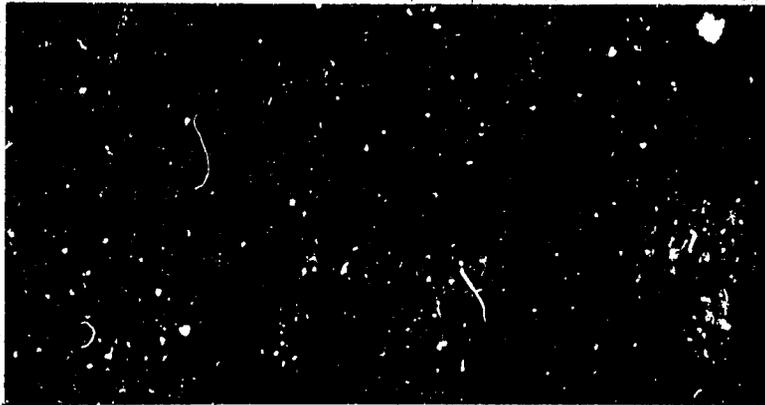


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REPORT ON THE POPULATION  
EDUCATION WORKSHOP  
IN ALEXANDRIA, EGYPT  
AUGUST 2-11, 1983

A Report Prepared By:

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## PREFACE

This report describes a population education workshop held in Alexandria, Egypt, for 35 educators. It also describes the educational context in which the workshop was held, its goals, its outcomes and recommendations.

Dr. Elaine Murphy and Dr. Robert Weller were pleased to play a role in the Ministry of Education's (MOE) efforts to make population education an integral part of teaching in Egyptian schools. Gratitude is expressed in particular to the following:

- Dr. Helmi Bermawi, General Director of Planning,  
Ministry of Health (MOH)
- Dr. Guirguis el-Rashidi, Chief Central Administration  
for Secondary Education, MOE
- Mr. Mohammed El-Sayed Gamil, Director, Population and  
Environmental Education Unit (OPEE), MOE
- Mrs. Zahia Marzouk, President, Institute for Training  
and Research in Family Planning (ITRFP)  
Alexandria
- Mrs. Salha Awad, Director, ITRFP, Alexandria
- Mr. Mohammed Kamal el-Kalafawy, Chief, OPEE
- Mrs. Leila Bahay, Senior Consultant, OPEE
- Mr. Maher Mikail, Senior Supervisor of English,  
translator for the workshop
- Mr. Howard Lusk, AID/Cairo
- Ms. Laura Slobey, AID/Cairo
- Mrs. Laila Stino, AID/Cairo
- Mr. John-Paul James, AID/Cairo

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## I. INTRODUCTION

### Purpose of the Assignment

The first Ministry of Education workshop to train leaders in population education was held in Alexandria, Egypt, in the summer of 1977. Continuing the annual series, the MOE began planning its 1983 workshop by sending through the Agency for International Development the following cable:

"Subject: Population: Sixth Summer Workshop on Population and Environmental Education: August 2-11, 1983

1. For NE/TECH and ST/POP/FPSD.
2. USAID has been asked by Dr. Guirgis El-Rashidy, undersecretary for preparatory and secondary schools, Ministry of State for Education and Scientific Research, (MOE) to support another summer workshop on population and environmental education. The purpose of the workshop is to provide an orientation in the fields of population and environmental education to teachers throughout Egypt in order to prepare them to introduce modern methods and materials in these subject areas in the school system. Workshop also aims at preparing Egyptian teachers to run similar local workshops at the governate level.
3. The workshop is the culmination of the Ministry of Education's past year's work on population and environmental education. Since October workshop participants have been enrolled in a correspondence course providing theoretical background in the economics and environmental impact of population growth. Participants are teachers and supervisors at the primary, secondary and normal school levels. Approximately 50 teachers will participate in this year's workshop. The workshop will be similar to those conducted in the past.
4. The MOE was pleased with the work of Dr. Elaine Murphy in the last year's workshop. They request she return this year, along with a

second expert, if possible. The consultant should have a broad background of training and experience in curriculum development, teaching strategies and instructional materials design with particular knowledge of the application of these skills to population education.

5. In addition Dr. Murphy is requested, with USAID and the MOE population and environmental education unit to discuss, refine and develop a budget for the proposal for expansion of population education into the school system prepared November 1982.
6. The consultants are requested to arrive in Egypt several days prior to starting the workshop to participate in pre-workshop planning. Dr. Murphy would require approximately two weeks in Cairo prior to start of the Alexandria workshop, as well as one week afterwards to finalize report/proposal, for a total TDY of one month, starting O/A July 17.
7. Please advise availability of Murphy and second person. Request both consultants be contracted under APHA, with ESF funding.
8. USAID requests several copies of the APHA report draft proposal for expansion of population education in the school system of the area, by Dr. Elaine Murphy. Atherton."

Dr. Elaine Murphy, Director of Education at the Population Reference Bureau in Washington, D.C., accepted this assignment. Asked to identify another population education expert to help lead the workshop in Egypt, Dr. Murphy invited Dr. Robert H. Weller, professor of sociology and research associate in the Center for the Study of Population at Florida State University in Tallahassee, Florida.

Dr. Murphy and Dr. Weller traveled to Cairo where they worked with Mr. Mohammed Gamil, director of the OPEE in the MOE to plan the 10-day workshop. Mr. Gamil asked Dr. Murphy to employ the same non-traditional teaching methods she had used the previous two years in co-leading the workshops in 1981 and 1982 but to present as many new activities as possible. This -- along with many contributions from Dr. Weller -- was done.

Previous reports had recommended a greater number of teachers in relation to supervisors and administrators. This recommendation was followed; a large number of teachers participated representing the seven disciplines into which population topics are to be integrated: science, mathematics, home economics, Arabic language, religion, geography and civics. In addition, teachers representing English language studies and commerce -- disciplines to be included at a later time -- participated in the workshop. Administrators and instructors at teacher training institutes attended. All geographic areas of Egypt were represented; some participants traveled over 12 hours by train to reach Alexandria. Only two of the participants -- both English language instructors -- were women.

### Population Education Efforts in Egypt

Among the components of Egypt's 9-point population policy is one which emphasizes the importance of education and another which emphasizes increasing awareness of population issues and family planning among all the people. The Ministry of Education for almost a decade has responded to this challenge.

Population Education Activities 1974 - 1982. In 1974, the MOE, in collaboration with the Population and Family Planning Board (PFPB), began its activities to introduce population education into the primary (grades 1-6) preparatory (grades 7-9) and secondary (grades 10-12) schools. There were almost 14,000 such schools with enrollments of over six million students as of 1980.

Program activities included: establishment of an Office of Population and Environmental Education in the MOE, introducing the necessary curriculum changes in seven school subjects (geography, civics, Arabic language, biology, religion, home economics and mathematics) deemed most appropriate for population concepts; in-service training of master teachers and supervisors by means of workshops and correspondence courses; development of teachers' manuals and teaching materials; issuing a quarterly Population Education Bulletin for teachers and supervisors that is distributed to schools and training centers throughout Egypt. These activities were funded primarily by the PFPB with occasional and limited support

from USAID, the World Bank and UNFPA. Of particular importance is the training of cadres of population education leaders from every educational district who gather in Alexandria each summer for a 10-day workshop.

Activities during the 1982/1983 school year. Since the 1982 summer workshop, the OPEE has held eight workshops (one in each of eight educational districts) which trained senior teachers and senior supervisors of the teacher training institutes, plus the chiefs of teacher training (in-service) departments in these districts. About 400 people were trained.

Three workshops were held for those responsible for teacher training in 12 governorates, the supervisors and senior supervisors in the central departments. About 150 persons participated.

The OPEE prepared a curriculum guide for secondary education teachers of the seven disciplines plus four units for a teacher's guide in geography, science, mathematics and home economics. It also prepared and printed a curriculum guide for instructors at the teacher training institutes plus four units to be used in the institutes: civics and psychology, home economics, geography and the physiology of reproduction.

The sixth summer workshop was held in Alexandria for 35 supervisors and senior instructors who had completed the correspondence course. Another workshop was held in Menia at the end of August 1983 for senior instructors in the teacher training institutes, the seven subject area supervisors and the head of the training department -- about 50 persons.

To date, a sound plan to integrate population topics into the curriculum exists. About 2,000 senior teachers in preparatory and secondary schools and instructors at teacher training institutes (which prepare primary level teachers) have been trained. A cadre of about 300 population education leaders has been trained through a year-long correspondence course and participation in the 10-day workshops in Alexandria.

## II. THE WORKSHOP

### Planning

Dr. Murphy and Dr. Weller worked in Cairo with Mr. Mohammed El-Sayed Gamil, Director of the OPEE, to plan the agenda for the workshop.

The basic structure of the workshop reflected the MOE's division of the field of population studies into six categories or domains:

- The 1st domain: population concepts and their measures (birth, death and growth rates, doubling times, age-sex composition, density, etc.)
- The 2nd domain: factors which influence population growth: the effects of fertility, mortality and migration; values, traditions and attitudes which affect population growth.
- The 3rd domain: effects of the population problem in the world and Egypt on the individual and the family; on agriculture, education, transportation, health, housing, and the environment and the economy.
- The 4th domain: the physiology of reproduction
- The 5th domain: population policies in Egypt and other countries
- The 6th domain: planning for the future.

In addition to the goal of covering all six domains, the workshop had as one of its most important objectives to teach participants and to let them practice a variety of non-traditional teaching methods for population education. These methods emphasize inquiry and problem-solving and are learner-centered as opposed to the lecture and recitation method in which the student is essentially passive. In their future role as population education leaders, the participants will be expected to encourage the teachers they train to employ these new methods. A description of non-traditional approaches to teaching about population is given in Appendix A.

## Workshop Agenda

The final agenda reflected the above objectives in terms of content, methods and evaluation. It also reviewed and reinforced areas covered by the correspondence course. The agenda left room for participants' analysis and discussion of how population education fits into various curricula, what obstacles must be overcome, and recommendations for action. In addition, certain leaders from the Ministry of Education and the Ministry of Health, including Dr. Helmi Bermawi, General Director of Planning, were invited to give lectures. The workshop days were divided into three sessions and ran from 8:00 a.m. to 4:00 p.m., with breaks between sessions.

