

9320621004201

rec'd 5/2/79

9320621(3)

PD-AAD-351-A1

MAY 29 1979

ACTION MEMORANDUM FOR THE DEPUTY ASSISTANT ADMINISTRATOR,
DEVELOPMENT SUPPORT BUREAU

FROM: DS/POP, R.T. Ravenholt *R.T. Ravenholt*

[Handwritten initials and scribbles]

44p.

Problem

Your approval is requested for the attached PAF for Measurement of Demographic Change II (932-0621), which authorizes a grant of \$4,995,000.

Background

The project outlined in the attached project paper is one of several designed to assist developing countries with various aspects of collecting and analyzing demographic data. More specifically, it seeks to improve vital registration systems in selected developing countries so that the data they generate can be used to measure demographic change. It is designed to meet developing country needs for a continuous flow of fertility and mortality data at both the national and local level. As such, it will benefit not only family planning programs, but also health, nutrition, and other programs.

The project consists of regional conferences, regional or local training workshops, the development and application of innovative procedures and technology, short-term advisory assistance, and the development of vital registration improvement (VISTIM) projects designed to demonstrate and implement more efficient procedures and technology. In brief, it provides technical assistance for all activities associated with the operation of a vital registration system.

Discussion

This project represents a continuation of an existing, ongoing project with the National Center for Health Statistics. Under Phase I of the project (1976-1978), assessments of vital registration systems were completed for five countries; two regional, international conferences on vital statistics practices were held (Latin America and Asia) and a third (Africa) is scheduled for 1979; competent advisory and technical assistance was provided to Jamaica,

Peru, Morocco, and Thailand; a training program for registration personnel has been nearly completed; technical/procedural improvements are under way in Jamaica; model registration systems have been initiated in Peru and Thailand; and preparation is under way for the development of model registration systems in Ecuador and Paraguay.

An in-depth, team evaluation of Phase I was completed in August, 1978. The evaluators concluded that the project should greatly enhance the measurement of the demographic impact of family planning, health, nutrition, and other programs. They recommended that the project be continued.

The administrative unit which will carry out this project is the Office of International Statistics, National Center for Health Statistics (NCHS). NCHS is the U.S. agency which has responsibility for designing and maintaining national data collection systems relating to fertility and mortality, conducting research in statistical and survey methodology, and cooperating with other U.S. and foreign agencies in activities designed to increase the availability and utility of vital and health statistics. A major activity of NCHS is the operation of the national vital statistics reporting system for the United States which it maintains with the cooperative support of the state registration systems.

AID/W inputs for the five-year project period are projected at \$4.995 million. Planned obligations for FY 79 are \$900 thousand; for FY 80, \$700 thousand; for FY 81, \$1.169 million; for FY 82, \$1.106 million; and for FY 83, \$1.120 million. Since some in-country VISTIM projects are presently unidentified, DS/POP will authorize funding for these subprojects as they become identified, either individually or in groups. This project represents a small (less than ten percent), but important, part of the total array of demographic data projects funded by DS/POP/DEMO which benefit developing countries and AID Missions.

The Agency-wide review of this project was held on February 14, 1979. The issues discussed at that meeting included the regional bureaus' views of the potential contribution of this project, the appropriateness of the country selection criteria, and the method of funding in-country project activities. It was agreed that the project represented an important contribution to developing countries in each of the regions represented at the meeting and that the country selection criteria should be modified to permit greater flexibility. It was also agreed that in-country project activities would be primarily centrally-funded, although field missions may also fund projects and tap into the "core" of expertise funded by DS/POP. These issues have been incorporated in the revised project paper attached. The project has been approved by the R & D Committee.

Recommendation

It is recommended that you sign the attached PAF for Measurement of Demographic Change II which approves a grant of \$4,995,000 and authorizes up to \$900,000 in FY 1979 funds.

Approved: *[Signature]*

Disapproved: _____

Date: 3/20/79

Attachments:

- PAF
- Measurement of Demographic Change Project Paper

Clearances:

DS/PO:RSimpson	<u><i>[Signature]</i></u>	Date	<u>3/28</u>
DS/POP/DEMO:JBrackett	<u><i>[Signature]</i></u>	Date	<u>3/11/79</u>
DS/POP:PBaldi	<u><i>[Signature]</i></u>	Date	<u>3/5/79</u>
GC/TFHA:STisa	(draft)	Date	<u>1/15/70</u>
AFR/DR:LHeilman	<u>S</u>	Date	<u>3/09/79</u>
ASIA/TR:MADoyle	<u>S</u>	Date	<u>3/14/79</u>
LA/DR:WASigler	<u>S</u>	Date	<u>3/08/79</u>
NE/TECH:EKMcManus	<u>S</u>	Date	<u>3/07/79</u>

Recommendation

It is recommended that you sign the attached PAF for Measurement of Demographic Change II which approves a grant of \$4,995,000 and authorizes up to \$900,000 in FY 1979 funds.

