results in the rejection of the population education concepts and gives little chance for their acceptance as a built-in enrichment area for the total general curriculum programme.

Thus the primary objective of this series of curriculum materials is to provide a continuous stream of exemplary lessons and learning materials showing the various techniques and strategies that different countries have taken to integrate population education concepts into various subjects taught in the school. Hopefully, a regular updating of these booklets will show a trend in the efforts of the countries to finally adapt a strategy that will ensure a proper integration of these concepts

not in a skeletal and unsystematic manner nor in an overwhelming and saturating sense either, but in an adequate quantum that will meet the acceptable minimum learning requirements called for in this field.

Organization of this booklet

'Population Education in Health and Home Economics' consists of five sample lessons integrating population education into health and home economics. The sample lessons included in this booklet are a combination of original materials and an adaptation of lessons derived from India and Philippines and some original materials developed by the Unesco staff. The selection of sample lessons is first of all based on the criterion that they should not duplicate those found in the 1980 booklets in terms of content and treatment or teaching strategy. Secondly, they should offer new techniques in the development of population education concepts. In cases where the lessons contained good and appropriate concepts but the development and treatment was not carefully executed, considerable adaptations have been made.

Each lesson contains a box which provides the user with initial information with regard to content, objectives, grade level and subject into which it should be integrated. The main body of each lesson varies. For example, at its simplest form, some lessons contain a straight narrative exposition of the content and some evaluation questions at the end. The second type consists of lessons which carry an overview, content, teaching-learning strategies and evaluation but are given in an outline form, enumerating a list of alternative contents, teaching-learning strategies and assessment questions. The more detailed type of sample lessons contain: (a) an overview or introduction; (b) a suggested teaching materials and references, concretely showing how these teaching aids can be used; (c) the development of the concepts which give specific step-by-step procedures to the teacher on how to expand on the subject, what alternative activities to undertake to achieve these objectives, what reactions to expect from the students and alternative ways of dealing with these reactions; (d) a summary of what has been learned in the lesson; and finally (e) a complete set of evaluation questions to determine the students' gain in knowledge and change in attitude and skills.

Content

There are five lessons under health and home economics, most of which are treated comprehensively. They cover a gamut of topics ranging from the macro level, i.e., consequences of population growth on food production, nutrition and community health, to the micro level, i.e., effects of family size parity and spacing on the health of the mother and the baby. Two lessons provide suggestions

for dealing with the population problem - one takes up health programmes to reduce the mortality rate and the other discusses the right age to get married.

Contribution from the member states

There are many more examples of population education lessons which had not been included in this booklet for the simple reason that they come in the countries' national languages. Hopefully, these few lessons should generate more contributions from the member states by providing us with translated lessons which they think can be of great use to other countries.

CONTENT	:	CONSEQUENCES OF RAPID POPULATION GROWTH ON COMMUNITY HEALTH
OBJECTIVES	:	1. *To identify the effects on health of some of the consequences of rapid population growth.* 2. *To discuss what the government is doing to solve the problems brought about by rapid population growth.* 3. *To gather information through interviews and field trips.*
GRADE LEVEL:		HIGH SCHOOL - FIRST YEAR
SUBJECT	:	HEALTH

A. ENTRY POINT: COMMUNITY HEALTH

B. SUGGESTED TIME ALLOTMENT: FOUR CLASS PERIODS

C. SUGGESTED PROCEDURE

1. Opener

Recall the consequences of rapid population growth identified in the previous lesson. Recall the agreement that the class shall study further only those consequences that directly affect man's health and well-being.

2. Development

Divide the students into four groups. Have each group discuss one each of the following problems:

a) Relation of food shortage to health;

b) Health effects of overcrowding in the home and in the community;

c) Environment sanitation problems brought about by rapid population growth; and

d) Relation of rapid population growth to inadequacy of health facilities.

In each of the above problems, the pupils shall also find out what the government is doing to solve these problems.

Pupils should be encouraged to seek information from resource persons in the community, like the rural health physician, sanitary inspector, nutritionists, home economics teacher or home extension worker, including private persons and practitioners who are knowledgeable about the topics.

Should the pupils decide to do this, help them plan how to go about seeking information through interviews, field trips and other means. It will be necessary to prepare interview questions. Each group then prepares its own questions. Remind the pupils to observe safety precautions during field trips and to conduct themselves courteously when seeking information.

a) Relation of food shortage to health

The following are suggested activities that may be undertaken by the groups to help them solve their problems:

i) Interview the home economics teacher for information on the topic;

ii) Collect news clippings about food shortages in our country and in the world;

iii) Interview the personnel of the National Grain Authority (NGA) on the rice situation of our country; and

iv) Interpret the diagram showing the relationship between food, health, and school performance.

Suggested questions for the interview or discussion:

i) What kind of and how much food should a person take in order to meet his daily needs?

ii) What is likely to happen if a person's food intake of food affect his daily activities?

iii) Would this insufficient intake of food affect his daily activities?

iv) Would a country progress if its people lack food?

v) According to the news items you have read, what steps or plans are being made to solve problem of food shortage?

vi) Would our rice production be sufficient if our population continued to increase?

vii) Will a healthy citizenry affect the progress of a country?

viii) What agencies of the government are helping solve the problems concerning food and health?

ix) How are their projects being carried out? How can we help in these projects?

b) Health effects of overcrowding in the home and in the community

i) Draw pictures showing overcrowding in the home and in the community, moviehouse, church, squatter areas, etc.

ii) Tell stories, including personal experiences related to the situation depicted in the picture, such as how a person feels in such a situation, what happens if a person stays long in a crowded place, etc.

iii) Talk about the health aspects of the various situations cited above.

iv) Recall experiments performed in science which demonstrated the effects of overcrowding.

v) Recall recent fires in the community or news about big fires and relate these to overcrowding.

vi) Collect newspapers clippings on government housing and settlement projects.

Suggested questions for the interview or discussion:

i) If you are living in one of the overcrowded places mentioned, how would you feel?

ii) If there is an outbreak of communicable diseases in the place, what might happen to the other inhabitants of the place?

iii) Which agency of the government helps solve problems of overcrowding? How is this done?

iv) What is the cause of the frequent outbreak of fires in places where there is overcrowding of houses?

c) Environment sanitation problems brought about by rapid population growth

i) Conduct a field trip to the community to observe water supply; refuse disposal; sewage disposal, insects and rat control; water, soil, and air pollution.

ii) Interview the health officer or the sanitary inspector to find out the increase in health facilities put up in the community over a period of time.

Suggested questions for the interview or discussion:

i) What can you say about the community environment?

ii) Would the water supply be enough for all the inhabitants?

iii) Where do the inhabitants throw their garbage?

iv) How does garbage cause water, air and land pollution?

v) What should be done to control rats, insects, and pests?

vi) How are the health facilities of the community? Are these sufficient for the inhabitants of the place?

vii) What should be done to maintain the cleanliness of the community environment?

d) Inadequacy of health services

i) Interview the local health officer to find out if there has been any increase in health personnel and health centres over the years, including private practitioners, like physicians, nurses, dentists, midwives, and sanitary inspectors.

Suggested questions for the interview or discussion:

i) What is the ratio between health personnel and the population of the community?

ii) Is there a yearly addition of health personnel?

iii) What steps are taken to prevent the spread of an epidemic?

