The importance of population education is discussed in terms of under populated as well as over populated countries. Its purpose is defined as to develop awareness, and understanding of the relations between population growth and national development, and an understanding of personal responsibility. It is suggested that population concepts should be infused throughout the school program. Examples of this approach are given relating to art, biology, family life programs, language arts programs, mathematics, and social sciences. Evidence is cited that population education should be given early in the school program. Problems of program design are discussed, suggesting areas where research is needed. Programs developed in several Asian countries are described. [Not available in hardcopy due to marginal legibility of original document.]
My purpose this morning is to provide an overview of population education in the developing world. However, rather than simply listing who is doing what, which has been recently done elsewhere, (Wayland, 1969), I propose to review needs for developing population awareness education in developing countries. While much of the discussion will be relevant to the United States my focus is overseas. Furthermore, I am restricting myself to the elementary and secondary school, leaving for discussion elsewhere the equally important matter of population education in colleges, universities and professional schools.

Throughout the world there is an intensified interest in and concern about the consequences of population growth. In some countries, such as India, there is apprehension of what has come to be called the "population explosion." In other countries there is also awareness of population size and growth, but based on an assumption that more rather than fewer people may be necessary in order to achieve status, an adequate labor supply, economic growth, or other national goals. Argentina, Madagascar and Japan are countries in this category.

National family planning programs have been undertaken on a crash basis in response to rapid growth and have been directed primarily to persons already at reproductive age levels. These programs have met with varying degrees of success. Recently many of these same nations have begun to realize that if family planning is to become a way of life, it must become a part of the general

education of the child in preparation for his adult life. This view is strengthened by the fact that between 40 and 50 percent of the population of the developing world is under 15 years of age.

Within the last five years at least twenty countries have expressed an interest in, or taken steps to, develop population awareness programs through the formal school system. And the number is likely to double in the next five years. Many of these countries are already experiencing rapid population growth. Thus the goals of their population education programs would include, among other things, a growing appreciation of the small family norm as proper and desirable, of the relation between population size and the quality of life, and of an understanding of the countries' population policies.

But sensitivity to the consequences of population growth is not important only for these countries. Since personal and national decisions concerning family size and population have long range consequences, population awareness education is equally important for those countries which may now be embarked upon pronatalist policies.

The purpose of population education is to develop awareness, to develop an understanding of the relations between population growth and national development both in the short and long run, and to develop an understanding of the consequences of individual decisions in the important area of reproductive behavior. A population awareness program, therefore, should provide the facts of population dynamics, of family life, of human reproduction that children will need. It should also show how the actions of each individual member of the society affect the others. This is the moral and ethical purpose of population education which is in addition to its informational and attitudinal goal.

A survey of the rather sparse literature in the field (see for example, Burleson, 1969) and discussion with its leading proponents suggests that a separate population course, or series of courses to be included in elementary and secondary
programs, is not the most appropriate way to develop the necessary awareness. The curriculum is already overcrowded. The demands from the traditional disciplines for more time as the boundaries of knowledge are pushed back generally preclude the possibility of adding a new population course. Furthermore, children will probably learn better if they are confronted with population-relevant materials both throughout their school curriculum and during their entire period of school going.

What is proposed then is the infusion of population related concepts throughout the entire school program wherever they are educationally relevant and appropriate. An overly simplistic approach to the problem of infusing population materials might be to list, on the one hand, the curriculum for the entire school program, and, on the other hand, all of the concepts which are potentially related to population. Lines might be drawn between the concepts and the subject areas into which they are to be introduced. Materials could then be prepared for the various subject areas taking into account needs at the various grade levels.

Such an approach has the advantage of showing that virtually no area of human knowledge covered by the curriculum would be untouched.

In art, for example, an aesthetic of space could be related to a discussion of population. And classes in drawing might design family planning posters.

A biology program could include population ecology. An experimental program now being developed in Nepal with the assistance of USAID, and another in Tunisia with Population Council assistance are examples of this approach. Biology courses could also include sexual development and reproduction in plants, animals and man.

Individual responsibility for reproductive behavior is a relevant topic for discussion in family life programs. As has been noted, "population problems, pleasantly enough, begin at home." (Bates, 1962)

Language arts programs -- both for native and foreign languages -- could include graded readings dealing with family life in varying social and economic
settings. A prototype of such a reading has been developed experimentally by USAID in India (Lelyveld, n.d.). Similarly, a set of graded readings have been developed by Pakistani educators.

In mathematics, problems could deal with real data and involve the computation of birth and death rates and the effects of various rates of population growth on population size over varying time periods. Concepts of numerical size -- hundreds, thousands, millions, billions -- could be developed using population growth data.

The social sciences, including history and geography, offer particularly fertile ground for the development of population awareness. The growth of world population could be traced, and the factors which effected that growth could be discussed both for their historical and contemporary relevance. Differences in belief systems -- whether political or religious -- can be reviewed with reference to their stands on the origins and consequences of rapid population growth. Population distribution and density, urbanization, the uses of natural resources are issues of interest to students throughout the world. Students might be encouraged to study population as a local phenomenon -- taking a census of their community, learning of past growth, birth and death rate changes, the effects on educational and health facilities, transportation and housing, etc.