### Tuesday, August 2

Session 1, Opening session. Welcoming comments by:

Mrs. Salha Awad

Dr. Guirguis el-Rashidi

Dr. Helmi Bermawi

Dr. Elaine Murphy

Dr. Robert Weller

Mrs. Zahia Marzouk

Mr. Mohammed el-Sayed Gamil

Pretest on population teaching methods and values/attitudes

Session 2 Role of the Ministry of Health in Solving the Population Problem

(Lecture, Dr. Bermawi)

Session 3 Nontraditional Methods and Materials for Population Education (See Appendix A)

(Lecture, Dr. Murphy and Dr. Weller)

Wednesday, August 3

## Session 1 Definitions of Population Education

(Lecture and small group discussion, Mr. Gamil)

## Session 2 Introduction to the First Domain (population concepts and their major components)

(Lecture, Mrs. Laila el-Bahay)

## Small Group Discussion on Population in the Egyptian Curriculum

(Mr. Gamil)

## Introduction of Participants

## Population Education Searching Game (see Appendix B)

## Session 3 Non-traditional Methods for the First Domain

Quiz on world and Egyptian population trends - discussion of answers to quiz and the use of a quiz as a springboard to discussion rather than a testing method

Water game, a simulation illustrating reproductive change and carrying capacity

Population growth in Egypt, calculation of rates, graph making

Egyptian population density over time, making a poster

Construction of a population pyramid, a mini-lecture

Thursday, August 4

## Session 1 Relationships between Population Change and Education

(Lecture, Dr. el-Rashidi)

## Session 2 Continuation of Activities from Session 3 of Preceding Day

Presentation of population pyramid based on age and sex of participants and all persons living with them

Human beans (comparison of Egypt and Japan)

Dependency ratio, population change, and economic growth, a mini-lecture

Two- vs. three-child family; discussion of values on family size

Egyptian family size, calculation of 4 generations with an average of 5 children per family

Session 3 Introduction to the Second Domain (Determinants of Population Growth)

(Lecture, Mr. Kalafawey)

Non-traditional Methods of Teaching the Second Domain  
Observing and Comparing

Confrontation - "What Would You Say?"

Traditional Sayings, "Folk Demography"

(Mr. Gamil)

Saturday, August 6

Session 1 Physiology of Reproduction

(Lecture, Dr. Moushira)

"Toward a New Dawn," a Japanese film on reproduction

Session 2 Introduction to the Third Domain (The Effects of Population Growth on Egypt)

(Lecture, Mr. Gamil)

Non-traditional Methods of Teaching the Third Domain

Springboard/brainstorming: "What evidences of rapid population growth did you observe during your trip to the beach yesterday?"

Future Wheel

Values Auction

Session 3 "Commitment to Change," a film about Egyptian Population Growth, Discussion

Sunday, August 7

Session 1 What Is A Decision You Made in the Last Six Months?

Discussion: should the schools teach contraception? Why or why not? If yes, how can we reduce controversy or opposition? What is the best way? What age level? What course?

Television interviews with Dr. Murphy, Dr. Weller, Dr. el-Rashidi, and Mr. Gamil

Session 2 Introduction to the Fifth Domain (Population Policy in Egypt and the World)

(Lecture, Mrs. Bahay)

"The Cheerful Revolution,' film on population policies in Thailand, used as a springboard to a discussion of whether Egypt could adopt the same policies

Session 3 Population Policy in Egypt

(Lecture, Mr. Sabri Saaid)

Monday, August 8

Session 1 How to Write Specific Objectives, How to Integrate Population Concepts in the Curriculum.

(Lecture, Mr. Gamil)

Session 2 Non-traditional Methods of Teaching the Fifth Domain

Take a stand - environment

Take a stand - population

Role playing; local decision-making boards

Session 3 Discussion of Local Field Research Done by  
Participants

Tuesday, August 9

Session 1 Contraception

(Lecture, Dr. Bermawi)

Introduction to the Sixth Domain (Planning for the  
Future)

(Lecture, Mr. Gamil)

Session 2 Non-traditional Methods of Teaching the Sixth  
Domain

Future Developments - Future Consequences

Get Involved with the Future - each small group  
chooses 1 of 7 activities and then reports to the  
whole group.

Session 3 Population Projections - a mini-lecture, with  
slides

Wednesday, August 10

Session 1 Curriculum Development

(Lecture by Mr. Gamil)

Session 2 Continuation of Activities of the Sixth Domain

Citizen Action

The Decision to Have Children

What is a billion?

Role Playing - use of the population pyramid for  
Mexico as a planning tool for Mexico's Ministry of  
Education

Session 3 Developing Population Education Lesson Plans,  
Stating General and Specific Objectives and Using  
Non-traditional Teaching Methods

(Lecture Mr. Gamil)

Post-test

Evening farewell party for participants and leaders

Thursday, August 11

Session 1 Presentation of Lesson Plans by Participants

Session 2 Distribution and Discussion of Teacher's Guidebooks for Population Education

Final Report on the workshop, participants' recommendations

Session 3 Closing remarks

Evaluation of the Workshop

A. Pretest-Posttest

A 15-item questionnaire concerning attitudes toward population issues and population education was administered before and after the workshop. In addition, participants were asked to define and provide examples of at least five non-traditional methods of teaching about population such as small group work, role playing, values clarification, demonstrations, and brainstorming.

The following results were obtained:

Part A

Indicate whether you strongly agree, agree, disagree, strongly disagree with, or are undecided about the statements below.

1. Teaching about population is important.

Pre 78% Strongly Agreed, 21% Agreed

Post 84% Strongly Agreed, 16% Agreed

2. Teaching about population is difficult.
- Pre 45% Disagreed, 18% Strongly Disagreed, 30% Agreed, 5 Undecided
- Post 53% Disagreed, 24% Strongly Disagreed
3. The lecture method is the best way to teach about population.
- Pre 48% Disagreed, 36% Strongly Disagreed, 9% Agreed, 3% Strongly Agreed
- Post 28% Disagreed, 57% Strongly Disagreed, 9% Undecided, 3% Agreed
4. Lectures can give a lot of information in a short amount of time.
- Pre 33% Agreed, 33% Strongly Agreed, 2% Undecided, 18% Disagreed, 12% Strongly Disagreed
- Post 42% Agreed, 28% Strongly Agreed, 6% Undecided, 16% Disagreed, 6% Strongly Disagreed
5. Lectures can change attitudes fairly quickly.
- Pre 27% Disagreed, 21% Strongly Disagreed, 18% Undecided, 27% Agreed, 6% Strongly Agreed
- Post 23% Disagreed, 6% Strongly Disagreed, 2% Undecided, 42% Agreed, 19% Strongly Agreed
6. Students learn best the lessons in which they are actively involved.
- Pre 24% Agreed, 75% Strongly Agreed
- Post 100% Strongly Agreed
7. Using a variety of teaching methods is most effective for population education.
- Pre 78% Strongly Agreed, 21% Agreed
- Post 90% Strongly Agreed, 9% Agreed

8. I feel ready to teach about population  
 Pre 72% Strongly Agreed, 27% Agreed  
 Post 81% Strongly Agreed, 19% Agreed
9. I feel ready to help teachers teach about population  
 Pre 63% Strongly Agreed, 36% Agreed  
 Post 84% Strongly Agreed, 16% Agreed
10. Rapid economic development -- not slowing population growth -- will solve this country's problems.  
 Pre 36% Disagreed, 27% Strongly Disagreed, 12% Agreed, 24% Strongly Agreed  
 Post 44% Strongly Disagreed, 25% Disagreed, 9% Undecided, 8% Agreed, 9% Strongly Agreed
11. Women must be given new opportunities for jobs and leadership.  
 Pre 45% Agreed, 33% Strongly Agreed, 3% Undecided, 3% Strongly Disagreed  
 Post 32% Agreed, 44% Strongly Agreed, 9% Undecided, 3% Disagreed, 9% Strongly Disagreed
12. Men should share with their wives the responsibility for planning the size and spacing of their families.  
 Pre 90% Strongly Agreed, 10% Agreed  
 Post 81% Strongly Agreed, 19% Agreed
13. Rapid population growth is one of the most serious problems in this country.  
 Pre 75% Strongly Agreed, 18% Agreed, 6% Undecided  
 Post 84% Strongly Agreed, 16% Agreed

14. It is important that students today plan to have smaller families when they marry.

Pre 60% Strongly Agreed, 39% Agreed

Post 74% Strongly Agreed, 25% Agreed

15. The population and environmental problems in this country are solvable.

Pre 39% Strongly Agreed, 60% Agreed

Post 48% Strongly Agreed, 52% Agreed

### Part B

Define and provide an example of each of 10 non-traditional methods of teaching about population.

Scores:

	<u>Pretest</u>	<u>Posttest</u>
0-4 answers correct	22 people	0 people
5-7 answers correct	10 people	9 people
8-10 answers correct	2 people	25 people

### B. Analysis of Pretest-Posttest

There were substantial changes in all of the items. As might be expected, the participants were predisposed to the concept of population education and 78 percent of them strongly agreed in the pretest that population education is important. In the posttest 84 percent strongly agreed. No one disagreed. Although there remains a commitment to teaching by lecture, the participants became

strongly committed to the idea of a variegated approach, 90 percent strongly agreeing on the posttest with the statement that using a variety of methods is most effective, compared to 78 percent on the pretest.

There remains opposition to the expansion of roles of women. In both the pre- and the posttest, about one-fourth of the participants did not agree with the statement that women should be given an equal chance for all new posts and leadership. Although no one disagreed with the statement that men should participate with their wives in planning their families, the percent strongly agreeing with the statement actually decreased from 90 in the pretest to 81 in the posttest.

Also disappointing is the fact that in the posttest only 84 percent of the participants strongly agreed that rapid population growth is one of the most serious problems in Egypt and while 100% agreed that it is important for students to plan for smaller families in the future, only 74% agreed strongly with that statement. In both the pretest and posttest, all of the participants agree with the statement that all population and environmental problems in Egypt are solvable. This may be an optimistic viewpoint.

On the other hand, the participants are strongly disposed toward population education, believe in learning through involvement, are willing to teach about population, and are willing to help other teachers do population education as well.

#### C. Performance in the Correspondence Course

Several days prior to the end of the workshop, Mr. Gamil administered a written test in the material covered by the correspondence course. He also evaluated and discussed the participants' local research projects, which were assignments growing out of the correspondence course. During the closing ceremony of the workshop, awards were distributed to those students with the highest scores.

#### D. Participants' Performance in the Workshop

The workshop's specific objectives were defined in terms of the participants' abilities to master knowledge

and skills of population education. By the time the workshop had ended, the participants had practiced and demonstrated mastery of such population education teaching methods as problem-solving, brainstorming, and role-playing. They also were more confident of their understanding of demographic concepts such as birth and death rates, doubling times and the effects of rapid population growth upon economic growth.