Approved: _____

Disapproved: _____

Date: _____

Attachments:

PAF

Measurement of Demographic Change Project Paper

Clearances:

DS/PO:RSimpson	_____	Date	_____
DS/POP/DEMO:JBrackett	<i>J. Brackett</i>	Date	<i>3/11/79</i>
DS/POP:PBaldi	<i>P. Baldi</i>	Date	<i>2/5/79</i>
GC/TFHA:MBall	_____	Date	_____
AFR/DR:LHeilman	<i>L.P. Heilman</i>	Date	<i>Mar. 13, 1978</i>
ASIA/TR:MADoyle	_____	Date	_____
LA/DR:WASigler	_____	Date	_____
NE/TECH:EKMcManus	_____	Date	_____

AGENCY FOR INTERNATIONAL DEVELOPMENT
**PROJECT AUTHORIZATION AND REQUEST
 FOR ALLOTMENT OF FUNDS PART I**

1. TRANSACTION CODE

A

A ADD
 C CHANGE
 D DELETE

PAF

2. DOCUMENT CODE
 5

3. COUNTRY/ENTITY

Interregional

4. DOCUMENT REVISION NUMBER

5. PROJECT NUMBER (7 digits)

[932-0621]

6. BUREAU/OFFICE

A SYMBOL
 DSB

B. CODE
 [10]

7. PROJECT TITLE (Maximum 40 characters)

[Measurement of Demographic Change II]

8. PROJECT APPROVAL DECISION

A

A APPROVED
 O DISAPPROVED
 OK DEAUTHORIZED

ACTION TAKEN

9. EST. PERIOD OF IMPLEMENTATION

YRS. [0] [5]

QTRS. [2]

10. APPROVED BUDGET AID APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY <u>79</u>		H. 2ND FY <u>80</u>		K. 3RD FY <u>81</u>	
		C GRANT	D LOAN	F GRANT	G. LOAN	I GRANT	J. LOAN	L. GRANT	M. LOAN
(1) PH	410	410		900		700		1,169	
(2)									
(3)									
(4)									
TOTALS				900		700		1,169	

A. APPROPRIATION	N. 4TH FY <u>82</u>		Q. 5TH FY <u>83</u>		LIFE OF PROJECT		11. PROJECT FUNDING AUTHORIZED		A.	B.
	G. GRANT	P. LOAN	R. GRANT	S. LOAN	T GRANT	U. LOAN	ENTER APPROPRIATE CODE(S) 1 - LIFE OF PROJECT 2 - INCREMENTAL LIFE OF PROJECT		GRANT	LOAN
(1) PH	1,106		1,120		4,995				2	
(2)										
(3)										
(4)										
TOTALS	1,106		1,120		4,995		C. PROJECT FUNDING AUTHORIZED THRU			FY [8] [3]

12. INITIAL PROJECT FUNDING ALLOTMENT REQUESTED (\$000)

A. APPROPRIATION	B. ALLOTMENT REQUEST NO. _____	
	C. GRANT	D LOAN
(1) PH	900	
(2)		
(3)		
(4)		
TOTALS	900	

13. FUNDS RESERVED FOR ALLOTMENT

TYPED NAME (Chief, SER/FM/FSD)

SIGNATURE

DATE

14. SOURCE/ORIGIN OF GOODS AND SERVICES

000 041 LOCAL OTHER _____

15. FOR AMENOMENTS, NATURE OF CHANGE PROPOSED

FOR PPC/PIAS USE ONLY	16. AUTHORIZING OFFICE SYMBOL	17. ACTION DATE	18. ACTION REFERENCE (Optional)	ACTION REFERENCE DATE
		MM DD YY		MM DD YY

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

PART II

Name of Country: Interregional
Name of Project: Measurement of Demographic Change II
Number of Project: 932-0621

I hereby authorize a Grant of not more than nine hundred thousand United States Dollars (\$900,000) of FY 1979 funds to finance the project as described in the accompanying memorandum and the attached pp.

I approve a total level of A.I.D. appropriated funding for this project of up to \$4,995,000, including the funding authorized above, during the period FY 1979 through FY 1983.


Deputy Assistant Administrator
Bureau for Development Support

3/25/79
Date

TABLE OF CONTENTS

PAGE

I.	Facesheet.....	(i)
II.	Project Description..	1
III.	Project Analyses.....	15
	A. Economic Feasibility.....	15
	B. Social Analysis.....	16
	C. Technical Feasibility.....	17
	D. Administrative Feasibility.....	20
	E. Environmental Concern.....	21
IV.	Financial Plan.....	22
V.	Implementation Plan.....	26
VI.	Evaluation Plan.....	27
VII.	Annexes.....	29
	A. Log Frame.....	29
	B. Evaluation.....	30
	C. Financial Tables.....	34

II. MEASURING DEMOGRAPHIC CHANGE

During the last three decades, considerable attention has been given to improving statistical systems in developing countries in an attempt to enable these countries to better plan, organize, and evaluate their development programs. For the most part, these efforts have focused on census assistance, beginning with the "Census of the Americas" program during the late 1940's and early 1950's and continuing through each successive decade to the present. The value of this assistance is reflected in the fact that today many countries have a sizeable cadre of statistical personnel who have either conducted a census or are schooled in the appropriate procedures. Programs to assist with the collection, analysis, and publication of high-quality census data sponsored by AID, the UN and its regional organizations, the OAS, and other organizations will continue this effort during the 1980 round of censuses.

Population Censuses

Population censuses are the primary source of data relating to the age, sex, and ethnic composition and distribution of a population inhabiting a specified area at a given point in time. Censuses can provide the detailed data for small areas so often required for organizing, implementing, and evaluating local programs. However, in view of the fact that censuses are ordinarily taken only at five or ten-year intervals, such data when published, although containing great detail, are often too

old to be of practical use. Moreover, because of the sheer magnitude of the effort involved in soliciting information about every member of a population, it is not possible to obtain information on any one variable in great depth. Ordinarily, time permits only a few questions on any single topic. Similarly, the volume of data collected in a census is so great that it is not feasible to prepare more than an item analysis of selected variables (e.g., age, sex, marital status, occupation, etc.) and, perhaps, a limited number of cross-tabulations. Finally, due to the long intervals between censuses and the limited number of variables for which data are collected, only very gross measures of demographic change may be derived. These measures are unsatisfactory for measuring or explaining demographic change.