The various activities above are to be undertaken by the groups. The pupils should be assisted in planning and executing the various activities.

Since not all would finish at the same time, the groups which finish ahead may be asked to render their report. Encourage pupils to utilize various strategies and aids to make their reports interesting.

D. SUMMING UP

Through skilful questioning, draw from the children some such ideas or conclusions as the following:

1. Long periods without food, either in quantity or in variety, lead to malnutrition.
2. An increase in population requires a corresponding increase in local supplies.
3. A healthy and wholesome household is one that provides adequate space and privacy for family members.
4. Overcrowding results in problems of housing, environmental sanitation and safety.
5. Overcrowding is a condition conducive to the spread of communicable diseases.

As the population of a community increases, the environmental sanitation needs of that community, likewise, increase.

Rapid population growth brings about some environmental sanitation problems such as inadequate water supply, insect and rat control, food sanitation, and improper sewage disposal.

As population increases, there is a corresponding need to increase health services.

The government has taken steps to solve problems brought about by rapid population growth through such activities as:

1. Masagana 99
2. Palayan ng Bayan
3. Green Revolution
4. Housing Project
5. Sanitation programmes
6. Rural health units
7. Medicare programme.

E. EVALUATION

1. *Discuss the effects of overcrowding on the health of the people.*
2. *Explain the relationship between rapid population growth and environmental sanitation.*
3. *Are the health services in your community adequate? Explain your answer.*
4. *Write a four-or-five-sentence paragraph about any of the following, with emphasis on how it helps solve some of the problems brought about by rapid population growth.*

   a) Masagana 99 (Prosperous 99)

   b) Palayan ng Bayan (Community Ricefield)

   c) Green Revolution

   d) The Rural Health Unit

Adapted from: Philippines. Ministry of Education and Culture. Population Education Program. *"Teacher's guide in population education for health education", grades I-VI (revised for Muslim Filipinos).* Manila, 1981, p. 79-83.

CONTENT	:	HEALTH PROGRAMME TO REDUCE MORTALITY RATE
OBJECTIVES	:	1. *To gather information about the health programmes in the community from resource persons.* 2. *To describe the health programmes aimed to reduce mortality.* 3. *To express one's ideas and opinions on how the health programmes reduce mortality.* 4. *To accept one's responsibility in the health programmes by participating actively in them.*
GRADE LEVEL	:	HIGH SCHOOL - SECOND YEAR
SUBJECT	:	HEALTH

A. Entry Point: "Prevention and Control of Disease"

B. Time Allotment: 2-3 class periods

C. Instructional Materials

1. Results of survey of what students already know about the health programmes in their community

2. Information about the health programmes of the community gathered from resource persons

D. Suggested Procedure

1. Opener

Conduct a survey to find out what the students already know about the health programmes in the community. (Baseline data). The following questions may be asked:

a) What health facilities and services should be provided in order to maintain the health of the community?

b) Which of these health services are present or provided for in our community?

c) Have you or your family used these services? If so, which one?

The answers to those questions or results of the interview can be tabulated into the following matrix:

Health Facilities and Services That Should be Made Available in the Community	Check if Actually Available In Your Community	Check If Used By Your Family
1. 2. 3. 4. 5.		

These survey questions should be written on the chalkboard and given as an assignment prior to this lesson.

2. Development

a) Present and analyse the results of the survey in class. As a student gives his answers to the questions orally, another may write these on the chalkboard.

If the students fail to give all the answers to the first question, help them to give them all.

For the second question, take note of the service or programmes which you know are present in the community, but which the students failed to identify. Emphasize these services in the teaching of the present lesson.

For the third question, take note, likewise, of those programmes and services the students of their families have not utilized, availed of, or participated in. This is an opportunity to discuss their responsibility in utilizing the health services and facilities present in their community.

b) Summarize the health programmes and services in the community as gleaned from the above survey results and discussions.

The following summary may be arrived at:

Roughly, public health work may be divided into two main categories: the environmental and the human. The first involves control of the surroundings to make them healthful and free from contamination and from danger. The second involves services to the people themselves to improve their physical strength and to prevent the spread of diseases if these should break out.

i) Environmental Health Programme

(a) Safe water supply
(b) Sewage treatment and disposal
(c) Refuse collection and disposal
(d) Milk and food sanitation
(e) Water, soil, and air pollution control
(f) Insect pest and rodent control

ii) Communicable Disease Control

(a) Epidemiology is the study of the distribution of a disease or pathological condition in the population and of those host agents and factors that influence this distribution.

(b) Laboratory work has to do with identifying the major groups of infectious organisms and diseases associated with them. This is important in planning control measures and in differentiating diseases that cause similar signs and symptoms.

(c) Immunization

(d) Treatment

iii) Medical Care

Hospital and hospital-related services.

iv) Programmes for Special Groups

(a) Maternal and child care
(b) Services for children of school age
(c) Services for handicapped children
(d) Tuberculosis control
(e) Leprosy control
(f) Veneral disease control

v) Population Education

vi) Mental Hygiene Programme

vii) Family Planning Programme

viii) Nutrition Programme.

3. Invite the local health officer to give a talk on the health programmes of the community. Arrangement for this lecture should be made before this activity.

This lecture should give the students an idea of the health programmes in their community. Hopefully, through this lecture, they might realize that there are services and programmes in their community that they or their families may not be aware of, and, therefore, may not have used to advantage.

Summarize the important points in the talk of the resource person.

4. Group discussion

Conduct a group discussion on the following:

a) How do health programmes help reduce mortality?

b) How can we participate actively in the various health programmes in the community?

Allow 15-20 minutes for group discussions. Then have such group chairman or designated group member read the reports on the ideas presented during the group discussions.

5. Generalization

Lead the class to state the ideas developed.

a) Health programmes in the community aim to protect and promote the health of people, hence to reduce mortality.

b) Health programmes in the community may be divided into two main categories: the environmental and the human.

c) The environmental health programmes include safe water supply, sewage treatment and disposal, refuse collection and disposal, milk and food sanitation, water, soil and air pollution control, and insect pest and rodent control.

d) Health services for people themselves include communicable disease control, medical care, pro-

grammes for special groups, health education, mental hygiene programme, family planning programme and nutrition programme.

e) People have a responsibility to participate in the health programmes of the community.

E. EVALUATION

1. *What health facilities and services should be provided in order to maintain the health of the community?*
2. *Which of these health services are present or provided for in our community?*
3. *Have your or your family used these services? If so, which ones?*
4. *What are the two main categories of public health work?*
5. *What kind of health programmes do each of the two categories cover?*
6. *How do health programmes help reduce mortality?*

Adapted from: Philippines. Ministry of Education and Culture. Population Education Program. *"Teacher's guide in population education for health education", first-fourth year. (Revised for Muslim Filipinos).* Manila, 1981, p. 42-45.