### III. OBSERVATIONS

Workshop participants had completed a correspondence course on population education during the previous school year. They came to the workshop with some knowledge of population dynamics and an appreciation of the effects of rapid population growth on various aspects of the quality of life in Egypt. This knowledge would increase during the course of the workshop. There were two widely held misperceptions that were difficult to dispel. One is that rapid population growth in Egypt is caused by an increase in fertility. The other is that the solution to Egypt's rapid population growth is to irrigate the desert and to settle people there. Participants also seemed to underestimate the difficulties involved and the time required to halt population growth. Overall, the participants' demographic knowledge upon entering the workshop could be considerably strengthened.

They showed great gains in the mastery of and attitudes towards the new teaching methods for population education. Participants have spent many years in a traditional school system which emphasizes memorization of facts and examinations, and Mr. Gamil paradoxically believes that non-traditional methods of teaching should themselves be taught in the traditional method of lecture, memorization, repetition and examination. However, the participants themselves were surprisingly open-minded. From the first day, they enthusiastically engaged in small-group work, problem-solving, role-playing, values clarification exercises, and discussions. They experienced first hand the didactic value of learning by doing.

The pretest revealed that 78 percent strongly agreed with the statement "Population education is important" and 75 percent with the statement "Rapid population growth is one of the most serious problems in this country" (posttest: 84 percent for each item). Considering that these participants had already completed the year-long correspondence course, these relatively low responses on the pretest were puzzling. It suggests the need either to select for leadership training in population education only those fully committed to it or to stress in the correspondence course the importance of reducing the population growth rate if Egypt's goals are to be reached.

The greatest needs of the project appear to be: (1) reaching the thousands of teachers who need training in the goals, knowledge base, and methods of population education; (2) producing student and teacher material that will be ready to use in the classroom at several levels and disciplines; and (3) providing administrative support and follow-up for those in the field trying to introduce population education in their subjects.

A long-term plan is needed to address these needs. Some of them were incorporated in the recommendations contained in the report of the 1981 and 1982 workshops.

Although Mr. Mansur Hussein, Deputy Minister of Education announced in 1982 a decision to appoint a population education liaison person in each governorate, such a decision was not acted upon, and there still remains no regional infrastructure to provide for population education. Such a recommendation was made to Mr. Hussein by the participants during the discussion which followed his lecture in the 1982 workshop and one of the recommendations made by this year's participants was to the same effect.

#### IV. RECOMMENDATIONS

##### Participants' Recommendations

At the conclusion of the workshop, participants discussed their reactions to the format and content of the workshop. They made several recommendations for future workshops as well as for the population education project in general. Among them were:

- encourage more women to participate in the workshop (only two out of thirty-five were women);
- establish regional population education offices and regional population education supervisors and administration staff should be appointed (this parallels a 1982 workshop recommendation by participants);
- more contact should be maintained with the workshop participants during the coming year (currently a newsletter is sent to all former workshop participants; however, this year's participants would like additional follow-up);
- additional in-service training should be offered to the participants in their local educational settings;
- the summer workshop in Alexandria should be extended to last at least 15 days;
- the heads of each discipline (eg., science, social studies, mathematics) in the Ministry of Education should attend the population education workshops so that they will become familiar with population education and become involved in it;
- there should be greater monetary incentives for population education participants;
- there should be opportunities for population education participants to go abroad to study.

Consultants' Recommendations

1. Hold the workshops in Alexandria. In 1982 the workshop was held in Cairo, and it appeared that the facilities available in Alexandria at the Family Planning Institute are far superior. Moreover, the environment of Alexandria is much more pleasant, which increases the enthusiasm of the participants during the workshop itself.
2. The correspondence course should be devoted primarily to equipping the participants with basic demographic knowledge and concepts rather than emphasizing educational theory and methods. An adequate understanding of demographic processes is a prerequisite to the confidence necessary to be a population educator.
3. The demographic content of the workshop itself should be expanded to provide a review of the correspondence course material and to clarify complex but important demographic issues (eg., momentum of growth).
4. The other chief function of the workshop should be to emphasize the non-traditional methods appropriate for teaching population education. These should be learned through the active involvement of the participants so that the message "learning by doing is best" is itself the guiding principle of the workshop. This means in practice that the population education leaders themselves, both Egyptian and foreign, should avoid lengthy lectures on non-traditional methods of population education. Thus they would show by their actions as well as their words how effective learning-by-doing can be.
5. Because the participants themselves are expected to operate regional population education workshops, time at the central workshop should be devoted to the participants' development of tentative agenda for workshops they themselves will lead in local areas during the coming year. These could be developed by small groups classified according to subject area. Representatives of each group could take turns leading the other participants in some of the

planned activities. These could be chosen from among those already demonstrated by the foreign experts or devised by the participants themselves.

6. It is essential that regional population education offices be established with regional leadership working in tandem with officials of the OPEE in the MOE in Cairo. During the 1982 workshop, Mr. Mansur Hussein, Deputy Minister of Education, promised to establish such offices. However, no such actions have been taken to date.
7. The staff of the OPEE should be expanded in order to meet the needs of the population education project as it expands and to increase visibility within the MOE itself.
8. To facilitate the ultimate objective of the project -- classroom teaching of population -- those new materials developed should be for students' use. In our opinion, sufficient written materials about the theory of population education already exist. New materials should be specific for the courses taught and should consist of specific lesson plans that could be used immediately and without adaptation.
9. The consultants agree with the participants that the MOE supervisors in the disciplines targeted for population education should be included in each year's workshop as well as all other phases of the project.
10. In view of participants' positive response to the question of teaching about contraception in the schools (23 for, 7 against, the remainder undecided), efforts should be directed toward developing a contraceptive unit for the post-preparatory stage. See Appendix B for participants' discussion of this issue.
11. Any recommendations made after the 1981 and 1982 workshops which have not yet been acted upon remain valid.  
(See Excerpts I & II)

## Excerpt I

### RECOMMENDATIONS FROM THE 1981 REPORT

1. Subject area teams should be formed, consisting of the Population Education Unit staff, the subject area liaison officer in the MOE, and a small number of subject area supervisors and teachers who have participated in the past population education correspondence course and workshops.
2. Each team should identify or develop student materials and classroom activities that fit into an ongoing course in relevant subjects, and develop teachers' guides relating specifically to these student materials and classroom activities.
3. Materials should be grounded in the appropriate theories and methods, but teachers should be given specific instructions on how to teach the lessons, and very little theory.
4. First generation workshops organized by the MOE's Population Education Unit should use a trainer-of-trainers model; the chief objective should be to prepare participants to lead several local workshops during the following years.
5. There should be separate trainer-of-trainers workshops for each discipline, rather than combining supervisors of various subject areas into one workshop.
6. The leaders of the trainer-of-trainers workshops should primarily be the curriculum development teams, described in Recommendation 2, and MOE leaders in these disciplines. Outside consultants should be called in if necessary, but workshop leaders should be those most involved in supervising and teaching about population in Egypt, especially those who had participated in the previous population education workshops.
7. Workshops should use the student materials and classroom activities developed by the curriculum development teams, described in Recommendation 2, as the primary content, although some basic population teaching is common to all subject areas. Again, theory should be minimized and learning-by-doing emphasized.
8. Participants for each subject area workshop should come in teams from each governorate or school district: the supervisor, the training officer, and at least two teachers. Research has shown that motivation aroused at workshops tends to diminish if the participant works in isolation after returning to the local

school setting. Team members provide moral support and motivation in the months following the workshops.

9. At least half of the trainer-of-trainers workshop should be devoted to the preparation of workshops that the participants will lead in their local areas. This includes organizing, planning the agenda, demonstrating the activities, and using the student materials. The end product developed by each local team should be a workshop agenda that can be put into practice upon return to the local area.
10. Outside lectures on the physiology of reproduction and other subjects not directly related to the development of local workshops should be omitted or reduced as much as possible.
11. Because curriculum development and leadership and teacher training could cover several levels of primary and preparatory (basic) education and secondary education, as well as the seven relevant disciplines, the overall task is enormous. Thus, the development of student material and training for only one or two levels (courses) in each discipline is recommended. The MOE might consider reducing the number of disciplines that population topics are integrated into in order to achieve large-scale curriculum development and training more quickly in a few disciplines.
12. Local area workshops--the second generation--must be a required part of the overall population education plan. The number of teachers and students is too large to concentrate on other models. Perfection may have to be sacrificed in favor of more trained teachers. In reality, probably no subject in Egypt or elsewhere is perfectly conceptualized or taught. It may be better for classroom students to become aware of Egypt's population problems and the need for smaller families at an inappropriate place in the syllabus than not be exposed to these topics at all.
13. The MOE should support the second generation of workshops with funding and leadership. Follow-up, such as the bulletin for workshop participants, should be continued.
14. The high priority of population education must be reflected in national student examinations.
15. Special attention should be given to development of student materials, classroom activities, and teacher training on topics that appear to be obstacles to Egypt's achievement of its population policy, for example, attitudes toward the changing roles

of women, male involvement in family planning, and religious or traditional barriers to family planning.

16. An effort should be made to overcome taboos about sex education. The teaching of reproductive physiology should include reasons for having smaller families, contraceptive methods, and Egypt's population policy.
17. Sufficient funding should be made available to support the plans outlined above, if they are acceptable to the Ministry of Education.

Consultant's Recommendations

The recommendations in the 1981 report remain in force as the recommendations for this report. Two of the recommendations have been addressed. A second generation of workshops is planned at the governorate level; population is covered in the national exams to a greater extent than previously thought.

Recommendation number 10 in the 1981 report advised that outside lecturers be omitted or reduced. While this recommendation is valid theoretically, the consultants could see the value in having important persons from the MOE speak at the workshops. These officials, by taking time from their busy schedules, communicate to the participants the importance of population education. The participants feel honored by their coming and encouraged. In addition, the decision to appoint population education liaison officers was made following a lecture by the deputy minister of Education, Mr. Mansur Hussein.

The consultants recommend in addition to the 1981 recommendations that:

1. A comprehensive long-term plan for materials development and teacher training should be developed.
2. These activities should concentrate on a few disciplines and levels at first, as a pilot study, and then expand.
3. Expansion should be based on evaluation of the pilot studies.
4. Emphasis should be placed on decentralizing the project, utilizing trained local leaders for second and third generation workshops and curriculum development.
5. Adequate funding and personnel should be provided.

APPENDIX A  
NONTRADITIONAL METHODS AND MATERIALS  
FOR POPULATION EDUCATION

## APPENDIX A

### NONTRADITIONAL METHODS AND MATERIALS FOR POPULATION EDUCATION

A lecture is a fast way to transfer a large quantity of information. It can be very effective, but it is often overused. Students and listeners find it difficult to concentrate on, understand, and respond to an excess of information in a brief time. It is more effective to use a variety of methods to help students learn, care about, and remember an important topic. Research shows that student involvement is the most successful approach to learning.