Demographic Surveys

Recognizing the great value of census data, but keeping in mind their limitations, researchers have given increasing attention over the last decade to survey procedures. That is, rather than soliciting information from every member of a population, researchers will solicit information from only a portion of the population selected in accordance with the principles of probability. This approach, if done carefully, has at least two advantages. First, and foremost, surveys can yield better quality data in terms of reliability and timeliness. With regard to reliability, because surveys seek to obtain information from only a relatively small proportion of the total population, greater attention can be directed toward reducing non-sampling errors. Moreover, the relatively

smaller number of respondents in a survey as compared to a census means that there are less data to process so that they can be processed and analyzed quickly. Thus, not only are the data more reliable (i.e., accurate), but also they are current. Reliable and current data are essential for effectively planning and evaluating development and other programs. Second, a survey approach permits the researcher to examine a given topic in greater depth. Not only can the researcher ask a greater number and variety of questions in order to refine his/her measurement of a variable, but also he/she can ask questions on additional variables thought to be related to the primary variable. This latter information, analyzed within the framework of sound theory, permits one to establish causation, or at least correlative relations, as part of the larger task of understanding and explaining social, cultural, and economic phenomena.

However, there are a number of factors which can affect the usefulness of surveys for monitoring demographic change. First, the quality of survey data is highly dependent on sampling procedures and available data. If high quality survey data are to be obtained close attention must be given to insure that appropriate sampling procedures are followed. Moreover, a sample is selected on the basis of information about a population provided by the census. This information regarding the composition, distribution, or other characteristics of a population enables the survey researcher to identify the appropriate groups from which he/she seeks information and to determine that the sample selected is truly representative of those groups. The absence of good quality census

data makes it extremely difficult to determine whether a given sample accurately represents the population studied and, therefore, whether the survey results reflect real processes. A second factor is that a survey does not ordinarily provide detailed data for both national and local areas simultaneously. 1/ If a survey is national in scope, it can not ordinarily provide local area data. Conversely, if the survey focuses on a local area, the data ordinarily cannot be used to generalize to a larger area (e.g., the nation as a whole). Thus, one must choose which is the more important focus, a choice which must be made within the context of the research questions for which answers are being sought. Finally, survey data, like census data, are static measures in that they refer only to a specific point in time. They do not measure change per se, but rather give a "picture" or "snap shot" of "reality" for a stated reference period. In order to obtain measures of change, surveys must be repeated at appropriate intervals, an approach which AID uses in many countries.

Vital Registration Systems

The availability of a continuous flow of fertility and mortality data is essential for measuring fertility and mortality trends which, in turn, determine demographic change. Under normal circumstances, such data are obtained from the vital registration system. In essence, a vital registration system is a type of accounting system for continuously

1/ Of course, if one were to draw a very large sample, this could be done. However, the cost of drawing such a large sample would be prohibitive for all practical purposes.

recording vital events 2/ which occur within a population. In practice, births and deaths are treated much like "revenues" and "expenses" in a financial accounting system. At the end of each reporting period, 3/ the number of deaths during the interval is subtracted from the number of births during the same interval to obtain the net gain (or loss) in population. If births exceed deaths, as is the usual case, there will be a gain. If deaths exceed births, there will be a loss. At the end of a year, the cumulative net gain (or loss) is added to the population alive at the beginning of the period, yielding the number of people alive at the end of the period. 4/ The difference between the number of people alive at the beginning of the period and the number alive at the end of that same period measures the net demographic change which has occurred within that population. For comparative purposes, this difference is ordinarily expressed in terms of a base population (i.e., as a growth rate). Data for the base population are obtained from the census. Thus,

$$\frac{\text{Number of births} - \text{Number of deaths}}{\text{Total Midyear Population}} = \frac{\text{Net Population Change}}{\text{Total Midyr Population}} = \text{Natural Growth Rate}$$

Nearly every country has some statutory provision for registering vital events. For the most part, these systems serve a legal function.

2/ i.e, births deaths, fetal deaths, marriages, and divorces

3/ usually a month

4/ or, alternatively, the beginning of the new period.

That is, they are used to establish citizenship, age, and familial and inheritance rights and benefits. Among these rights and benefits are educational rights, voting rights, employment rights, and social security and welfare benefits. In many countries, vital registration systems are sufficiently efficient and accurate that the data they generate can be used for statistical purposes as well. Unfortunately, because of poor organization, inadequately trained personnel, use of inappropriate procedures and methodologies, social and economic impediments, and other factors, the data generated by these systems in many developing countries are inaccurate and, therefore, of limited value for social research or for measuring population change. However, among these countries there exist a number which do record a high proportion of vital events and where a well-planned program would lead to improved data in a relatively short period of time at comparatively little expense. Moreover, there are areas within countries considered to have "incomplete" national registration systems 5/ where a high proportion of vital events are being recorded and in which such a program would also be effective.

Project Purpose

The project outlined in this paper seeks to improve vital registration systems in selected developing countries so that the data they generate can be used to measure demographic change. All in-country proj-

5/ Registration systems are considered to be "complete" if they record 90% or more of the vital events.

ect activities will be designed to generate and obtain the maximum amount of fertility and mortality data. That such an effort can succeed is amply demonstrated by past efforts to improve census and survey systems and by the relatively reliable registration systems found in such developing countries as Costa Rica, El Salvador, Jamaica, Mauritius, Reunion, Sri Lanka, Singapore, Hong Kong, and Malaysia.

Project Description

The project proposed herein consists of regional conferences, regional or local training workshops, the development and application of innovative procedures and technology, short-term advisory assistance, and the development of vital registration improvement (VISTIM) projects designed to demonstrate and implement more efficient procedures and technology.