CONTENT	:	EFFECTS OF RAPID POPULATION GROWTH ON FOOD PRODUCTION AND NUTRITION
OBJECTIVES	:	1. *To show statistically that malnutrition and undernutrition, especially among young children, are common health problems in the country.* 2. *To draw an inference on the relationship among food production, food supply and rapid population growth.* 3. *To explain the effects of rapid population growth on food production.* 4. *To realize that rapid population growth has both positive and negative effects on food production.*
GRADE LEVEL	:	HIGH SCHOOL
SUBJECT	:	HOME ECONOMICS

A. Entry Point - Food and Nutrition

B. Suggested Time Allotment - 4-5 Class Periods

C. Suggested Procedure

1. Studying the nutritional status

Present the following table to the students:

Quantity and Nutritive Value of Foods Consumed Per Capita Per Day in the Philippines Compared To Recommended Allowances			
Sources	Per Capita food intake (grams/day)	Recommended allowances (grams/day)	Per cent sufficiency
A. Foodstuffs			
Cereal	334	318	105.5
Starchy roots	55	70	78.6
Sugar	19	33	57.6
Pulses and nuts	8	20	40.0
Leafy and yellow vegetables	17	68	25.0
Vitamin C - rich food	26	87	29.9
Other fruits and vegetables	93	94	98.9
Meat, fish and poultry	75	108	69.4
Milk and milk products	16	168	15.5
fats and oils	7	29	24.1
Eggs	5	14	35.7
B. Nutrients			
Calories	1,672	2,193	76.2
Total protein, grams	47	54	85.7
Fats, grams	21	-	-
Calcium, mg.	350	1,000	35.0
Iron, mg.	10	8	125.0
Vitamin A value, I.U.	1,900	3,772	50.4
Thiamine, mg.	0.8	1.2	67.2
Riboflavin, mg.	0.5	1.4	38.2
Niacin, mg.	14	12	116.7
Ascorbic acid, mg.	70	70	100.0

D. DISCUSSIONS

Study this table and visualize the nutritional status of the Filipinos. This should point to the fact that as a people we are undernourished. Based on your analysis of the table what is the nutritional status of the Filipinos?

What could be the reason for such a condition? (A number of reasons may be given but guide the students to arrive at a possibility of inadequate food supply as one of these reasons.)

2. Identifying different food items

Show the class a poster of the different foodstuffs. Tell the students to analyse the listed foodstuffs carefully and then ask:

a) Which of these common foods do you eat? Do not eat? (The students are likely to answer "pork" to the second question.) Why do you not eat pork? (It is one of the teachings of their religion.) Therefore, religion is one of the reasons for not eating pork.

b) What other reasons can you give that would explain the nutritional status of the Philippines? (With the help of the poster, have the other foodstuffs analysed.) What else do you not eat? (The students will identify foods they do not know, and some foods they do not eat because of some food fallacies related to some illness. They may also mention some beliefs like eating chicken cooked with squash, which they claim causes leprosy; bananas and pineapple when eaten together will cause stomachache; eating squash when a dead person is lying in state will cause the dead to rise. These are beliefs only. Who among you eat fruit salad? (Bananas, pineapple, papaya, chico and other common fruits, mixed in a salad). Did you have stomachache? If you did not experience a stomachache, it only shows that there is no truth in the common belief regarding this.

The teacher should ask more questions that will disprove other beliefs.

c) If these beliefs regarding foods are not true, what do we call them? (They are called food fallacies.)

d) Do we have sufficient quantity of the different foodstuffs in the poster to supply our needs? (Food supply is not sufficient. The table will prove this insufficiency.)

e) There are reasons for the nutritional status of the Filipinos. What are they? (i) religion, (ii) wrong beliefs, (iii) lack of information on some foodstuffs and (iv) lack of food supply.

These may be some of the reasons for the nutritional status of the Filipinos. However, these are possible solutions to those problems in order to improve the nutritional status of the Filipinos:

a) Religion - The Islam religion prohibits its followers from eating pork. Since it is a religious taboo, nothing can be done. But what should we eat so that we would not lack protein which is needed by our body? We get this substance from pork. What other foodstuffs have the same substance we get from pork?

b) Food fallacies - Erase from our mind the wrong beliefs because they have no truth or basis. (The teacher points out the importance of food).

c) Inadequate information on the value of foods - Emphasize to the children and parents the food requirements and quantity needed by every individual.

d) Lack of home management skills by the mother - Make the students realize, especially the girls who would be mothers in the future, the importance of healthy family by means of preparing the right kind and quantity of food.

e) Lack of supply at certain times - Teach the students to substitute foodstuffs not available at certain times. Foodstuffs with the same nutrients may be used to substitute for seasonal foods not available at certain times.

f) Let us look at the table and find out what is happening to our community. How can we gather this kind of information?

g) Allow the students to suggest ways of gathering data. The following survey may be suggested.

3. Planning the survey

Why are we conducting the survey?

What data do we need?

a) Foodstuff available in the community

b) Quantity available

c) Original sources of different foodstuff

Where shall we conduct the survey?

How shall we record the data?

4. Execution of the plan

a) Request permission from the school head to make the survey.

b) Divide the class into small groups to survey the different sections of the market.

c) Discuss the important pointers on safety and proper conduct during the trip and while making the survey.

d) Discuss pointers on how to record the survey.

e) Conduct the survey.

5. Analysis, presentation, and interpretation of data

a) Organize data
b) Interpret data
c) Present data
d) Formulate conclusion based on data.

Have the class report their survey by tabulating the results similar to the following:

Foodstuff	Quantity	Source	Remarks
Cereals Rice Corn	(abundant)	(locally produced)	(Some are brought in)
Root crops Camote Gabi Cassava			
Meat Beef Tortoise Pork Bird Chicken Venison			
Fish and other sea products Fish Shells Shrimps, etc.			
Fruits, vegetables, etc.			

Quantity may be recorded as abundant, adequate, inadequate, or negligible. Abundant means an excess of the foodstuff, adequate means sufficient supply to meet the demands; inadequate means not enough to meet the demands; and negligible means very limited foodstuff.

Source should indicate whether the foodstuff is locally produced or brought in from elsewhere or both.

Other related information may come up during the discussion. Locally produced foodstuff is not sufficient so that they have to get additional supply from Manila or elsewhere; foodstuff may be produced locally if given assistance with its production; no facilities for large scale production; and the like.

If there are records of agricultural products raised in the locality or if there is an office of the Bureau of Agricultural Extension in the locality, a resource person in that office may be invited to talk on the local food production and supply. This activity is an alternative to the survey; however, whichever is feasible will depend on the condition prevailing in the community.

What can you say about the food supply in our community as you found in your survey or gathered from the talk of a resouce person? Is it adequate or not?