Teaching methods may include the following

#### 1. Small-group work

Divide the class into several groups of five or six students. Assign them a task such as discussing an idea, "brainstorming," creating a product such as a poster, a script, or collage, or solving problems. A group representative will report results to the group. This approach engenders interest and teachers cooperation.

#### 2. Brainstorming

In small groups or with the whole class, ask students to call out ideas in response to a question, such as "What are some ways to solve the population problem?" There are no rules in brainstorming. "Good" ideas, "bad" ideas, and "impractical" ideas are all acceptable for the time being. The objective is to involve all students in thinking about the problem without judging their ideas.

#### 3. Problem-solving

This is a more formal activity than brainstorming and does involve judging the worth of ideas. The steps involved are: (1) identifying the problem ("Is this village growing too rapidly?"); (2) gathering, tabulating, and displaying the data (for example, in a chart or

table); (3) presenting the data to the group; (4) summarizing consequences of the trends suggested by the data; (5) drawing conclusions; and (6) developing solutions. The last step should begin by brainstorming, then eliminating unethical, unworkable, unpolitical, and overly expensive (etc.) solutions. Consider the remaining solutions and test them, if possible, by gathering further information. Finally, develop a plan for implementing the most practical solutions.

4. Graphing and making tables and charts

It is important that students learn how to understand graphs and tables. A good way to help students is to ask them to make graphs, tables, and charts. Supply them with paper that has the scale of measurements of the graph to be constructed. Or give them a table that is only partly filled in. Then give them the data to be graphed or added to the table and have students complete the work.

5. Quiz

A quiz is a small test which is not used to grade the student when it is used as a teaching tool. Its purpose is to ask the students questions about a new topic so that he or she will be interested in the answers. It can replace a lecture. Make sure the quiz contains one or two easy questions so that students feel confident that they can master the new topic (for example, "True or False? Our population is growing.")

6. Student-developed quiz

After students have learned an important part of the subject matter, divide them into small groups. Ask them to produce a brief quiz -- about five questions -- on the new topic. Then have the groups exchange quizzes among each other and answer the quiz given to them. Return the completed quiz to the group who wrote it originally for scoring. A representative from each group can then read the questions, give the right answer, and tell which question the other group missed.

## 7. Using local resources

Teachers do not have to rely on expensive materials and equipment to do population education. Ask students to make a scrapbook of newspaper articles, photographs, and advertisements that are related in some way to population growth, possibly as a cause or effect. A newspaper itself can be folded to make the book. When the book is finished, ask students to write a brief essay about the evidence of the effects of population growth they have collected or to describe their book to the whole class or the small group. A diary of their own observations of population and environmental problems could also be kept in this "book."

Using people in the community as resources is also a good way to bring the real world into the classroom. Teachers might invite a nurse from the family planning clinic or a person in charge of schools, health, or transportation to discuss local population and environmental problems. Have students prepare two or three questions to ask the visitor.

## 8. Springboard

An idea can be a "springboard" or a bridge to a new classroom activity. For example, a newspaper article about a traffic accident can lead to a discussion of crowding and congestion, pollution, and urban problems which follow rapid population growth.

## 9. Case Study

Students can continue using their local environments as a resource by doing a case study. A case study focuses on one situation but illustrates a trend or a category of problems. For example, a student may investigate air pollution from a certain factory. In so doing, he or she will also learn something about environmental health, environmental planning or the lack of it, pollution control or the lack of it, and the dilemma of choosing jobs over clear air.

10. Research report

Students who have access to libraries and documents should be encouraged to do a research report on a specific aspect of population, such as "Population Growth in Egypt and Its Effect on the Food Supply." The students should obtain figures on population growth for a certain interval of years and the corresponding figures for food production, imports and exports of agricultural products, etc.

11. Classroom questionnaires and interviews

Students can develop questionnaires or opinion surveys to use with other students. For example, an individual or a small group could develop a set of questions, such as: What profession do you wish to have? Do you plan to marry? If so, at what age? Do you plan to have children? How many? Do you plan to stay where you live now or to move? Students should interview approximately 10 classmates and then tabulate their data. When all tabulation is completed, the results can be listed on the blackboard and the average number of children desired, the average age at marriage, etc., can be calculated and discussed.

12. Interviewing outside the class

Students can follow the procedures for classroom development of questionnaires and interviews but can interview people in the community and their relatives and friends. The teacher must be careful that the questions are not too personal or impolite. Results can be tabulated and discussed.

13. Values classification

There are many customs, practices, laws, traditions, and policies which favor or encourage large families either deliberately or not deliberately. But things are changing in some places. Ask students to list these laws or practices which either encourage or discourage

childbearing and then to classify them. For example, parents may encourage their married sons and daughters to have children because they want to be grandparents. Or the cost of an apartment in the city makes having children very expensive.

14. Values clarification

While cognitive gains are important (understanding how populations change, the momentum of growth and age structure, etc.), it is equally important to understand values and attitudes. Certain activities can help students examine their own attitudes. For example, the teacher can distribute a series of statements about population or environmental issues. The student may respond by indicating his level of agreement or disagreement with the statements, using "strongly agree," "agree," "undecided," "disagree," and "strongly disagree." Examples of statements are: "I would like to have many children." "I think the government should reward people for having small families." "People should have as many children as they can afford."

15. Confrontation -- acting out or through writing

Values in society often are in conflict with each other, especially during times of change. Attitudes toward population growth, migration, and environmental issues may vary widely. Ask a student to state his or her position on a population or environmental issue. Ask another student to challenge this position. The first student must defend his or her position. The same confrontation of values or attitudes can be done as a writing exercise if students are given a series of statements they must challenge, such as "Population growth is good for the economy," or "A man must have many children to be a man."

16. Creative use of the blackboard

The blackboard is another inexpensive resource. It can be used for brainstorming, problem-solving, or values statements which students must challenge. It can be used

for map-making by a small group, showing sewage; water and air pollution, transportation problems, and other environmental consequences of rapid population growth. Teachers can write "strongly agree" on one end of the blackboard and "strongly disagree" on the other end. They can then read a series of statements about population and environmental issues (see "values clarification"). Students will stand at one end or the other, according to their agreement or disagreement with the subject.

The blackboard can be used for tabulating data, making population pyramids, graphs, and charts. It can also be used for drawing pictures of people working or talking -- stick figures will do. Ask students to make up a conversation or story about these figures having to do with population or environment or family size issues.

#### 17. Picture interpretation

Using posters or photographs relating to population issues, ask students to interpret the situation shown, as with the stick figures on the blackboard. These posters or photographs can be "springboards" to a good discussion about family size or the environmental effects of population growth or can be the inspiration for an essay.

#### 18. Creative expression

It is important to learn population dynamics and to clarify values. It is also important to express feelings about this complex topic. Students can express their feelings through short stories (students like to write about the future and population through science fiction), poems, songs, collages, drawings, paintings, and displays. They can create games, puzzles, and riddles. They can create a script for a situation and dramatize it before the class. They can write essays about their feelings, their plans, or their opinions. Ask students to imagine that they are grown up and married. They have just had a daughter, their first child. Ask them to write a letter to their baby daughter describing their hopes and dreams for the child when she is grown up. Later discuss these hopes and whether they represent a change from the role of most women. Will family planning be important in realizing these hopes?

### 19. Role-playing

In this method, students assume roles -- a father, a mother, a bride, a groom, children in a large family, members of a decision-making council, etc. They then act out a scene or solve problems according to the way the person they represent would act. For example, four students are asked to represent members of the local family planning council. Their task is to develop recommendations to encourage parents to plan smaller families.

### 20. Simulations

In a simulation, objects or people represent or simulate other things or people. For example, a fishbowl can represent the earth and a cup of water poured into it can represent births while half a cup of water taken out can represent deaths. Or three different colored beans in a clear cylinder can represent the population of a country divided into those under 15 years of age, those between 15 and 64 years of age, and those over 64. These can be used as demonstrations by the teacher or as a "learning-by-doing" activity by small groups or individuals.

### 21. Demonstrations

A student, groups of students, or a teacher can demonstrate a concept or process in front of the class. It can be a simulation, such as dividing a loaf of bread which represents protein among two or three groups of students, each of which represents a family with varying numbers of children. The carrying capacity of a fishbowl can be demonstrated directly with two fishbowls. One fishbowl is overcrowded and the oxygen and food supplies have been depleted, causing the fish to die. The other demonstrates a healthy environment in which the fish population, food and oxygen supplies, and waste disposal are in balance.

### 22. Inquiry approach

The inquiry approach refers to a style of teaching which does not tell the students to memorize facts or lists of causes. It asks students to inquire into the nature of causes of a situation and to draw conclusions from their own investigations and research. It is the approach used in problemsolving, brainstorming, group discussions, and other activities in which teachers encourage students to ask questions rather than giving them answers to learn.

23. Active use of films

Before showing a film (or slide program) ask students to look for the main points or message of the film while they are watching it. Ask students to analyze the ways in which the filmmaker got the points across and whether the film was accurate and objective. Afterwards discuss these questions and why the film was successful or unsuccessful and how it might be better.