(1) Regional Conferences 6/

In order to effect change in any system, it is usually necessary to create an environment which is conducive to change, to direct attention to the need and desirability of modifying established procedures so that problems can be addressed and, hopefully, solved. One proven method for doing this is to bring together the people who have the power and authority to effect change so that they can discuss common and unique problems, the desirability of bringing about change, and practical ways

6/ Earlier regional conferences on vital statistics practices were held in Asia (Manila, 1976) and Latin America (Montevideo, 1977) under Phase I of this project. A conference for Africa, also funded under Phase I, is scheduled to be held in Mauritius in May, 1979

of solving these problems. In essence, one creates a "community" in which problems are identified, acceptable solutions are discussed, and mutual support for effecting change is established. This is primarily the *raison d'etre* for international conferences. As part of this project, five regional conferences on the problems, significance, and potential of vital statistics and vital registration systems for measuring demographic change will be organized and held in collaboration with other international and regional organizations and drawing on indigenous skills to the extent possible. Special emphasis will be given in each conference to the need for improving vital registration systems so as to enhance each citizen's access to the full range of economic, social, and legal rights and benefits to which he/she is entitled. 7/ Conferences will be organized and held in each of the following areas: Asia (1982); Latin America (1981, 1984); and Africa (1980, 1983).

(2) Regional or Local Training Workshops 8/

Short, comprehensive workshops relating to the collection, processing, analysis, and/or publication of vital statistics will be organized and held in developing countries to provide practical training in appropriate registration procedures for indigenous registration personnel. These workshops may vary with respect to topic and level of difficulty in order to meet the needs and varying skill levels of the registration personnel. During the project period, ten (10) workshops will be

7/ i.e., education, social security, citizenship, and voting

8/ Training materials for these workshops were developed under Phase I of this project. Translation of these materials into French and Spanish will be done under Phase II

organized and held at appropriate intervals 9/ in each of the following regions: Asia (1979, 1981, 1983); Latin America (1979, 1981, 1983); Near East (1982); and Africa (1980, 1981, 1982).

(3) Development of Innovative Procedures and Technology

The failure of a statistical system to function properly is frequently due to the use of inappropriate or cumbersome procedures or the use of inadequate technology. In order to remedy this problem, attention will be given to the development and application of innovative procedures and technology for collecting, processing, and storing vital records which are appropriate for developing country environments. The primary thrust of this effort is to increase the efficiency and effectiveness of the data system. Although the specific topics to be addressed will depend to some extent on the problems identified in designing and implementing more efficient registration systems for target countries, most will fall within the following categories:

Procedural/Methodological Problems

Design of reporting forms and other records

Flow of reporting forms and other records

Design of indexing system to facilitate access to records

Design and preparation of reports or other mediums for

transferring vital statistics information to data users

9/ The proposed timing and location are merely suggestive.

Technology

Equipment for storing and accessing records

Equipment for processing data

Software for processing and accessing records and data

(4) Short-term Advisory Assistance:

In any development program, it is desirable to draw on the expertise of people who have specialized knowledge. The importance of utilizing this expertise is especially important when the amount of information required to make sound decisions is so substantial that it can not be mastered by any one individual. Such is the case with statistical systems. Some technical advisors possess specialized knowledge in sampling, others in data collection, or perhaps data management. Still others possess special analytic skills. This project seeks to draw upon these varied skills as they relate to the effective and efficient organization and operation of vital registration systems in developing countries. During the project period, up to 20 person months of such technical advisory assistance (non-NCHS) will be provided to target countries.

(5) Vital Registration Improvement Projects (VISTIM):

As noted above, this project seeks to improve vital registration systems so that the data they generate can be used to measure demographic change. Obviously, the strategy for improving these systems will vary from country to country depending on the coverage and completeness of the system, the availability of human and financial resources, and other special factors, such as the country's geography or size. In general, there

are two approaches that may be used to improve these systems. The first approach is to improve the existing registration system; that is, to implement more efficient procedures or practices in one or more phases of the registration process. For example, registration forms may be redesigned, more efficient equipment may be purchased, document flow systems may be modified, or new indexing systems may be designed. This approach is feasible when the system is basically sound and coverage is high, but procedures are cumbersome or inefficient. For practical purposes, this approach will be used primarily in countries which register at least 50% of the births or deaths, or in countries which register at least 90% of births or deaths, but for which published data are two or more years old.

The second approach is to establish model or sample vital registration projects in selected areas or regions. In this approach, rather than confront the entire registration system, emphasis is placed on selecting areas or regions--either on a probability or convenient basis--within which the system, or parts of it, may be modified or redesigned, or new technology introduced. This approach permits the testing of a greater variety of procedures or methods and enables the country to make changes on a more manageable scale. With this approach, the country can gradually bring new areas into the system as it is able. Although efforts to implement sample or model registration systems will ordinarily focus on A.I.D.-assisted countries which register at least 50% of the births or deaths in urban areas, but a smaller percentage in rural areas, other countries may be included within the scope of project activities.

Regardless of the approach used, attention will be given to evaluating the results of the intervention. The primary criterion by which these in-country projects will be evaluated is the production of fertility and mortality data. It is expected that the contractor will obtain available national and subnational data during initial country visits. During the project period, nine VISTIM projects will be developed and/or completed.

Evaluation Results

This project represents a continuation of an existing, ongoing project with the National Center for Health Statistics. Under Phase I of the project (1976-1978), assessments of vital registration systems were completed for five countries; two regional, international conferences on vital statistics practices were held (Latin America and Asia) and a third (Africa) is scheduled for 1979; competent advisory and technical assistance was provided to Jamaica, Peru, Morocco, and Thailand; a training program has been nearly completed; technical/procedural improvements are under way in Jamaica; model registration systems have been initiated in Peru and Thailand; and preparation is under way for the development of model registration systems in Ecuador and Paraguay.