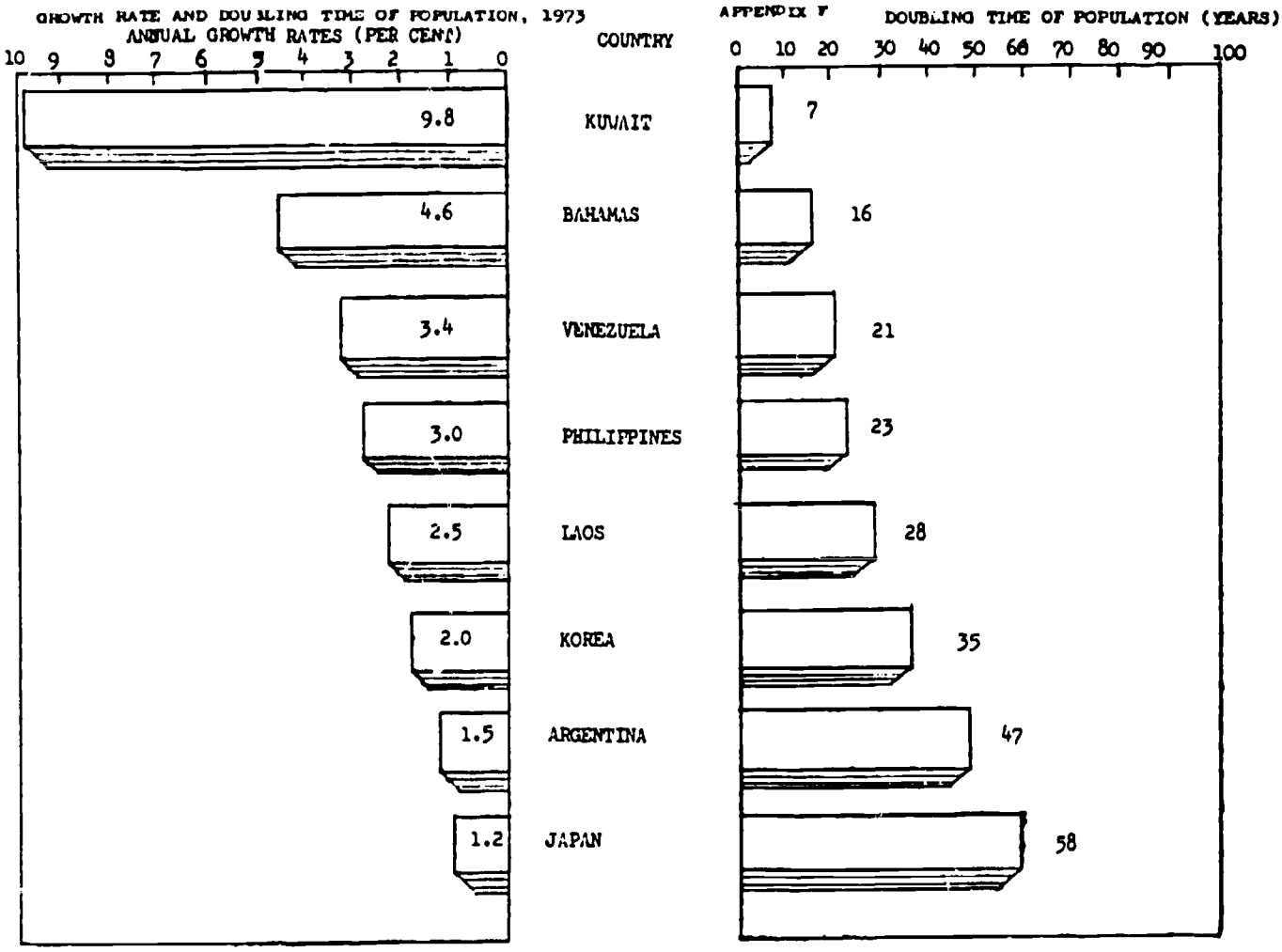
Compare the agricultural areas five years ago with those of the present in our community. What happened to the agricultural area of five years ago? (Students may cite evidence of agricultural lands converted into recreational areas, residential lots, commercial centres, school grounds, and the like.) How did the reduction of the cultivated or agricultural lands affect the food supply of the community?

What inference can you make as to the limited food supply in our community? (One probable answer may be the reduction of the areas planted to food crops.)

Do you think the problem of food supply is also true to other places of the Philippines? Is the food supply problem also true in other parts of the world?

Effects of Rapid Population Growth on Food Production

Present the following graph:



SOURCES: U.P. Population Institute, Philippine Population Profiles, Prospects, Problems (Manila: Population Institute, U.P. Systems, 1974), p. 16

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How does the Philippines compare with the other countries of the world in population growth rate? At the rate our population is growing, in approximately how many years will our population double?

Read the following article:

THE RACE BETWEEN FOOD AND POPULATION*

The Food and Agriculture Organization (FAO) of the United Nations estimated that at leaat one-third to one-half of the world's population does not have enough to eat. There has not always been enough food for the world's ever increasing population.

Serious concern about the "population problem" dates back to the year 1798, when Robert Malthus, a British professor of History and Political Economy assumed that the power of population is greater than the power to produce subsistence for man. In general, unchecked population growth accelerates faster than the greatest increases for food that man was able to derive from his environment.

The race between food production and population growth goes on in both developed and developing regions of the world. In the developed countries (represented by North America) production has outstripped the growth of population. However, in the developing countries (represented by the Far East) population and production are racing neck and neck. The average per capita consumption of foods that provide energy and protein is far less than the amount necessary for the maintenance of health for more than two billion people. Asia, the "starvation center" of the world, comprises more than one-half of the world's population. However, one-fourth of the world's available food supply is consumed in this continent. There is not enough food for the many hundreds of millions living in Asia.

According to the United Nations, increases in population would require proportionate increases in food supply which would provide a satisfactory level of nutrition. To realize this, the total food supply would have to treble by the turn of the century.

The big question now is whether or not it is possible for man to provide an adequate and timely solution to the food shortage problem so that there will be enough for everybody in the future.

Three and one-half billion acres of land or about 10 per cent of the total land area of the world is at present under cultivation. It has been estimated that 13-17 billion acres can eventually be made arable. However, a lesson can be learned from the experience of the U.S.S.R. which brought 36 million hectares of new land to cultivation within three years, most of it in Siberia.

*Source: Cecilia A. Florencio, The Sunday Times Magazine, May 28, 1972.

Substantial increases in food production are possible from the arable lands now in use through the more efficient use of control of water, soil fertilizers, pesticides and genetic breeding. Increase in agricultural production began in the 1950's with the discovery of high-yielding wheat seeds in Mexico. This was followed by the discovery of the high-yielding I.R.R.I. rice variety in the Philippines. This variety can be grown in any season and matures in four months, making it possible to produce three crops a year.

In other countries, the use of unconventional sources of food such as plant leaves, algae, yeasts from the fermentation of petroleum products, insects and such things as termites, ants and maggots is being introduced.

From this, it is clear that the possibilities of increasing food production are many. But many of these possibilities for increasing food are still at their experimental stage, and the problem of hunger is with us now. Considering the fact that the world's population is growing at a rate of 65 million yearly, the task of producing enough food for all men at all times becomes more serious.

The advances in food production cannot resolve the problem of food needs for the world unless population growth is controlled. Reducing the rate of population growth and intensifying food production must move at the same pace. The problem of too little food for many people is a problem of the whole world, not of any one country alone.

Discussion

From your readings, how does population affect poultry raising in Rizal? Do you find a similar situation in our locality? What can we do to help increase food production?

What are the effects of rapid population growth on food production? How may science be able to help solve the problem of food supply especially with a rapidly growing population?

Show by statistics that more malnutrition and undernutrition cases are found in places where there is rapid population growth like the Philippines or other developing countries.

Have an informal debate on the issue: Rapid Population Growth is Advantageous to Food Production.

After the debate let the class summarize the advantages and disadvantages of Rapid Population Growth on food production.