## APPENDIX B

### ACTIVITIES

#### POPULATION EDUCATION HUNTING GAME

Find people who fit the descriptions below and write their names on the lines provided. Do not use the same name twice. Tell each person your own name. Find someone who:

- \_\_\_\_\_ 1. lives in a city
- \_\_\_\_\_ 2. lives in a small town or rural area
- \_\_\_\_\_ 3. thinks Egypt has become too crowded
- \_\_\_\_\_ 4. would like to live in a quieter environment
- \_\_\_\_\_ 5. would like to work in a school system with smaller classes for the teachers
- \_\_\_\_\_ 6. would like to work in a school system with better buildings, books and audiovisual equipment
- \_\_\_\_\_ 7. thinks rapid population growth is the most serious problem in Egypt
- \_\_\_\_\_ 8. thinks high prices are the most serious problem in Egypt
- \_\_\_\_\_ 9. thinks environmental pollution is the most serious problem in Egypt
- \_\_\_\_\_ 10. thinks unemployment and underemployment are the most serious problems in Egypt
- \_\_\_\_\_ 11. has learned a lot about population in the past year
- \_\_\_\_\_ 12. has taught others about population
- \_\_\_\_\_ 13. has written a lesson plan about population

- \_\_\_\_\_ 14. plans to be a leader in population education
- \_\_\_\_\_ 15. has at least one idea on how to improve population education in the schools. What is that idea \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Quiz on World and Egyptian Population Trends

1. What is the population of the world today?  
a) 900 million; b) 2.2 billion; c) 4.5 billion; d) 7.4 billion; e) 22 billion
2. How fast is the population of the world growing each year?  
a) 0.6 percent; b) 1.7 percent; c) 5 percent; d) 10 percent; e) 25 percent
3. If the world population continues at its present rate of growth, how long will it take to double?  
a) 10 years or less; b) approximately 20 years; c) approximately 41 years; d) approximately 96 years; e) approximately 140 years
4. T or F: There is a population explosion in the world today.
5. T or F: There is a population crisis in the world today.
6. Which has NOT been a major cause of the population explosion?  
a) an increase in birth rates; b) modern preventive medicine; c) improved sanitation; d) lower infant mortality; e) longer life expectancy
7. What is the population of Egypt today?  
a) 2.5 million; b) 4.3 million; c) 45 million; d) 450 million
8. At what rate is Egypt's population growing?  
a) .03 percent; b) 2.7 percent; c) 30 percent; d) 300 percent

9. If Egypt continues to grow at the current rate, what will its population be in the year 2000?  
a) 4.5 million; b) 45 million; c) 65 million; d) 654 million
10. How many children does the average Egyptian woman have?  
a) 1.5; b) 3.5; 5.4; d) 7.3

The Stork and Grim Reaper  
(The Water Game)

Props:

World Population Data Sheet of the Population Reference Bureau\* (found in teacher's kit; put up extra copy near demonstration so you can refer students to it)  
Clear container (plastic box, aquarium, or similar, should be at least 1-quart capacity)  
Old Towel (place under clear container to absorb drips)  
Two sheets of paper labeled: "Stork" and "Grim Reaper"  
Straight pins to attach labels to wearer  
Bucket of water (the "Great Beyond")  
Food color (add to water in bucket for easier visibility)  
Two measuring cups or dippers: 1 large (perhaps 2-cup) and 1 small (1-cup)

Script:

I'd like to show you an interesting way to convey the concept of the Earth's carrying capacity and to illustrate the effect on that carrying capacity of a birth rate that is larger than the death rate.

This exercise is called "The Stork and the Grim Reaper." Today, we shall have people come into our world via the Stork, and, of course, depart it via the Grim Reaper.

I'll need two volunteers from the audience: one to be the Stork, representing birth rates, and one to be the Grim Reaper, representing death rates. (If no one volunteers, immediately pick two students; pin appropriate sign on each.)

(Hold up clear container). Now, you may think this is just a (plastic, glass) container, but actually it represents the world. (Suggestion: you could also have it represent a city or country at any point in history.)

The water in this bucket (point to or hold up) represents people. I have added a little food color so that it shows up more clearly.

We are going to ask our Stork to add people -- that is, to add water -- to our globe and then ask the Grim Reaper to take people out of our globe by dipping water out of the container.

Now, students, we need to help our Stork and Grim Reaper by giving them some information. Let's turn to the World Population Data Sheet on the wall (or to their individual copies, if applicable). What is the birth rate of the world? (Answer: 29 per 1,000)\* And what is the death rate of the world? (Answer: 12 per 1,000).\*

The birth rate is more than twice as high as the death rate, so we'll give our large dipper to the Stork, and the small dipper to the Grim Reaper. So, would each of you start doing your task -- Stork, adding water, and Grim Reaper, removing water -- and continue to do so until I say "stop." (Let them proceed until the water level gets dangerously high.) Students, what is happening to the water level? (Answer: it's rising.) What will happen if there is no change in birth or death rates? (Answer: water will overflow.) (Depending on the age level of your students, you may decide not to carry this example to its grim implication; that losing water really means losing people, as the Earth's carrying capacity is exceeded.)

What does this suggest about the carrying capacity of the Earth? (Answer: it has limits; if the birth rate isn't slowed, a crisis could result. It's important to note trends while there is still time for thoughtful analysis and humane problemsolving.)

Thank you very much, Stork and Grim Reaper (Help them unpin their signs before returning to seats.)

#### Variations:

There are several variations of this exercise. Maybe you would like to show the different growth rates of two countries -- for instance, a developing country with a higher growth rate and a developed country with a lower growth rate. Again, you could get this information from the World Population Data Sheet.

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\* From 1978 World Population Data Sheet.

To do this, you could use two containers -- each representing one of the countries -- with a Stork and Grim Reaper for each. Both sets of people would have to work at about the same speed, with the differential growth rates shown by variations in sizes of dippers. The more slowly-growing country, of course, would have a more slowly-rising water level.

Perhaps you would like to show in-migration and out-migration for the U.S. You could use a thimble for out-migration, a 1-cup dipper for the birth rate, a 1/2-cup dipper for the death rate, and a 1/2-cup dipper for in-migration

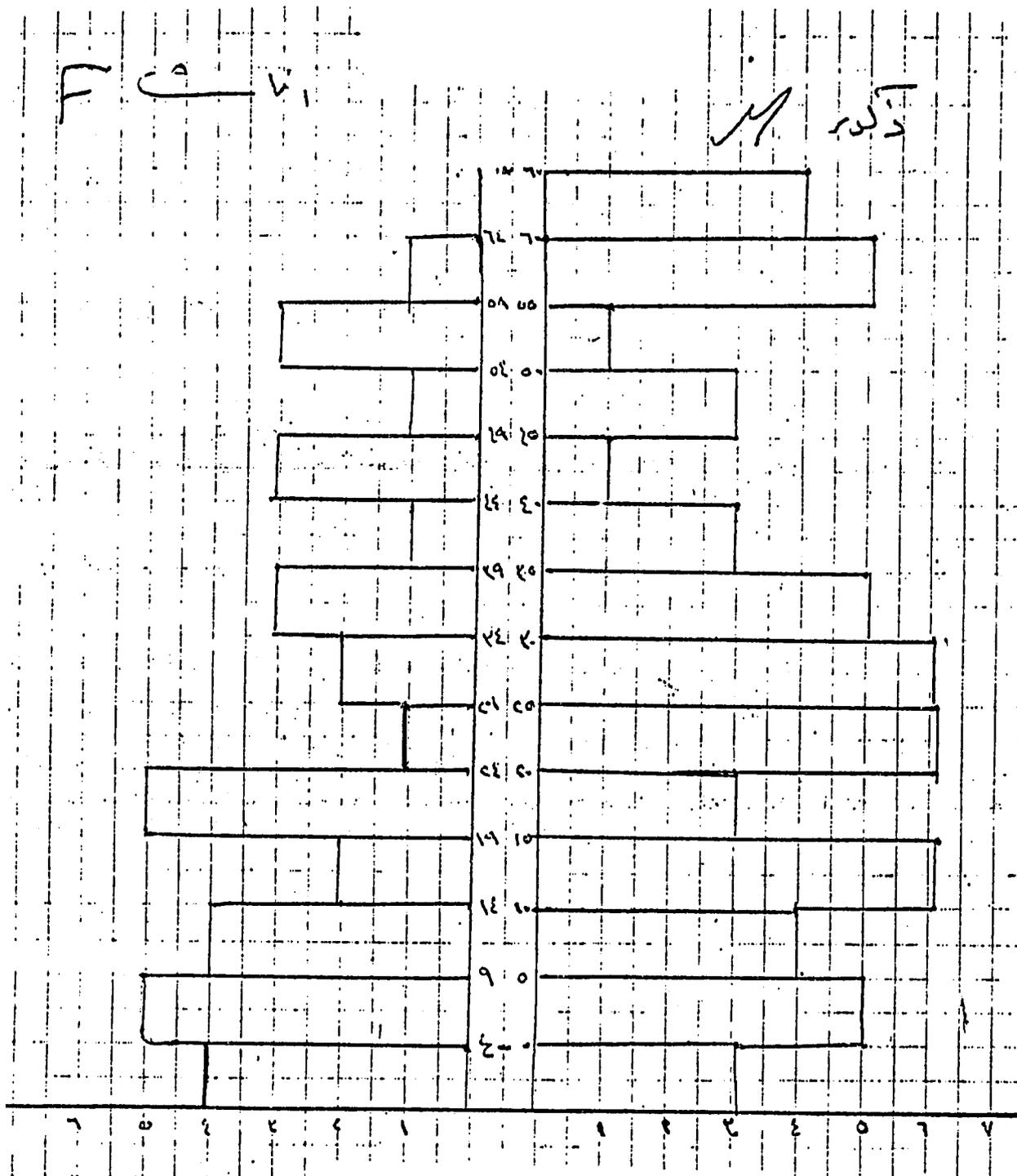
In another variation, the teacher or students can call out the name of a country or continent, perhaps at a certain date in history, and the Stork and Grim Reaper can adjust their speed (and/or the size of their dippers?) to correspond to the birth and death rates of that particular time and place. (Example: in Europe, during the Black Plague, the Grim Reaper would be very busy!)

POPULATION GROWTH IN EGYPT

1922-1926	birth rate: 43.5 death rate: 25.8
1942	birth rate: 40.8 death rate: 27.5
1962	birth rate: 41.7 death rate: 15.8
1976 (Census)	birth rate: 37.4 death rate: 11.7
1983	birth rate: 43 death rate: 12

- Calculate the rate of natural increase (R.N.I.). Use this formula:  $R.N.I. = (\text{birth rate} - \text{death rate})$   
10.
- At this rate, in how many years will Egypt's population double? Use the formula:  $70 \div R.N.I. = \text{years to double}$ . For example,  $70 \div 2.1 = 33.33$ .
- Using the statistics below, make a graph of Egypt's population growth over time.
  - 1800: 2.5 million
  - 1897: 9.7 million
  - 1950: 20 million
  - 1978: 40.1 million
  - 1981: 43.5 million
  - 1983: 45.9 million
  - 2000: 65.5 million (estimate)
  - 2020: 90.8 million (estimate)
- Between 1982 and 1983, Egypt grew by 1.1 million persons. How many were added each month? \_\_\_\_\_  
 Each week? \_\_\_\_\_ Each day? \_\_\_\_\_  
 Each hour? \_\_\_\_\_ Each minute \_\_\_\_\_

SEX-AGE STRUCTURE OF PARTICIPANTS' HOUSEHOLDS



III. HUMAN BEANS

Props:

1 clear container preferably, a cylinder; a large glass jar will do

4 "eggs" (L'Eggs hosiery containers), filled with 3 varieties of dried beans or peas (for demonstrating age structure of Mexico); secure L'Eggs with masking tape and label ("under 15," "middle-aged" and "elderly"); "baggies" can be used in place of the L'Eggs "eggs."