An in-depth evaluation of Phase I was completed in August, 1978. That evaluation found that the program was sound and that it should make "significant progress in improving vital registration systems in participating countries and in upgrading vital statistics data." The evaluators concluded that the project, in combination with data obtained through other statistical systems, should greatly enhance the measurement of the

demographic impact of family planning, health, nutrition, and other programs. Moreover, the evaluators noted that practically all of the project goals had been achieved. In concluding, they recommended that the project be continued.

To a large extent, the recommendations of the team (see Annex B) have been incorporated in Phase II of the project. Those recommendations included in Phase II are as follows:

1. The Measurement of Demographic Change Project (VISTIM) be continued.
2. NCHS/OIS continue to run the project.
3. NCHS/OIS continue to work on its evaluation mechanism with respect to the model registration projects in Peru and Thailand, and other countries in the future.
4. NCHS/OIS consider the possibility of initiating the "birth and death registration area" concept in one or more countries along the lines of development of the US system. The nucleus for this is already present in Peru.
5. NCHS/OIS consider the possibility of initiating a true sample registration area system in one or more countries, whereby a representative sample of geographic areas is selected for a country and registration improvements applied to those areas with the objective of obtaining estimates of birth and death rates for the entire country.
8. NCHS/OIS plan to test the Spanish version of the training materials in a Spanish-speaking developing country, prior to their distribution for use.
9. NCHS/OIS make arrangements to translate the training materials into French, and to test them before distribution for use in developing countries.

10. NCHS/OIS take the initiative through AID/W in promoting and publicizing VISTIM and its program in developing countries through various means, including aerograms to USAIDs; increased personal follow-up to countries; maintenance of follow-up contact with participants in regional conferences and training courses; utilization of mechanisms of direct contact with relevant officials in countries, maintained by other agencies, international governmental and non-governmental organizations.
11. NCHS/OIS strengthen coordination and cooperation, both internally (within US government agencies) and externally (within and among appropriate intergovernmental and nongovernmental organizations), with a view to establishing a clearinghouse for information and programs, methodology, and status of countries as regards civil registration and vital statistics, thus avoiding duplication of effort.
12. NCHS/OIS seek authorization to employ other financial arrangements to implement its program, such as cooperative agreements or other mechanisms that might speed up the process.
13. NCHS/OIS fill its vacant professional position in order to more effectively carry out its expanding program.

III. PROJECT ANALYSES

A. Economic Feasibility

The purpose of this project is to improve vital registration systems in selected developing countries so that the data they generate can be used to measure demographic change. The strategy for improving a vital registration system will depend on a number of factors, but will generally use one or the other of the following approaches:

- (1) Improve an existing registration system; or
- (2) Establish a model or sample vital registration project.

Either of these approaches is both methodologically and economically sound for a number of reasons. First, they utilize an existing institutionalized resource which already collects information relating to vital events for a high proportion of the population. Utilizing an existing, fairly reliable statistical system is likely to be less expensive and time-consuming than establishing and institutionalizing a new system. Moreover, because the registration system serves a multiplicity of functions and forms an essential part of the legal system, the impetus and availability of financial and other resources for maintaining the system are more assured. Second, unlike other statistical systems (e.g., surveys or censuses), registration systems not only generate reliable and current data for a single point in time, but also generate a continuous flow of such data year after year, oftentimes on a monthly basis. As noted earlier, a continuous flow of demographic data is required if one

wishes to measure demographic change over time. Third, registration systems provide the detailed demographic data for small areas that are necessary for organizing, implementing, and evaluating local programs. National surveys do not ordinarily provide these data. Finally, these approaches emphasize the generation of data relating directly to the phenomena being measured--fertility and mortality. The purpose of a vital registration system is to keep an accurate record of the number of births, deaths, and other events that occur. In short, it counts these events. Other statistical systems do not directly enumerate these events, but rather provide data which are used to estimate the number of births and deaths and various rates relating to these events. In summary, this project represents a cost-effective method for measuring demographic change.

B. Social Analysis

1. Feasibility: This project seeks to improve an existing statistical system or, alternatively, to implement sample or model systems within the existing system in order to generate fertility and mortality data. Such data are essential for measuring demographic change. Most developing countries already operate such statistical systems so no new institutions will be created. The measurement and evaluation of demographic change is to be done by host country personnel and research centers with technical support provided by the contractor. Consequently, there should be no untoward socio-cultural issues arising from this project.

2. Beneficiaries: This project does not seek to effect social change per se, but rather to measure one element of social change, namely demographic change, by improving the techniques of measurement and making possible the proper analysis of data. Nevertheless, this project is likely to have far-reaching benefits which touch all segments of participating countries. For example, the implementation of improved birth and death registration is likely to foster increased attention to health, infant mortality, and causes of death. Moreover, improving the flow of reliable and current fertility and mortality data will provide the demographic data so essential for social and economic planning and for designing and evaluating public health and other social welfare programs. These programs, which are designed to effect changes in the living conditions of specific populations or subgroups, will benefit many.

C. Technical Feasibility:

1. Basis for Choice: In addition to registration systems, there are several other methods for obtaining limited information regarding births and deaths. Estimates of basic vital rates or rates of population growth can be derived from data collected by means of regular decennial censuses, sample surveys, and dual-record systems. Each of these methods serves specific purposes. None, by itself, meets the need for accurate, current, and continuous data covering the nation, yet susceptible to tabulation breakdown for local governmental units

Censuses, for example, provide the requisite detail for analyzing small, local areas. They provide a sampling frame for survey operations.