D. CONCLUSION

Ask these questions:

1. *What are the possible causes of malnutrition? (Lack of food, inadequate knowledge on the quantity and quality of food needed, religion and others).*

2. *What will be the effect of malnutrition on the health of the community? (The people will be sickly, lazy and sluggish).*

3. *How can we solve the problem brought about by malnutrition and undernutrition? (Plant vegetables and trees, raise poultry and swine, etc.).*

4. *What will be the effect of inadequate food supply on our national progress? (Progress within the country will slow down).*

5. *How does rapid population growth affect adequacy of food supply?*

6. *How does rapid population growth become a strong motivating factor for increased food production?*

E. EVALUATION

1. *Encircle the letter of the correct answer.*

   a) For the Filipinos to have a balanced diet, we should increase food production by

      i) 10 per cent
      ii) 30 per cent
      iii) 200 per cent
      iv) 400 per cent

   b) In which foodstuff does the Philippines have an adequate amount?

      i) Seed
      ii) Grains
      iii) Fruit and vegetables
      iv) Meats, fish and chicken

   c) If the rate of natural increase does not change, the Philippines will double its population in

      i) 7 years
      ii) 21 years
      iii) 23 years
      iv) 58 years

d) In which foodstuff are the Filipinos usually deficient?

i) Yellow fruit and vegetables
ii) Milk and other milk products
iii) Grains
iv) Eggs

e) Which of the following is the reason for undernutrition in our country?

i) Inadequate food supply
ii) Inadequate information on right kind of food
iii) Food fallacies
iv) i) and ii)

f) How can we have good nutrition or proper diet?

i) By eating the right amount of the different food groups
ii) By eating expensive food
iii) By eating delicious food
iv) By eating canned food

g) To sufficiently meet the food needs of our country,

i) we should plant our backyard with vegetabls and fruit trees
ii) take care of poultry and swine in the backyard
iii) control rapid population growth
iv) i), ii) and iii).

2. *Arrange the different food groups according to sufficiency of supply in the country.*

i) Milk and other milk products
ii) Sugar
iii) Fats and oils
iv) Root crops
v) Fruit and vegetables
vi) Grains
vii) Eggs
viii) Meat, fish, and chicken
ix) Monggo, beans, peas, etc.
x) Yellow foods and leafy vegetables.

Adapted from: Philippines. Ministry of Education and Culture. *"Teacher's guide in population education for home-making arts, First-Second Year" (revised for Muslim Filipinos)* Manila, 1981, p. 24-34.

CONTENT	:	EFFECTS OF FAMILY SIZE, PARITY AND SPACING ON HEALTH
OBJECTIVES	:	1. *To understand the effects of family size, parity and spacing on the management of the family resources to attain good health.*
		2. *To appreciate the importance of a desirable family size, parity and spacing in relation to the health of the family and of society as a whole.*
		3. *To explain how family size, parity and spacing affect the management of the family resources to attain good health.*
		4. *To show the relation of family size to child and parental morbidity in a large family and in a small family.*
		5. *To explain how parity and spacing affect the physical and emotional health of the mother and the child.*
GRADE LEVEL:		HIGH SCHOOL
SUBJECT	:	HOME ECONOMICS

A. Entry Point: Home Management and Family Economics

B. Suggested Time Allotment: Five-class periods

C. Suggested Activities:

To determine how family size, parity and spacing of children affect the management of family resources, an interview of families in the community will be undertaken by the class.

Draw a sketch of the layout of the community on the board and indicate which block will be assigned to a group of students. Instruct students on how to select the families to get a total of about 30-50 families. The number of families which each student will observe and interview will depend on the total number of members in the class. If there are 30 students and they go out in teams of two, two families may be assigned to each team.

1. Suggested questionnaire

The following questions may be used to interview the families. However, it will be preferable for students and teachers to co-operatively formulate the questionnaire.

A SUGGESTED GUIDE IN INTERVIEWING

Case No. _____ Interview _____

Name of Interviewee _____ Address _____

1. Name of father _____ Age ___ Occupation _____

2. Name of mother _____ Age ___ Occupation _____

3. Highest educational attainment of father _____

4. Highest educational attainment of mother _____

5. Number of children (living) _____ (dead) _____

6. Number of unborn (abortion) _____ (miscarriage) _____ (stillbirth) _____

7. Name and date of birth of children (both living and dead). Please put a a cross before the name of each dead child.

(Name of Child) (From oldest to youngest)	Date of Birth
_____	_____
_____	_____
_____	_____
_____	_____

8. Number of births between (spacing)
   1-18 months (1½ years or less) _____
   19-30 months (1½ years-2½ years) _____
   31 or more months (3 years and above) _____

9. If father is dead, cause of death _____
   age of death _____

10. If mother is dead, cause of death _____
    age of death _____

11. Number of children who died before reaching five years

Name of children	Age at death	Cause of death
_____	_____	_____
_____	_____	_____
_____	_____	_____

12. How often do members of the family get sick? (Check)

	Seldom	Very often	Not at all
father	_____	_____	_____
mother	_____	_____	_____
children	_____	_____	_____

13. Who often get sick among the children? (Check)

children of high-parity level _____
children of low-parity level _____

14. Ailment most common to members of the family

	Kind of Ailment
father	_____
mother	_____
children	_____

15. Recreational activities engaged in by family members

father _____
mother _____
children _____

16. Family atmosphere (Check)

happy and contented _____
unhappy and discontented _____

2. Interviewing procedures

Interviews should be conducted after class hours. In places where there is difficulty in carrying out interviews of families, it is suggested that a PTA meeting be called so the teacher may inform the parents about the projected observation and interview. One member of the team may do the questioning and the other may record the answers of the interviewee.

3. Background reading

Before the interview, assign two or three students to report on the survey of children in Laguna and the nutritional health of the mothers as shown below:

STUNTED LAGUNA CHILDREN:

Survey in 15 Laguna towns shows tots suffer from ill nutritional health in mothers*

by
Juan L. Mercado

Manila, January 18 - (PNS) - A nutritional survey of 7,815 infants and pre-school children in Laguna province has turned up startling evidence of the havoc inflicted by malnutrition on families that are large and where births have come in rapid-fire fashion.

The grim pattern of faltering in mothers who fail to space children is traced in the data gathered from 15 towns by teams of Laguna's Provincial Health Officers. Dr. R.W. Engel, nutrition adviser of the Agency for International Development, provided expertise for this project.

There is reason to believe that the Laguna pattern of children being laid open to assaults of diseases through lack of nutrition is duplicated in varying degrees in all 66 provinces of the country, a health official told PNS.

Clinical Scales

In May and June of 1969, the Team conducted weight measurements of 7,815 children on clinical scales. The number of children varied from as low as 292 in the town of Cavinti of 1,104 in Sta. Rosa.

Highlights of the survey findings are:

1. About 53 out of every 100 children studied were afflicted in some degree by one form of malnutrition or the other. About 284 or 3.6 per cent were suffering from severe or third-degree malnutrition.
2. When the prevalence of severe malnutrition in children reaches three per cent of the total child population, doctor's rule-of-thumb runs: "A serious public health problem exists".

   "Municipalities with high malnutrition prevalence were Calusan, Mabitac and San Pedro", the survey teams also reported. "If anything, birthrate verification (of the children studied) would reveal even more malnutrition than the prevalence of 53 per cent found".

*Source: Manila Times, January 19, 1971.