The opportunities for infusing the curriculum are many. Only hard work and imagination are needed.

Research, specifically directed to problems associated with introducing population into the schools, must be undertaken along with the development of curriculum materials in order to insure the success of the program.

One area of great importance relates to the age at which students first start thinking about desired family size. A recent study in the United States reported that three-fourths of the sixth graders in several southern schools questioned in 1968 had previously given thought to ideal family size for themselves.
This finding led the authors to conclude that "this study lends at least minimal support to the notion that ideas about family size are formed very early in the life cycle." (Gustavus and Nam, 1970, page 50) More extensive studies should be undertaken here and overseas, for the data collected must certainly enter into decisions concerning the timing of infusing sequences of population awareness materials into the schools.

These timing decisions must also take into account the high drop-out rate from the schools in many developing countries. In Turkey, for example, only 80 percent of primary school children are enrolled in school; only 15 percent of the middle school children are enrolled; and only 5 percent of the high school aged youth. (Anderson, 1970)

Even though many countries have undertaken broad KAP studies (knowledge, attitudes and practice), very little is known specifically about teachers' attitudes toward population matters. Obviously their attitudes must be taken into account in developing syllabi and classroom materials. Consider the problems of introducing population materials into a school system, such as in the Hyderabad and Khaipur region of Pakistan, where 60 percent of the teachers are reported to be against family planning of any form. (Abdullah, 1967)

A survey of children, teachers and parents in rural and urban settings in and around New Delhi concluded that an attempt to discuss human sexuality in a population education program would dampen an otherwise enthusiastic response to the program. (Pohlman and Rao, 1969) The validity of these conclusions for other regions must still be determined by educational planners in India, and planners in other countries would be well advised to conduct similar surveys to determine culturally based concerns that might impede the introduction of population awareness into the schools. As Wayland has pointed out, "prevailing attitudes set limits on the goals eligible for inclusion in the curriculum and on what one may hope to achieve through the educational systems." (Wayland, 1966, p. 11)
Other research important to the success of a program would include analyses of existing text materials in order to ascertain their implicit handling of family life and family size, and population matters as a whole. Whether Pedro and Juanita, the overseas equivalents of Dick and Jane, have other brothers and sisters might be subtly conditioning students' attitudes toward desired family size. Traditional stories in many of the developing countries may very well be fostering strongly pro-natalist views.

Unfortunately, at the present time no adequate model of how to organize a national population awareness program exists. However, a review of experience to date suggests that in the developing world an official liaison is necessary between representatives of private and governmental health and family planning programs, on the one hand, and educational authorities, on the other. The former serve to provide the demographic data and many of the relevant concepts, and the latter bear the responsibility for developing the materials, training the teachers, and integrating the whole program into the formal school system.

As a result of such a liaison, Korean texts are now showing a greater population awareness. A recent review, by a Korean family planning worker, indicates that approximately 2 percent of the material by page count in middle and high school texts used for social studies, family life, and health education is in some way related to population. However, none of the biology or general science texts used at these levels apparently have any aspects of population covered directly. (Korean Monthly Field Report, 1969) Similarly, in Iran working relationships between the family planners and the educators have resulted in the inclusion of population dynamics, and anatomy and physiology in texts beginning with Grade 7.

Cooperation between the relevant agencies will also be necessary for the training of teachers -- both preservice and in-service. The infusion of population materials throughout the curriculum of the teacher training programs is especially
important. In addition, efforts will have to be made to help the teachers handle population related materials within the different course contexts.

To achieve the goal of developing population awareness through the schools of the developing world -- and through our own -- presents all educators with a great challenge. We must work hard to overcome the inertia and conservatism that is all too characteristic of establishments -- both here and abroad.

We, as Americans, should work to develop programs for our own schools to show that we follow our own prescriptions. We should also be prepared to work with our colleagues overseas helping them to develop their programs. We must, however, resist the temptation to prepare packaged programs for others to consume. The developing world must be the creator not the consumer of the new materials and the new programs. As was recently pointed out at the 1969 National Conference of the Family Planning Association of Pakistan, "a good idea or a good programme is not necessarily accepted just because it is good or even beneficial. Innovators introduced from the outside with whom the local person cannot identify himself meet with limited (sic) success. To promote new ideas they must be introduced by local leaders." (Family Planning Association of Pakistan, 1969, p. 4)

In concluding I would like to note that throughout this paper I have avoided reference to "the population explosion," and I have refrained from reference to problems of over-population. I have done this consciously not because I am unconcerned or unaware of the consequences of too rapid population growth. Rather I feel that as educators we must not propagandize or proselytize and these terms and phrases, while admittedly dramatic, are susceptible to confusion and misunderstanding. Population awareness education is educationally relevant whether or not countries, such as India, are suffering as they are. We must present the students with the data and knowledge we have as clearly as we can. We must let the facts speak for themselves. Then the students can reach their own conclusions concerning the existence of a problem, its seriousness and effects, and their personal and communal responsibility to act in accordance with this awareness.