Moreover, censuses provide the base data for calculating various rates and ratios. However, censuses are taken infrequently--ordinarily every ten years. Consequently, census data become available at intervals which are too long to provide measures of current change essential for the appraisal of year-to-year population trends.

Surveys are relatively inexpensive, they are especially valuable for obtaining in-depth information on a small number of topics, and, if carefully executed, they produce satisfactory estimates of vital rates for a specified period of time (usually one or two years). However, surveys do not provide a consistent or continuous flow of current data that enable researchers to analyze the trend of vital events. Moreover, sample surveys (and sample registration systems as well) do not ordinarily provide the detailed data for small, individual local areas necessary for the proper administration of various types of public health programs. Survey data are also particularly susceptible to sampling error because they are obtained from only a portion of the population being studied. If great care is not taken in the design of the survey, the data may not be representative of the population surveyed. On the other hand, surveys are less susceptible to non-sampling errors, a factor which must be considered in any data collection effort.

Although these methods of obtaining demographic data may be thought of as distinct or discrete entities, in reality they function in a complementary relation. Censuses, for example, provide the basic information required for drawing a representative sample and for establishing

the relevant weights which make generalization of survey findings possible. The calculation of various fertility and mortality rates requires both census data and registration data. Surveys are often used to check on the reliability of data generated by censuses and registration systems. Clearly no one method is best and no one method is complete in itself. That is to say, no one method provides all the data required for measuring demographic change. At the same time, no other method fully duplicates or replaces a full civil registration system when it comes to providing the kind of basic, flow data that are required for accurately measuring demographic change. A full civil registration system is the best source for this type of data.

2. Employment Effects: This project will effect an upgrading in the quality of registration personnel. Higher quality (i.e., better trained) personnel should increase the efficiency and accuracy with which the system works.

3. Host Country Capability for Operation/Maintenance: Almost all developing countries operate and maintain some system for recording births and deaths. This project seeks to improve these existing systems or build on them to create operational data systems. The technological inputs provided as part of this project will be geared to the country's needs and to the capability of the country to adapt to these technical developments. Advice and training relating to the collection, processing, and analysis of vital statistics will be adapted to the manpower, facilities, and resource capabilities of the country with the aim of obtaining practical results and reliable basic data.

D. Administrative Feasibility

1. Recipient: The administrative unit which will carry out this project is the Office of International Statistics (OIS), National Center for Health Statistics (NCHS). NCHS designs and maintains national data collection systems relating to fertility and mortality, conducts research in statistical and survey methodology, and cooperates with other U.S. and foreign agencies in activities designed to increase the availability and utility of vital and health statistics. A major activity of NCHS is the operation of the national vital statistics reporting system for the United States which it maintains with the cooperative support of the state registration systems. The Office of International Statistics (NCHS) plans and directs the Center's international activities in vital and health statistics, stimulates and develops statistical research projects in foreign countries, provides technical assistance in the development of health statistics and vital registration systems, and sponsors training programs in vital registration, demography, and family planning statistics.

NCHS/OIS presently administers Phase I of this project. In addition to the staff which is assigned to the project, NCHS also uses other registration specialists within the Center for managing and implementing this program. OIS has had extensive experience in developing and administering contracts with domestic and foreign private individuals and organizations, and foreign governmental agencies. It has administered

PL-480 projects, involving millions of dollars, in a number of foreign countries, including the Arab Republic of Egypt, India, Pakistan, Sri Lanka (Ceylon), and Tunisia. A number of these projects have been related to population statistics and have dealt with vital rate estimation, development of demographic parameters for developing countries, construction of models for demographic change, computer simulation of population growth, and techniques for demographic surveys. In addition, NCHS has had considerable experience in handling management details regarding staff travel to foreign countries and travel of persons from foreign countries to the United States for consultation and training. This has involved negotiation of contracts, project review, project evaluation, and reports on field visits. The Center has also worked on joint projects with other international organizations, such as the United Nations, the World Health Organization, the Pan American Health Organization, and others.

E. Environmental Implications: There will be no environmental impact involved in or resulting from this project.

IV FINANCIAL PLAN

A. AID Contribution

Tables 1, 2, and 3 present the estimated cost of this project over its five-year life span. Table 1 presents summary costs by item and source. Table 2 presents project costs by item and output category. Table 3 presents project costs by item and year. More detailed financial data are provided in Annex C. The total cost to AID/DS/POP for this five-year project is estimated to be slightly less than \$5 million, allocated as follows: 1979, \$900,000; 1980, \$700,000; 1981, \$1,169,000; 1982, \$1,106,000; and 1983, \$1,120,000. (See Table 1.) However, this estimate represents only DS/POP costs. Although we do anticipate USAID participation in this program, the level of financial participation is too speculative to include here. In the past, USAIDs have occasionally paid some travel and training costs and, in one instance the USAID funded virtually the entire country project under Title I. In the latter case, the USAID contribution is likely to total about \$165,000 when the project is completed. In any event, as a matter of policy, USAIDs will be invited to participate in this program both financially and administratively.

B. Host Country Contribution

Participating host countries will be required to provide an appropriate portion of in-country project costs. Ordinarily, this contribution will be in the form of salaries and operating costs for national registration systems and will comprise approximately 25% of country project costs.

C. Other Organizations

Whenever possible, the contractor for this project will collaborate with other organizations working to improve vital registration systems. In the past, well-established relations with these other organizations (e.g., United Nations, Inter-American Children's Institute, Pan American Health Organization) have enabled us to work cooperatively in a number of projects. For example, the Latin American Vital Statistics Conference, held in Montevideo in 1977, was sponsored jointly by the U.N., PAHO, and the Inter-American Children's Institute; equipment for Peru's vital registration system was purchased jointly with the U.N.; and assistance was provided in conjunction with the U.N. vital registration project in Nepal. Moreover, a possibility exists that we will develop a joint project with the U.N. in Paraguay. In short, we expect that active efforts will be made to develop collaborative activities whenever and wherever possible.