Large Population Reference Bureau age-sex pyramid chart showing Mexico, U.S., and Sweden (see chart on reverse of this page); this chart is one of a series of wall charts; set \$1.50

Script

I'd like to show you a demonstration using different varieties of dried beans and peas. (This exercise is designed to help explain the importance of a country's age structure -- the proportion of people in varying age groups. For example, you might illustrate the age structure of a rapidly-growing country, such as Mexico - as shown on the reverse side of this page - to show the implications of a large proportion of young people for a country's potential rate of population growth.)

So, let's have this clear container (HOLD UP) represent the country of Mexico. And we will use different varieties of beans to illustrate each age group or cohort of Mexico's population. I need a few assistants to help me hatch these eggs. Do I have any volunteers? I need 3 assistants. (If no one volunteers, immediately pick three.)

Now we look at the age structure of Mexico (point to chart) and we see that about 1/2 of their population is under the age of 15. So I'm going to give you (1st volunteer) 2 eggs out of a total of 4 eggs. And we see lesser proportions of middle-aged and elderly people (again point to chart) so I'm going to give each of you (other volunteers) 1 egg.

Now, let's populate this country (hold up container). Will you (volunteer) give us our layer of young people. We've kept these shut with masking tape, so it takes a little talent to hatch these eggs! We're using (name) beans for this group. Next, will you (volunteer) give us our middle-aged cohort? Good. We're using (name) beans for this group. You may have to shake your beans toward the front of the container for greater visibility if you are low on beans. Finally, will you (volunteer) give us our layer of elderly people? (name beans)

So here we have our Mexican population. (Discuss then, how age structure can affect a country's ability to meet the needs of these age groups for food, housing, jobs, education, health care, etc. For example, one can see that with Mexico's burgeoning population growth, its government is having a hard time keeping up with the demands for these things made by ever-increasing numbers of young adults.

Variations:

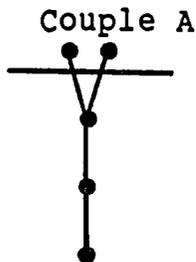
(You could use this method and the PRB chart to show the age structures of the U.S. and Sweden - in comparison to Mexico - using 3 containers. You could also depict the population of the world, or of any country at any point in history, using the PRB World Population Data Sheet in your kits for the information. You may also experiment with other materials, such as different colors of terrarium rocks, or styrofoam balls, or marbles.

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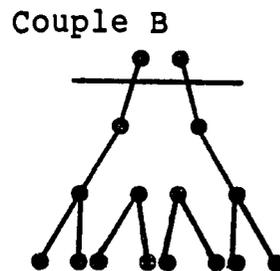
The One-Versus Two-Child Family  
(or Two- Vs. Three-Child)

Props:

None; only people are needed. To figure out the number of generations you can depict, given the number of people in your audience, refer to the attached diagram. It's okay if the number in the audience doesn't compose a complete set of three (or more) generations. If you have a small number in the audience (12-21), One- Versus Two-Child Family could easily be done. Two- Vs. Three-Child Family requires a total of 57 people to show parents plus three generals. See Below for one Vs. Two:



Total: 5 people for parents plus 3 generations



Total: 16 people for parents plus 3 generations

Script: (For One Versus Two)

The activity I'd like to show you next is called the "One- Versus Two-Child Family."

The purpose of this game is to show the importance of average family size and its impact on population size over time. (Point out that many different arithmetic combinations of family size can result in a 2-child average. For example, some couples may have 3 or 4 children; others none. This exercise is simple in that it does not consider death, immigration or the existence of spouses. Still, it manages to make a point.)

For this demonstration, I'd like all of you to stand up and move with me to the back of the room, where we have some open space.

First, we need to designate Couple A and Couple B. Any volunteers? (If none, quickly choose four students.) You must think of yourselves as grandparents, because we've more generations about to be added.

Let's say that each of our two couples is having a family reunion and they want to see if they have room at their table for a family dinner. So we have to help to see if they have enough space by helping them count up their respective families.

There's only one difference between Couple A and Couple B: Couple A has a family tradition of having only 1 child per family, whereas Couple B has a family tradition of having 2 children.

Now, Couple A, both of you were "only children" and you want to continue that tradition, so would you please go pick out your first child from the group and have that child stand in front of you.

Couple B, you have a family tradition of 2 children, so would you go pick out your two nice children and have them stand in front of you.

Now, child of Couple A, time goes by and you are now grown up. You enjoyed being an only child so much that you decide to have only 1 yourself. So would you go pick your child from the group.

Likewise, children of Couple B, time has gone by and you each decide to have 2 children, so would each of you go and get two.

Grandchild of Couple A, it's your turn to go to get your own child. Grandchildren of Couple B, it's your turn to go and get 2 children each.

Couple A, would you please count up your family, and Couple B, would you please count up yours. If we had had 4 complete generations, there would be 5 in Family A and 16 in Family B. If we had compared a 2-child average family size and a 3-child average family size, the numbers would be 16 and 41.\*

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\* See "The 2- or 3-Child Family" - information section (second section); "tree diagrams," comparing the two- and three-child average family over three generations, are shown.

Now you can see the difference it would make if the childbearing decisions of these two families were multiplied by the decisions of millions of couples. While it doesn't matter much if one family has 10 children, if the average family has 10 children, the impact on world population and resources is indeed tremendous.

(It is important to be sensitive to the feelings of children from large families; this exercise is illustrative of the cumulative impact of individual decisions and, for the students, would apply only to the future, not the past.)

It looks as if Couple A can have its family reunion at the dining room table but Couple B has to put in all those extra leaves and use a card table, too! Thank you; you may return to your seats.

#### Variations:

Another interesting way to illustrate the impact of an average 2-child family compared to an average 3-child family norm if continued over a number of generations is with the use of kidney beans (or any other type of bean).\*

Here we have a plastic bag ("baggie") of kidney beans representing the 1st generation of a 2-child family: 2 (HOLD UP) and 1st generation of a 3-child family: 3 (HOLD UP). Here are the relative numbers for the second generation: 6 (HOLD UP) and 12 (HOLD UP). After 3 generations, we have 14 (HOLD UP) and 39 (HOLD UP). After 4 generations, there are 30 (HOLD UP) and 120 (HOLD UP). (An easy way to keep track of the number of beans in each bag is to put a little slip of paper containing this information in each. Just be sure the slips are visible at demonstration time.)

(Another variation: you can also glue beans to poster board to illustrate this same concept. Just copy the "tree" diagram in this teacher's kit.)\*

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\* See "The 2- or 3-Child Family" - information section (second section); "tree diagrams," comparing the two- and three-child average family over three generations, are shown.

Adapted from The Future and Population: What Will A No-Growth Society Be Like? A Teaching Module Published by PRB. Statistics are taken from the 1982 World Population Data Sheet.

## OBSERVING AND COMPARING

Country	Rate of natural increase	Years to double population	Per capita G.N.P. <sup>a</sup>	Urban population	Life expectancy	Infant mortality <sup>b</sup>	Population under 15 yrs. old
<b>Countries which have stopped growing</b>							
Denmark	0.0%	—	\$12,950	84%	74 yrs.	8.5	20%
Luxembourg	0.0	—	14,510	68	71	11.5	20
West Germany	-0.2	—	13,590	85	72	12.6	20
East Germany	0.0	—	7,180	76	72	12.1	20
<b>Fast-growing countries</b>							
Egypt	3.1%	22 yrs.	\$580	45%	55 yrs.	103	40%
Kenya	3.9	18	420	14	54	87	50
India	2.0	35	240	22	49	123	40
South Yemen	2.7	26	420	37	44	146	46
<b>A country in transition</b>							
Saudi Arabia	3.2%	22 yrs.	\$11,260	47%	53 yrs.	114	45%

a. G.N.P.: Gross National Product, a measure of a country's wealth.  
 b. Infant Mortality: Number of deaths per 1,000 live births.

Countries approaching or at zpg are different in many ways from countries which are growing rapidly (even though there may be recent slight declines in fertility).

- Examine the table above for important differences, and note what you observe below (the first answer is given as an example).

	Fast-growing countries Low wealth per person	No-growth countries Higher wealth per person
Per capita G.N.P.:	_____	_____
Urban population:	_____	_____
Life expectancy:	_____	_____
Infant mortality:	_____	_____
Population under 15:	_____	_____

- Describe briefly how <sup>Saudi Arabia</sup> which is changing rapidly—is like a fast-growing developing country in some ways and how it is becoming like a slow-growing developed country in other ways. Why is Saudi Arabia's wealth unusual in regard to its rate of natural increase?

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ROLE PLAYING/SHORT ANSWER ACTIVITY

You believe it is important to reduce the birth rate. However, some people do not agree. What would you say?

1. To a man who says it is important to have many children so everyone will know he is really a man?
2. To a woman who says that having a child is a sure way to keep a husband?
3. To a young soldier who says that the population must grow even more so that there can be a stronger army?
4. To a mother who says that one must have many children because all do not survive?
5. To a grandmother who says that big families make sure that an old person is taken care of?
6. To a religious person who says that one should not plan one's family because children are a gift from God?
7. To a farmer who says that many children are needed to help on the farm?
8. To a citizen who wants his country to be the most populous in the world.
9. To a student who believes population growth is necessary for a sound economy.
10. To a young woman who would like to have a large family because she loves children.

FOLK DEMOGRAPHY

The objective of this exercise is to instill in the participants a realization of the various pronatalist and antinatalist aspects of their culture. This is accomplished by asking them to collect old sayings, songs, etc., and to classify them as pronatalist or antinatalist. These sayings are collected during the correspondence course and mailed to Mr. Gamil before the workshop begins. Mr. Gamil collates the various collections and presents them to the group at the workshop for discussion.



## VALUES AUCTION

The following items/conditions/situations are "up for sale." Pick a maximum of 5 which are the most important to you and bid on them. You have \$10,000 to spend. You can spend it on one item or divide it among several items.

How much would you give for:

- \_\_\_\_\_ 1. Everyone in the world having enough to eat.
- \_\_\_\_\_ 2. My living in a place free from noise and pollution.
- \_\_\_\_\_ 3. My having a vacation house with lots of space and free from noise and pollution.
- \_\_\_\_\_ 4. Living in a world with efficient, quick moving public transportation and traffic patterns.
- \_\_\_\_\_ 5. Living in a world which recognizes the right of businesses and factories to operate freely.
- \_\_\_\_\_ 6. Having a government which enforces strong environmental laws.
- \_\_\_\_\_ 7. Living in a country where women have the same educational and job opportunities as men.
- \_\_\_\_\_ 8. Living in a country that has jobs for almost everyone.
- \_\_\_\_\_ 9. Finding a successful and popular program to reduce the birth rate in Egypt.
- \_\_\_\_\_ 10. Developing a pollution-free, renewable, inexpensive source of energy.
- \_\_\_\_\_ 11. Our country's discovering rich reserves of needed minerals so there will be no scarcity for centuries.