3. The degree of malnutrition was so severe many of the children in all 15 towns appeared stunted.

30-month olds

On the average, the Laguna children covered in the survey were two and a half years old (30 months). But they had bodies of children less than two years of age.

The survey report warned: If nutrition is not improved these children will not reach the stature of a normal three-year-old child, until they are over five years old.

(Unwritten but implicit in this warning is the scientist's conviction that severe malnutrition, especially while the child is in the womb, results in sharply reduced mental capacities. A World Health Organization paper entitled "Nutritional and Mental Development" and released last October says there is evidence that irreversible brain damage occurs if the child is severely malnourished before it is six months-old and the unborn are even more vulnerable).

Pre-school condition

The severity and prevalence of pre-school malnutrition shot up rapidly as the number of children within a family increased. The youngest child in large Laguna families often winds up the scrawniest (thinnest, ill-nourished) of the lot.

"In Laguna...the third pre-school child in the family was more stunted than the first of the second in 73 per cent of the families studied", the report said. "The fourth was more stunted than the older brothers and sisters in 96 per cent of the families".

The survey team traced the study of erosion of the nutrition of Laguna children this way:

The fourth child is already 77.9 per cent of what he should weigh. By the time the second child comes around, he is down by a fraction: 77.8 per cent. The third kid chops his 74.6 per cent. When the fifth arrives, he is down to only 67.4 per cent of what his weight should be.

"In Laguna...the youngest child in large families is more malnourished than the older brothers and sisters", the report asserted.

The odds against younger children are stacked even further by another fact: In this province, big families simply out-number small ones. Families with two or more pre-school children are nearly twice as many as those families with only one youngster.

Spacing of births in a family affects the nutritional health of the children.

Feeding programmes

The survey teams compared 748 pairs of children who were born between nine to 18 months of each other and 1,107 pairs who were spaced out between 18 and 27 months.

The damaging effect of short spacing between pregnancies emerged in the sharp drop in body weight (5.1 per cent of the kids who followed. Those who were born with a bigger time gap were almost as heavy as the first ones.)

The survey report noted: "Both the time lapse between births and the number of pre-school children have an influence on nutritional health. No doubt in part due to failing nutritional health of the mot er children born less than 18 months after an earlier pregnancy have more severe malnutrition than their elder brother or sister".

Aside from improving the child-feeding programme, the survey team said that proper child spacing and judicious planning of family size would be an important measure to relieve malnutrition in children.

The following questions can guide the discussion after the report:

1. *What was revealed in the survey conducted in Laguna regarding the health of mothers who failed to space their children? How does failure to space children affect the health of the child?*
2. *What effect has malnutrition on the child during the first three years of life?*
3. *How is the health of the child affected by the health of the mother?*

Forum discussion

While waiting for the results of the observation and interview, a forum discussion may be conducted on the following topics:

What It Means to Belong to a Large Family
What It Means to Belong to a Small Family
The Effects of Reasonable Spacing on the Health of Mother and the Child

Two or three participants may be invited to talk on each topic. Participants for the first and second topics may be parents with large and small families respectively. A nurse and other knowledgeable persons may be asked to talk on the third topic. The important point that should be stressed in the discussion is the effects of family size, parity, and spacing on health.

Take up with the class how to conduct a forum discussion which is a speaker-audience technique. Two or more speakers present their ideas. Then the members of the class direct their questions to the different speakers.

At the close of the discussion, the teacher and the class summarize the important points brought out by the speakers on the effects of family size, parity, and spacing on health.

The teacher should assist the class to formulate tentative conclusions based on the discussions.

4. Defining terms

The following terms should also be defined:

a) family size
b) parity
c) morbidity
d) foetus
e) abortion
f) spacing
g) miscarriage
h) stillbirth
i) premature birth

5. Preparing the results of the interview

Guide the students to decide how they will report the results of their interview. Accept from the class suggestions on how to do the tallying of the results of their interview. The class may form five groups and select a leader for each group. The members of each group may use the suggested tally sheets for tallying the results obtained. When all groups have finished tallying, one of the leaders may report the summarized reports of all the groups to the class. This activity may take 40 minutes after which the class may interpret the data gathered.

6. Reporting the data

Under the teacher's guidance, the class interprets the data with the use of the following guidelines:

a) How many families belong to this classification?

large-size family? _____
small-size family? _____

b) How many families have high incidence of death among

	Large families?	Small families?
father	_____	_____
mother	_____	_____
children	_____	_____

c) How many families have high morbidity among

	Large families?	Small families?
low-parity level	_____	_____
high-parity level	_____	_____

d) *How many families have close spacing and high morbidity among*

	Large families?	Small families?
father	_____	_____
mother	_____	_____
children of low-parity	_____	_____
children of high-parity	_____	_____

e) *How many families have adequate spacing of births?*

large families _____
small families _____

f) *How many mothers died of childbirth among*

large families _____
small families _____

g) *How many of the family members participate in recreational activities?*

	Large families?	Small families?
father	_____	_____
mother	_____	_____
children	_____	_____

h) *How many families would you consider to be enjoying themselves due to good health of the members?*

large families _____
small families _____

7. Interpreting data

From your data, in what size of family do you find more incidence of parental morbidity? Of child morbidity? Of maternal health due to childbirth?

Where do you find more cases of physically and emotionally healthy parents, where spacing is close or where it is adequate? Where do you find healthier children, where parity is high or where it is low?

If there is adequate spacing, what are its effects on the mother's health? On the last child? On the father's health? On the health of the other children?

How do you interpret the relation of the family's participation in recreational activities and their use of resources? Which families have more time for recreational activities? Why do you think so?

8. Forum discussion

After the discussion of the results of the interview, a forum discussion may be conducted on the following topics:

What It Means to Belong to a Large Family
What It Means to Belong to a Small Family
The Effects of Reasonable Spacing on the Health of the Mother and the Child

Two or three speakers may be invited to talk on each topic. Speakers for the first and second topics may be parents with large and small families, respectively. A nurse and other knowledgeable persons may be asked to talk on the third topic. The important point that should be stressed in the discussion is the effects of family size, parity, and spacing on health.

Take up with the class how to conduct a forum discussion which is a speaker-audience technique. Two or more speakers present their ideas. Then the members of the class direct their questions to the different speakers.

At the close of the discussion, the teachers and the class summarize the important points brought out by the speakers on the effects of family size, parity, and spacing on health.

The teacher should assist the class to formulate tentative conclusion based on the discussions.

9. Conclusion

From the data presented in your study, what conclusions can you derive regarding the:

1. Relation of family size to parental and child morbidity?
2. Effect of high parity on the physical and emotional health of parents? Of the children?
3. Effect of close spacing on parents and on children?

If family size is large/small, what parity level and spacing of births do you expect?

4. A small family: parity level is low - spacing is adequate.
5. A large family: parity is high - spacing is close.

10. Evaluation

a) Answer the following items. Encircle the letter of the correct answer:

i) The family size is made up of:

(a) father, mother, grandfather and grandmother of the family

(b) the children in the family

(c) father, mother and all the children, married and unmarried

(d) children and helpers.

ii) The number of births is the number of

(a) livebirths in the lives of the couple

(b) pregnancy of the mother for 28 weeks

(c) all children born to the couple.

(d) a and b

iii) Spacing of childbearing is

(a) prevention of yearly childbearing

(b) having children when the couple wants them

(c) spacing of pregnancies

(d) having children every other year.