Table 1. Summary Cost Estimate and Financial Plan
(\$000)

Item	DS/POP	Source		Host Country	Total
		AID	USAID		
Personnel*	640	-	-	-	640
Travel	448	**	-	-	448
Technical Advisors	70	-	-	-	70
Conference Costs	300	-	-	-	300
Translation and Publication	5	-	-	-	5
Workshop and Participant Costs	120	**	-	-	120
Development Projects	48	-	-	-	48
VISTIM Projects	2929	**	-	976	3905
Overhead	180	-	-	-	180
Contingencies	255	-	-	-	255
TOTAL	4995	**	-	976	5971

*Four positions: 3 professional, 1 clerical

**Possible contribution, amount speculative

Table 2. Project Cost by Outputs

	(\$000)					
	Total	Conference	Workshops	Development/ Application	Advisory Assist	VISTIM Proj
Personnel*	640	20	26	20	6	568
Travel	448	50	25	6	74	293
Technical Advisors	70	-	-	-	70	-
Conference Costs	300	300	-	-	-	-
Translation & Publication	5	-	5	-	-	-
Workshop & Participant Cost	120	-	120	-	-	-
Development Projects	48	-	-	48	-	-
Vistim Projects	2929	-	-	-	-	2929
Overhead	180	6	7	7	2	158
Contingencies	255	20	10	5	8	212
TOTAL**	4995	396	193	86	160	4160

*Four positions: 3 professional, 1 clerical.

**Does not include host country contribution.

Table 3. Project Cost by Year

	(\$000)					
Item	Total	1979	1980	1981	1982	1983
Personnel*	640	128	128	128	128	128
Travel	448	80	85	127	79	77
Technical Advisors	70	14	14	14	14	14
Conference Costs	300	60	-	120	60	60
Translation and Publication	5	5	-	-	-	-
Workshop/Partici- pant Costs	120	10	5	45	30	30
Development Projects	48	12	12	12	12	-
VISTIM Projects	2929	555	420	617	662	675
Overhead	180	36	36	36	36	36
Contingencies	255	-	-	70	85	100
TOTAL**	4995	900	700	1169	1106	1120

*Four positions: 3 professional, 1 clerical

**Does not include host country contribution

V. IMPLEMENTATION PLAN

<u>ACTIVITY</u>	<u>YEAR</u>					
	<u>DEC.</u> <u>1978</u>	<u>1</u> <u>(1979)</u>	<u>2</u> <u>(1980)</u>	<u>3</u> <u>(1981)</u>	<u>4</u> <u>(1982)</u>	<u>5</u> <u>(1983)</u>
<u>I. Documentation</u>						
A. Review/Approve PP	X					
B. Prepare/Process PIO/T	X					
C. Prepare/Process RSSA	X					
<u>II. Regional Vital Statistics Conferences</u>						
A. Identify Potential Co-Sponsors		X	X	X	X	X
B. Identify Site		X	X	X	X	X
C. Identify Potential Participants		X	X	X	X	X
D. Prepare Agenda		X	X	X	X	X
E. Complete Administrative/Logistics Arrangements		X		X	X	X
F. Hold Conference			X	X	X	XX
<u>III. Regional/Local Training Workshops</u>						
A. Complete Training Materials		X				
B. Translate and Publish Training Materials		X				
C. Organize Workshop		X	X	X	X	X
D. Hold Workshop		X	X	X	X	X
<u>IV. Development of Innovative Procedures and Technology</u>		X	X	X	X	X
<u>V. Short-term Advisory Assistance</u>		X	X	X	X	X
<u>VI. Vital Statistics Improvement Projects (VISTIM)</u>						
A. Identify Countries in Which VISTIM Projects Feasible		X	X	X		
B. Design Strategy for Improving Systems		X	X	X		
C. Implement VISTIM Projects		X	X	X	X	X
D. Monitor VISTIM Project Progress		X	X	X	X	X

VI. EVALUATION PLAN

All project activities directed toward the improvement of birth and death reporting will be routinely evaluated in the second year of the interagency agreement to assess the effect of changes and improvements in technologies and methods at various steps in the vital registration process. In addition, an in-depth team evaluation of project accomplishments will be conducted in the fourth year of the project period to determine the viability and direction of future AID assistance in this area. This evaluation will include an assessment of selected in-country activities. The primary criterion by which this project will be evaluated is the production of fertility and mortality data.

In developing this project and the evaluation plan for it, consideration was given to conducting a baseline survey to establish completeness of coverage. However, after assessing the amount of time and financial resources required to carry out such a survey, it was determined that the costs would exceed the benefits. Instead, changes in registration completeness will be measured in terms of increased numbers of events (e.g., births) registered during the subproject period and, whenever possible, by comparing registered events with events estimated from fertility/mortality surveys carried out under other projects. In view of the problems of measuring completeness of coverage and the fact that this project is largely experimental (i.e., to see if coverage can be improved), it was determined that establishing a priori "targets" other than the 90% completeness level would be meaningless. If work in this area is continued

beyond the proposed project period, it may then be feasible to establish targets with greater precision. See Log Frame (Annex A) for information relating to indicators, means of verification, and assumptions.

The consent and cooperation of the host government will be obtained for every country in which routine and specific evaluation efforts are made.