- \_\_\_\_\_ 12. Living in an environment with beautiful gardens, parks, museums and cultural events offered at low or no cost to the public.
- \_\_\_\_\_ 13. Having much more money for clothes, vacations, a better house, etc.
- \_\_\_\_\_ 14. My country's producing enough food to feed its people.
- \_\_\_\_\_ 15. Having a good job now and in the future.

WHAT IS A DECISION YOU MADE IN THE LAST SIX MONTHS:

- a. that involved energy?
- b. that involved food?
- c. that involved the environment?
- d. that involved population?
- e. that involved communicating your opinions about these issues to others?

TAKE A STAND OR THUMBS UP, THUMBS DOWN (Environment)

1. People who throw trash in public areas should be punished.
2. Jobs are more important than environmental quality.
3. Current environmental protection laws are adequate; stricter laws will cost businesses and factories too much.
4. Agricultural land should not be used for shopping centers, housing developments and other urban uses.
5. Enforcement of existing environmental laws is more important than enacting new environmental laws.
6. Food aid should not be given to countries which do not have good environmental laws.
7. Development aid should be given only when the development will also benefit the poor and women.
8. Much more land should be set aside for wilderness areas to protect endangered animals and plants.
9. The public should have many more parks and other recreational areas.
10. The next century is likely to be a better time to live in than the present.

PARTICIPANTS' ANSWERS TO

"WHAT IS A DECISION YOU MADE IN LAST SIX MONTHS" involving:

Energy: going to work by foot, by bicycle, using smaller cars. Not watching TV too much, turning electric lamps to gas lamps.

Food: eating little food of good quality rather than lots of poor food, not eating too much, not making excess food therefore not wasting; raising one's own chickens, raising one's own vegetables.

Env.: not to throw waste into the public street, planting trees and flowers and grass, resettling in Sinai, killing the rats.

Pop.: studied population education, trying to prevent births without harming the woman, not having more than 2 children, leaving Egypt for Saudi Arabia, and deciding not to leave but to stay and work for the country and family.

Communicating: transmitting these lessons to students, using all these new methods in the classroom, holding a meeting to tell others, making posters for the classroom and the school. Making a poster at the birth control center. Making graphs for others.

PARTICIPANTS' ANSWERS TO QUESTION  
"SHOULD THE SCHOOLS TEACH ABOUT CONTRACEPTION?"

1. Yes. In secondary stage or teacher institute stage getting information to "mothers of the future."
  2. No. In favor of population education but not contraception in the pre-university stage.
  3. I disagree with above. Secondary stage & university. Opposition can be reduced if we emphasize controlling not preventing births.
  4. No. Not at any stage of education. It may be misused. A matter between a woman and her MD.
  5. Yes, if you don't educate young people about contraception they will educate themselves poorly.
  6. No. My job is to form attitudes, leave the rest to doctor.
  7. Yes. Explaining it and showing it doesn't mean students will be encouraged to misuse it.
  8. Yes. It's a good opportunity to reach a large number of people in the population.
  9. No. It's sufficient to teach about sex but when a person needs contraception later he/she will seek it.
  10. Yes. The girl may never reach the university. Therefore it's important to reach the girls in the prep. stage. Also the boys.
- 23 say "yes" it should be taught - at secondary stage only.  
say "no", it should not be taught pre-university.

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- Q. How could we reduce opposition to contraceptive education?
- A.
1. People of religion should be consulted before the course. Involve the religious leaders!
  2. Hold a conference for parents, religious leaders, doctors.
  3. Form a committee of parents and teachers to overcome obstacles.
  4. Doctors should visit schools to give the lectures.
  5. Do not get discouraged by opposition. There is a long history of opposition to progress - for example: emancipation of women, the veil over women's faces, co-education. Birth control itself started in secret but now it is public and approved. Even population education was opposed.
- Q. In what course? A unit? A visit from MD?
- A.
1. Secondary stage, science (lecture per month)
  2. Home economics, once a week
  3. A separate subject: in a pop. ed. unit
  4. Science and social studies
  5. In home economics in a chapter about maternity; invite an MD. in to lecture
  6. Invite the school nurse to give a lesson to each class

TAKE A STAND

1. Egypt's population is growing quickly.
2. Egypt's population has stopped growing.
3. Rapid population growth is a serious problem in Egypt
4. There is really no population problem -- just a temporary shortage of housing and jobs.
5. I think the pollution problem is worse than the unemployment problem.
6. Family planning must be available for all.
7. Women should stay at home and not work.
8. Young families should plan on no more than 2 children.
9. In the future, young couples who have more than 2 children should be taxed.
10. Population education will help to solve the population problem.

LOCAL DECISION-MAKING BOARDS

The participants were divided into five small groups. Each was asked to participate in decision-making. The groups were

- a. family planning board
- b. improvement of the role of women in economic activity
- c. environmental committee
- d. land use committee
- e. budget

Groups a-c were asked to develop policies and list them in order of importance. The participants' decisions are listed at the end of this description. Group d was assigned the land use activity and decided upon a multiple use approach that was primarily agricultural. The categories used by the budget committee (which was given an annual budget of 1,000,000 LE) and the allocation of its funds also appear below.

Family Planning Board

1. More centers
2. Increased family life education, esp. for women
3. Motivating women to work
4. Provision of health care

Role of Women

1. Increased education for women
2. Technical training
3. Encouragement of cottage industries
4. Child care

5. Increased awareness of family planning
6. Letting women participate in domestic planning

Environmental

1. Planting trees
2. Garbage removal
3. Construction of new cities
4. Preservation of ecosystem [laws to preserve animals, plants]
5. Provision of suitable water network.

Land Use - 650 fedans

300 farming (crops)	20 culture
100 housing	30 streets
50 wood factories	40 parks
50 factory	20 farms (animals)
20 marketing	10 bus stops
20 schools and hospitals	

1. Use river for irrigation and purification
2. River streams for construction
3. Mountains as source of wood

LAND USE ACTIVITY

You are a member of the Centerplace City planning board. One square mile (640 acres) of unused county farmland is now available for the city's use. Your task is to decide how to use it.

Background Information Sheet  
For Centerplace City

The population is 250,000 and rapidly increasing.

The city's boundaries are being extended, but the suburban fringe is expanding even more rapidly.

The rapid population growth is accompanied by demands for more housing, more jobs, additional city services, and recreational areas.

The power for industrial uses, adequate public transportation, and a skilled labor force are available.

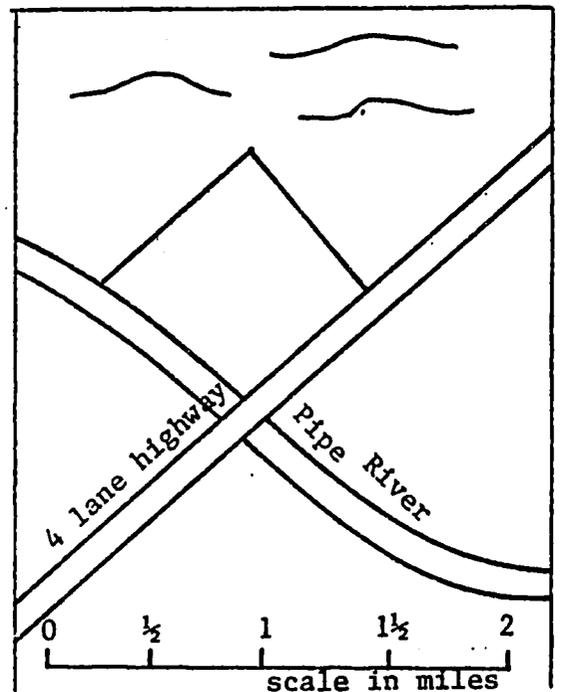
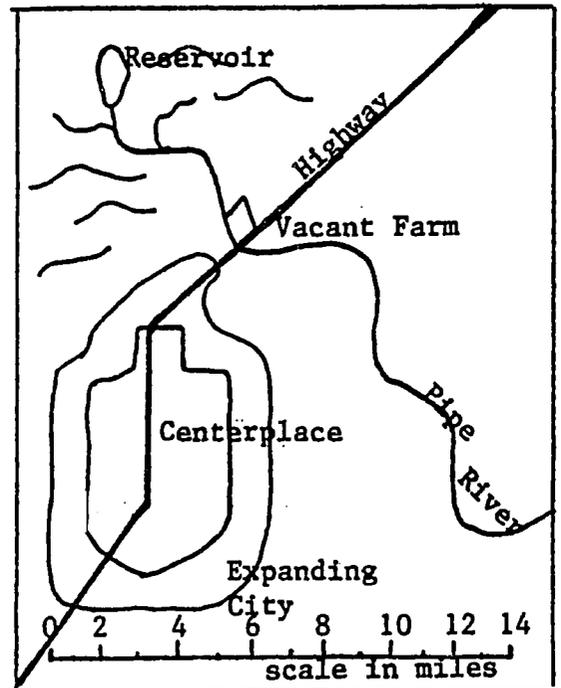
The city is located near forests, to the north.

The land to the east is devoted mainly to farming.

The Pipe River is unpolluted and is the source of irrigation water as well as the municipal water supply.

The river is too small for freight transportation, but logs could be floated on it.

The gravel bed of the river is appropriate raw material for concrete manufacture.



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The present sewage treatment plant and garbage disposal area are at maximum capacity.

The citizens of Centerplace are concerned about the maintenance of a scenic regional environment.

The County Board of Commissioners is the authority for land zoning, and many citizens groups are being formed to influence zoning decisions.

List possible uses of the land.

BUDGET COMMITTEE (Participants' Response)

Allocate L.E. 1,000,000 to the following items:

Administration	100,000
Security	50K
Health	50K
Education	100K
Public Works	50K
Public Utilities	50K
Social Services	150K
Economic Development	200K
Environment	100K
Desert Reclamation	100K
Misc. Reserve	50K

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CITIZEN ACTION (Problem-Solving Activity)

Five years ago, a new factory opened in a small city in Egypt. People were happy because this factory employed many people. The shopkeepers were happy because the people with good jobs were spending more money.