11. Answer the following:

1. *If you are to have your own family, what family size would you want to have? How many children? What about the spacing of children? Justify your answers.*
2. *How will your choice affect the health of your family? Your neighbours? The people of the community?*

Adapted from: Philippines. Ministry of Education and Culture Population Education Program. *"Teacher's guide in population education for home making arts, First-Second Year" (revised for Muslim Filipinos).* Manila, 1981, p. 5-18.

CONTENT : AGE AT MARRIAGE AND POPULATION GROWTH

OBJECTIVES :

1. *To make the students aware that:*
   a) *age at marriage is related to population growth;*
   b) *customary practices of people hinder the implementation of progressive legislative measures regarding the age at marriage;*
   c) *traditional values and norms in India impede the incorporation of certain measures like "higher marriage age" which aims at checking population growth rate.*
2. *To analyse the effects of the age at marriage on the kind of family life one might have.*
3. *To show that the age at marriage affects the number of children a couple might have.*
4. *To list advantages/disadvantages of early or late marriage.*
5. *To design and conduct an interview through role playing.*

GRADE LEVEL: HIGH SCHOOL

SUBJECT : HOME ECONOMICS

LESSON ONE

A. OPENER

The students are asked to read the following article:

India is characterized by the institution of early universal marriage. Vital statistics of India for 1961 give the median marriage age of girls in the rural and urban areas to be 16.1 and 17.1 years respectively. Again according to 1961 census, 80 per cent of girls aged 20-24 were unmarried. This means that 20 per cent got married below age 15. The bulk married at ages 15-19. Roughly, only 7 per cent married at ages 25 and over. This has been the picture for the last sixty years except for marriage below age 15. In 1901, about 50 per cent of girls aged 10-14 were married. This is now unusual. However, there is still a substantial practice of child marriage in rural areas. Child Marriage Restraint Act, which prohibits marriage of girls below age 14, was passed in 1929, and in 1949 the age of marriage for girls was raised to 15 according to this act. But it is still not fully effective.

Indian social reformers have not been oblivious of this social evil of child marriages, as a voice against this was raised in this country by a very prominent Hindu - Raja Ram Mohan Roy - as early as 1830. But it was only in the year 1927 that Rai Sahib Harbilas Sarda moved the Hindu Child Marriage Bill which was passed by the Parliament in the year 1929. Main objectives to child marriages were that these resulted in a large number of child or young widows who were victims of social customs, these led to moral and physical deterioration of boys and girls. At present the government is considering to raise the marriage age of girls to 18 years with another important objective that it would directly and indirectly help in checking the population growth rate in India.

Population growth, that is, increase in the population of our country is causing great concern and alarm. India's population is continuing to grow at a fast rate. During the 1961-71 decade, the population growth rate was 24.8 per cent and the net addition of 108 million to the population is the highest experienced in any decade so far.

Population increase is determined primarily by the excess of births over deaths. The birth rate is dependent upon the age at which females marry, the duration for which they remain in fertile union and the

speed with which they beget children. (Aggarwala). In India a girl marries at an average age of 16, she has her first child at the age of 19-20 and she continues to bear children at intervals of two to three years. By the time she attains the age of 35, she has mothered five to children and may bear one more child in the subsequent ten years of her fertile period. An average Indian woman has between six and seven children during her entire reproductive span. Hence, increase in marriage age is an important way of reducing the birth rate ir India.

There is need to put greater emphasis on increasing the male and female age at marriage because there is growing evidence that the recent decline in fertility in the Asian countries like Taiwan and Korea is attributable largely to an increase in the female marriage age. Late marriage appears to have a significant effect on the fertility of Indian women. There is sufficient evidence to suggest that while the females marrying between ages 14-19 have the same completed maternity, those marrying after 19 have a lower number of children (Aggarwala).

It could be expected that the effect of an increase in age at marriage on fertility would be to cut down the reproductive span. However, it is difficult to estimate the actual reduction in fertility occurring from a specified increase in age at marriage without knowing what changes might occur in the family building process on account of such an increase. A study carried out by the Registrar General, India in 1961, on rural and urban samples in four selected states namely Jammu and Kashmir, Punjab and Kerala, showed an association between postponement of marriage and reduction in the number of children born. (Jain).

Again according to Chandra Sekhar it is an established fact that either as a result of being generally more mature, or because of greater opportunities for gainful employment, or a combination of these, girls marrying at a later age favour and adopt family planning more readily. There is a correlation between raising the marriage age of our girls and reducing the nation's birth rate. Marrying at a higher age cuts down the reproductive span. Some recent studies have shown that if the minimum age at marriage of females were fixed at 20 years the reduction in the birth rate in a decade would range from 12 to 30 per cent.

To any discussion of the likelihood of a fertility decline in the developing world the case of Japan is of particular interest. First, because Japan is the only country outside the western world which has so far completed the transition from high to low and controlled fertility. Secondly, because this transition took place

with extraordinary rapidity. After the war, Japanese crude births rose to 34 in 1947 which was higher than in the interwar period, but about the level of the 1920's. It then began a rapid decline and reached 17 in 1957, thus demonstrating that birth rates can be cut by one half in a decade...there is a clear evidence of a postponement of marriage, starting already in the interwar period which is responsible for fertility decline. As Kingsley Davis, who has drawn attention to the full scale of fertility responses in Japan, has remarked, "It may be that the age at marriage rose faster in Japan than in any other country in history". It is now higher than in most western countries (Goran Ohlin). Another example quoted is that of Ireland where fertility is largely uncontrolled and the age at marriage is very high. There the birth rate is much lower than that in Asian and Latin American countries. It is thus believed widely that the postponement of marriage in Asian and Latin American countries will reduce the birth rate in those countries (Gyorgy Acsa'i).

The contention that a higher age at marriage of females would lead to check on birth rates sounds quite logical in view of the following facts:

1. *Increase in age at marriage would cut down the reproductive span.*
2. *Higher age would generally mean more mature thinking which would result in more responsible attitude towards parenthood. Responsible parenthood entails check on the birth rate.*
3. *A later age at marriage allows a longer period for youthful education and (in the case of women) for gainful employment. These activities influence family-size desires, hence adoption of family planning more readily.*
4. *Illiteracy and early marriage result in an attitude of irresponsible fatalism regarding the bearing and rearing of children.*

India is facing the problem of population explosion and at the same time is characterised by the institution of early universal marriage. Even when the eminent demographers assert that early marriage is positively associated with higher birth rate and that the marriage age must be raised with a view to ensuring a cut in the birth rate, it is very difficult to do so because of certain centuries-old customs and traditions of our society. The custom of early, even pre-puberty marriages has been prevalent for about two thousand years in India.

Religion and ignorance resulting mainly from illiteracy have been the factors mainly responsible for making the masses averse to the idea of raising the age of marriage. When the social reformers struggled for legislative enactment regarding a ban on child marriages, they were opposed by large masses on religious grounds. The large majority of people argued that according to Shastras of Hindus, girls must be married young and preferably before attaining puberty. One of the religious ground for favouring pre-puberty marriage was safeguarding the morality of the girls. Secondly, a pre-puberty marriage would ensure the availing of the maximum number of fertile years of the women for procuring progency and especially sons. The high value being attached to the birth of a son also draws force from Hindu religion.