Later it became clear that air pollution from the factory was making many people cough and suffer from other respiratory problems. It was discovered that the drinking water was also somewhat contaminated with wastes from the chemical factory. Nobody knew what the effects on people's health would be. The citizens of the small city held a meeting.

List five things citizens could do to help correct this situation:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

What are some possible consequences or the suggestions listed above?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

How would you evaluate the possibilities and choose the best plan?

THE DECISION TO HAVE CHILDREN

I. THE TAPIA FAMILY

The Tapias, Jorge, his wife, Maria, and their three daughters and one son, live on two hectares (5 acres) of rocky hillside land in the tropical country of San Marcos. Jorge's widowed mother and one unmarried sister also live in their two-room thatched shack. The land, to which they do not have legal title, is planted in corn, beans, and other subsistence crops, but even in a good year it does not support the Tapia family. Rather their margin of survival comes from seasonal employment on the neighboring hacienda of Don Ramon Garcia. Jorge and Maria have considered abandoning the countryside for the capital city, but unlike his four brothers who have already migrated, Jorge is not able to read or write. His children are able to attend the local school for three years of grammar school when they are not working in the fields. Although there is no parish priest in residence, the family considers itself Catholic. There is a government family planning center in the village, but it lacks the personnel to make home visits. Furthermore, some women attending the center have complained of illness after taking the prescribed pills.

1. Jorge is 28; Maria is 23. If you were in their positions, would you have more children? Why or why not?
2. What changes in your living conditions and environment might affect your decision to have children? In what way?

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Taken from Population in the Global Arena by Parker Marden, Dennis G. Hodgson and Terry L. McCoy. (New York: Holt, Rinehart and Winston, 1982)."

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## II. THE LEE FAMILY

The Lee family is composed of Kwan Lee, his wife, Faye, her mother, and their three children, ages 6, 10, and 13. They recently moved to the provincial city of Chin where through Kwan's brother-in-law they both were able to obtain employment in a Japanese textile factory. While they are at work, Mrs. Lee's mother cares for the children when they return from school. Although the Lees combined monthly income is \$160, their rent for the two bedroom flat is \$75, and food, which is constantly rising, takes most of the remainder. Furthermore, they must make monthly payments on a recently purchased TV set. Under these financial pressures, they are thinking about asking their 8-year old to drop out of school in order to shine shoes full time. Mrs. Lee does have access to a birth control clinic, as part of the government's social security program.

1. Kwan is 30; Faye 28. In their positions would you have any more children? Why or why not?
2. What changes in your personal situation and/or the larger society might influence your decision?

## III. THE HOUSSAIN FAMILY

The Houssains, Amir and his wife, Shushum, live in a tiny Cairo apartment. They have been married for three years and have no children, a fact that considerably disturbs each set of parents. Both Amir and Shushum are college graduates; in fact, they were the first in their families to attend college. He is a civil engineer working for one of the many American companies active in Egypt in the last several years, while she is a sociologist employed by the Ministry of Education. Both have been offered fellowships to pursue graduate studies in the United States. With her husband's consent, Shushum has been taking birth control pills prescribed by her private physician.

1. Both the Houssains are 27 years of age. In their positions, would you have children, when, and how many?

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2. What are the factors in their life-style that tend to produce very different family planning decisions from those of either the Tapias or Lees? How could the Tapias and Lees achieve the same status as the Houssains?

PARTICIPANTS ANSWERS TO  
"THE DECISION TO HAVE CHILDREN" ACTIVITY

Q. Should the Tapia family have more children?

A.. No, they cannot afford it. No, it means less property to divide, less income to spend on each member of the family. No, they already have 8 family members and the father is illiterate, has no better way to support family.

Q. What about the Lee family?

A. No, no need for more children because there's no greater income. No, child should not have to leave school for more income that would be needed.

Q. What are we learning from this exercise?

A. To make decisions. To study the factors such as income, property, etc, that go into such a decision to have children. To teach our children to plan for the future.

Q. Should the Houssains have children?

A. No, not till they return from US. Yes, I'd have them right away, but just one. Yes, the woman should give up her educational plans temporarily and let the man get his PhD first, have one child and then, many years later, she can get hers.

WHAT IS A BILLION?

World Population in 1983 is over 4.5 billion people. Is that a little or a lot? This exercise will help you appreciate how much one billion is. Because we are really talking about people and not dollars, it may help to consider the needs and hopes of human beings as well as the impact on society and the environment of 4 billion people.

Your uncle has just died and left you \$1 billion. But if you accept the money you must count it for eight hours a day at the rate of \$1 per second. When you are finishing counting, the \$1 billion is yours and then you may start to spend it.

a. Do you accept your uncle's offer? \_\_\_\_\_

b. Why or why not? \_\_\_\_\_  
\_\_\_\_\_

c. How many years will it take to count the money? \_\_\_\_\_  
\_\_\_\_\_

This activity was taken from the Population Education Resources kit, produced by Zero Population Growth (1346 Connecticut Avenue, N.W., Washington, D.C. 20036)

"GET INVOLVED WITH THE FUTURE" ACTIVITY

Participants' work (choice of 7 options)

Group #1:

A scenario for a film the year 2003 re forests. First shows scene of forests in the past in which 2 families live. They eat fruits of the forest and hunt the animals. Children grow up and marry, have children, marry, etc. Number of people multiplies. Eventually, the needs for housing, etc., lead to cutting down the trees. They turn to farming. Build more and more. Soon the forest disappears and becomes a village. The village grows and grows and becomes a city. In the year 2003, there is no trace of the old forest, only a crowded city.

Group #2:

A film about the oceans in 2013. The earth is now too small for earth's inhabitants. People build more and more boats and exploit the seas' resources more and more. Use hydropower (waves) as well as solar power. Conflicts over water resources. Main transport: ships and spaceships. Many die of starvation. Some try to colonize Antarctica which is devoid of life.

Group #3:

2113. A history teacher explains the past, i.e., 1983. We used to eat on tables and sit on chairs. When hungry, people ate. There was ice for water. If mentally exhausted, people took a pill. Now in 2113, people cannot get anything they want. There are too many people.

Group #4:

Letter to his son. "Dear son, our village has become 45,000. It was only 30,000 when you were born. There are more and higher houses. Much agricultural land is ruined. Each individual now has less farmland. Many farmers have emigrated to other countries. Prices are higher. If it weren't for farm machines, we would produce no food. There is a mechanized bakery and bread costs more. We used to throw leftover bread to animals.

One village now has a video and other devices run by solar power. Communication is difficult between village and city. Streets are paved. Because of the large number of people and factories, the village is very polluted. Computers now arrange agricultural decisions.

Group #5:

Same as 4. "My dear son, I write you today in the year 2013. Things are very different from 1983. The birthrate has dropped because of the people's conviction that we must limit births. The state has redistributed the population all over Egypt. We have made use of the desert. We have less internal immigration because of higher standards everywhere. Emigration has stopped for the same reason. No longer a food problem because of success of food projects. We have a little unemployment, pollution and crowded transportation.

Son's Reply

Dear father, I received your wonderful letter and am amazed at the developments in the society I have left. I will return soon to take my place in society, and contribute the knowledge I have learned while studying abroad.

Group #6:

Help wanted ads in year 2005

wanted: mechanical man

wanted: agricultural engineers to reclaim the desert

wanted: investment project to carry Nile water to Sinai

wanted: to establish a fish farm and animal husbandry farm in Sinai

wanted: people to discover oil and mineral in W. desert

wanted: scientists for ancient monuments (to repair them in Sinai)

wanted: people to eradicate water plants where they obstruct navigation

wanted: fisherman to catch fish in Red Sea

wanted: farmers to emigrate to the Sudan

wanted: experts to find new sources of energy

Additional comment: "Big family society announces posts for those who have eliminated family planning centers. "Big Contracting company to establish a shuttle between the earth and moon; shareholders wanted.

DISCUSSION OF POPULATION EDUCATION  
BY PARTICIPANTS

Participant

Q. Why have we not received instructions and money to train teachers in our local districts?

Gamil

A. It costs about LE 700,000 if all teachers were to be trained. Local districts should find their own money to do population education training until MOE can find funds. We are trying to get sufficient money, but until then, we will begin to train teachers in the institutes, then preparatory stage.

Q. How can I fit population into the existing curriculum? I already have trouble with an overcrowded curriculum.

A. It's up to you to find out where it can fit in smoothly without disrupting the existing course.

PARTICIPANTS' COMMENTS ON "CHEERFUL REVOLUTION"  
(re Thailand's Family Planning Program)  
Arabic Version

- Q. What are major points of Thailand's population policy?
- A. Involvement of religious leaders, wide-based community involvement, sterilization and abortion on request in addition to birth control, low cost services, incentives (visiting temples on a tour for vasectomy clients, insurance for a bus driver who adopts family planning, animal stud service for farmers who adopt family planning, familiarizing everyone, even children about birth control methods, equal emphasis on men and women, holding meetings (for both sexes) on birth control methods, training and follow up of family planning counselors, rewarding them
- Q. Would these approaches work in Egypt?
- A. All could be used here except abortion and sterilization which are against Islamic religion. Young children couldn't play with contraceptives.

COMMENTS ON FILM  
"COMMITMENT TO CHANGE,"

A UNFPA-FUNDED FILM ABOUT EGYPT'S POPULATION PROBLEMS

- Arabic is not Egyptian Arabic.
- Film showed dirty children, women's belly in clinic: offensive to Egyptian culture (some disagreed with this opinion)
- literacy classes were mixed, in reality, most men's and women's classes are separate
- idea: compare the lives of 2 families, one large and one small rather than this format.
- instead of all narration, have some dialogue

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# Future Developments—Future Consequences

The following developments, should they occur, would have some impact on the future nature of our population. For each development, provide three or more consequences (an example is given for the first development). For each consequence, check the box which best describes your opinion of the likelihood of that consequence occurring and the effect of the consequence, should it occur. In the last box, give your reasons for evaluating the consequence as you did (e.g., why would the effect of the consequences be "very favorable"?). Use another sheet of paper if you need more room for your answers.

If these developments were to occur:	They might result in the following consequences:	How likely is it the consequence will occur?				What would be the effect of the consequence?					Explain why you evaluated the consequence's effect as you did.
		Certain	Probable	Possible	Almost Impossible	Very Favorable	Favorable	Little, No Impact	Detrimental	Very Detrimental	
1. A method of choosing the sex of a child prior to conception is developed.	a. Many more boys than girls are born.										
	b.										
	c.										
2. The legal age of marriage is raised to 25 for men and women.	a.										
	b.										
	c.										
3. The number of people allowed to immigrate to this country is reduced to 50,000 per year.	a.										
	b.										
	c.										

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