Education is another factor related very significantly to the age of marriage. It is a matter of general observation that educated people do not favour marriage at very young age whereas uneducated people adhere more to the traditional custom of early marriage. If girls are put in schools, their marriage age will be automatically raised. If they marry later, they will be mature and will have an opportunity to form some opinion of their own in the matter of number of children each one should have. At present, few couples think about the number of children they want and as many as God gives is the rule. The means of a family to bring up children properly and the adverse effects of large number of children on the welfare of the parents and the children already born do not influence couples, in their attitudes towards begetting children. With education, a couple may see the advantages of a small family in the present situation and do something about it. The Government is carrying on a national movement for reducing the family size for the benefit of the couple, the family, the community and the nation. This may have better response if the people are educated. This will be a valuable indirect effect of raising the marriage age and giving education.

The above analysis of the social situation of our country makes evident the fact that at present it is very difficult to raise the marriage age and consequently check the birth rate. In other words it seems quite difficult to check the growing birth rate in India by raising the marriage age of girls and boys. By merely raising the marriage age of girls to 18, there may not be much reduction in family size, unless it is accompanied by the practice of deliberate limitation of family. The data regarding age specific birth rate reveal the trend that postponement of marriage of girls to 25 years of age or later would considerably reduce the family size. But it does not appear to be practicable to postpone marriage that long in the current system of early marriage. Hence, the population growth problem seems to be especially complicated one in the Indian social context.

B. Teaching Hints

It would be quite revealing, meaningful and absorbing experience for the young adolescents to have a simple dialogue/ talk, which may be semi-structured, with small purposive sample of people belonging to different socio-religious background. The dialogue shall aim at eliciting the opinion of the people regarding marriageable age of girls and boys. This activity would be essentially helpful in initiating the students' acquaintance with the social context of the issue of the study.

C. Evaluation

After completing the teaching of this unit the teacher may ask the students to arrange a debate on the issue: 'Age at marriage' (What is proper age of marriage and why). From a critical observation of this activity of students the teacher may evaluate the general impact of the above teaching unit on the thinking of the students.

Secondly, there may be simple oral questions at the end of the above unit which may enable the teacher to assess the cognitive aspect only.

Questions

1. *What is Sharda Act/Child marriage restraint Act?*
2. *When was this act passed?*
3. *What is the legally permitted age of marriage of girls and boys in India?*
4. *Are all marriages performed at and above legally permitted age of marriage?*
5. *What percentage of girls got married below the age of 15 years according to the Censuses of 1961 and 1971?*
6. *What was median age of marriage of girls and boys according to the Censuses of 1961 and 1971?*

Do you think age at marriage is related to population growth rate? If yes, please explain how and why of your answer. Your personal opinion is more important.

In your opinion what is the proper age of marriage and why?

LESSON TWO

A. Suggested Procedure

1. Motivation

a) Structure the bulletin with: (i) a wedding picture of a teen-aged groom and a teen-aged bride and their family picture with eight children ten years later; and (ii) a wedding picture of a groom and bride aged 28 and 25 respectively and (iii) their family picture with two children ten years later. Invite the attention of the class to the two sets of pictures.

b) What do you see on the bulletin board?

c) What can you say about the first set of pictures? About the second set of pictures?

d) Why do you think one family has more children than the other? (Accept as many answers as the pupils may give.)

e) Have you any married brother or sister? Do they have children?

f) Tell us why you think your married brother or sister has few or many children.

g) When would you say that marriage is early? (Accept varied answers).

h) When would you say that a marriage is delayed or late? (Make the children realize that different persons have different views of what an early or late marriage is. Some say that marriage below 20 years is early; between 20 and 30 years is just right; and above 30 is late).

2. Development

a) Get a piece of paper and write the age at which you would want to marry. You may not write your name.

On the chalkboard, indicate opposite each age level the number of pupils who would want to marry at that age. In a post survey that may be conducted later, these figures will be used as an index to determine whether or not there has been a change in the attitude of the pupils regarding early and late marriage. In case of mixed classes, separate the

data for the boys from that of the girls.

3. Planning for the interview

What questions shall we ask the people we are going to interview to enable us to see how age at marriage affects the number of children a couple may have?

Lead the children to suggest ways of getting the following information from people they will interview.

a) Age of wife at marriage
b) Present age of wife
c) Number of children, both living and dead.

You suggested that you will interview married people. How many are you in the class? How many families should each of you interview? Ten families per pair of pupils should be good enough. Why is it good to include as many people in the community as possible in your interview? (So that the findings will be more commonly true to the people in the community). Then we can have a better basis for our conclusions. Include only those with completed family size. A completed family size is the number of children that will have been produced by a woman at the end of her childbearing years which is between 15 and 45 years. Should we include families without children? Why?

Let us decide now on who should interview who. But first select your partner in conducting the interview. Why is it good to work in pairs?

Present a rough sketch of the community. Assign each pair of pupils to interview 10 families from as many streets or areas of the community as possible. Avoid assigning pupils to their own immediate neighbourhood or interviewing the same families. Before this activity is launched, parents may be informed about the interview in a PTA meeting or through a letter sent in advance so they will not be caught unaware by the pupils if they happen to be interviewed.

Some children might suggest preparing an information sheet. If nobody has any idea about what an information sheet is, show a sample to the class. Then guide the children to prepare one that will suit the purpose of their interview by asking questions similar to the following:

a) What are the data that you want to get from the people you will interview?

b) How many columns shall we have in our information sheet? What heading shall we write at the top of our first column? At the top of our second column? At the top of our third column?

Information Sheet

Families Interviewed	Age of Wife at Marriage	Number of Children (Living and Dead)	
Musa	21	10	2
Abdul	42	1	2
Hassan	18	5	1

c) Write the name of families interviewed or their house numbers. Why should we write only the age of the wife and not the age of husband? Why should we include both living and dead children? Do you think this information sheet will make it easier for you to write down the answers of the people you will interview?

Tell the class to copy this information sheet so that they can use it in their interview.

How will you conduct your interview? Can you give some suggestions or pointers on how to do it?

The pupils may come up with the following pointers:

a) Work by pairs. One will ask the questions, the other will write the answers.

b) Tell the interviewee the purpose of the interview.

c) Ask very specific questions.

d) Ask your questions in the language which the person you are interviewing can understand and speak.

Let us see how you can put these pointers into practice. Demonstrate how to interview and how to be interviewed.

Call on groups of pupils to act as interviewers and interviewees. After each demonstration, ask the class to give comments on the performance of each pupil based on the pointers for interviewing suggested by them. Show how to react when the person being interviewed is unco-operative.

After several demonstrations, remind the pupils of the number of families they are supposed to interview, their streets or place of assignment, and their information sheet. Tell them that they can do their interviewing before and after classes. While waiting for the results of the interview the class can take up other portions of the sub-unit. An alternative course of action may be for the interview to be done on a weekend.

Adapted from: a) India. National Council of Educational Research and Training. *"Teaching unit on population education"*. New Delhi, NCERT, 1973, p. 69-80.

b) Philippines. Ministry of Education and Culture. Population Education Program. *"Teacher's guide in population education for home economics grades V-VI." (Revised for Muslim Filipinos)*. Manila, 1981, p. 44-56.