ANNEXES

Evaluation

ANNEX B

EVALUATION OF THE MEASUREMENT
OF DEMOGRAPHIC CHANGE PROJECT
NATIONAL CENTER FOR HEALTH STATISTICS

A Report Prepared By:
JAMES R. ABERNATHY, Ph.D
NORA P. POWELL

During the Period:
AUGUST 7 THROUGH 18, 1978

Under the Auspices of the:
AMERICAN PUBLIC HEALTH ASSOCIATION

Supported By The:
U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT
OFFICE OF POPULATION, AID/pha/C-1100

AUTHORIZATION:
Ltr. POP/FPS: 8/1/78
Assgn. No.: 1100-107

IV. SUMMARY AND RECOMMENDATIONS .

A. SUMMARY

It is obvious from a study of the Project Paper that this program of Measurement of Demographic Change has been thoroughly prepared with due consideration of all facets of implementation, and of the need for such a program in developing countries all over the world. The Project Paper is clear with regard to the dual purposes of the Project, the assumptions underlying the Project, and the means necessary to achieve the objectives. The design of the program is sound and, in due course of time, should make significant progress in improving vital registration systems in participating countries and in upgrading vital statistics data. These efforts, if carried out according to specifications in the Project Paper, in combination with data obtained through other statistical systems, should greatly enhance measurement of the demographic impact of family planning programs. The Project Paper is explicit with regard to goals, means to achieve the goals, expected status of participating countries at the end of the Project, and ways of verifying that the desired status has been achieved.

Responsibility for carrying out this Project rests with the National Center for Health Statistics, a well-respected organization with competent professional staff and a proven record in data collection, analysis, and reporting. The Office of International Statistics (OIS) of NCHS has the competence and experience in international vital statistics to run the Project and has demonstrated this ability during the first two years of the Project. Numerous problems have had to be overcome during this period but, in spite of them, a great deal of progress has been made in accomplishing first and second year goals. In fact, practically all of the goals have been achieved.

Two regional international conferences have been held on two continents and the third is in the final stages of planning; assessment of vital registration systems in five countries have been made; arrangements have been made for competent advisory and technical assistance which has already been provided to three countries; technical/procedural improvements, or model registration systems have been implemented in three countries with two more in the planning stages (Haiti and Ecuador); training courses have been prepared and are expected to be given in selected countries in the near future; a study of legal aspects of vital registration has been arranged; and considerable work was expended toward the design of a demographic impact study, likely to be done in 1979. Further work needs to be done toward the preparation of research topics concerned with the impact of family planning programs, and toward identification of researchers and research facilities in developing countries.

It is our opinion that NCHS, through the Office of International Statistics, has made an outstanding beginning in the past two years toward the accomplishment of Project goals. The organization is nearing maximum strength and, after a few false starts common to all projects of this scope, is now in a position to accelerate its efforts toward vital registration improvement and demographic data production.

B. RECOMMENDATIONS

As a result of our investigation with regard to accomplishments and failures of the VISTIM program over the past two years, we recommend that:

1. The Measurement of Demographic Change Project (VISTIM) be continued.
2. NCHS/OIS continue to run the project.
3. NCHS/OIS continue to work on its evaluation mechanism with respect to the model registration projects in Peru and Thailand, and other countries in the future.
4. NCHS/OIS consider the possibility of initiating the "birth and death registration area" concept in one or more countries along the lines of development of the US system. The nucleus for this is already present in Peru.
5. NCHS/OIS consider the possibility of initiating a true sample registration area system in one or more countries, whereby a representative sample of geographic areas is selected for a country and registration improvements applied to those areas with the objective of obtaining estimates of birth and death rates for the entire country.
6. NCHS/OIS devote more professional time to preparations for demographic impact studies through the subcontract mechanism, including identifying topics and competent researchers and organizations.
7. NCHS/OIS should consider extending their program of country assessments (system analysis) to other approved developing countries and to issue the resultant reports in English, French, and Spanish for wide distribution and utilization for developing strategies for improving vital registration systems not only by donor organizations but also by in-country specialists.
8. NCHS/OIS plan to test the Spanish version of the training materials in a Spanish-speaking developing country, prior to their distribution for use.
9. NCHS/OIS make arrangements to translate the training materials into French, and to test them before distribution for use in developing countries.

10. NCHS/OIS take the initiative through AID/W in promoting and publicizing VISTIM and its program in developing countries through various means, including aerograms to USAIDs; increased personal follow-up to countries; maintenance of follow-up contact with participants in regional conferences and training courses; utilization of mechanisms of direct contact with relevant officials in countries, maintained by other agencies, international governmental and non-governmental organizations.
11. NCHS/OIS strengthen coordination and cooperation, both internally (within US government agencies) and externally (within and among appropriate inter-governmental and non-governmental organizations), with a view to establishing a clearinghouse for information and programs, methodology, and status of countries as regards civil registration and vital statistics, thus avoiding duplication of effort.
12. NCHS/OIS seek authorization to employ other financial arrangements to implement its program, such as cooperative agreements or other mechanisms that might speed up the process.
13. NCHS/OIS fill its vacant professional position in order to more effectively carry out its expanding program.
14. It appeared to the team that the VISTIM office space at NCHS/OIS was rather limited. We therefore recommend that, as the project expands, it will be necessary to ameliorate this situation. Similarly, it will also be necessary to set up and maintain a complete central file on the administrative and technical aspects of the Project.

ANNEX C

Financial TablesRegional Conferences:

Item	Total	(\$000)				
		1979	1980	1981	1982	1983
Personnel	20	5	-	5	5	5
Travel	50	10	-	20	10	10
Conference						
Costs	300	60	-	120	60	60
Overhead	6	2	-	2	1	1
Contingencies	20	-	-	9	5	6
TOTAL	396	77	-	156	81	82

Regional or Local Training Workshops:

Item	Total	(\$000)				
		1979	1980	1981	1982	1983
Personnel	26	5	3	8	5	5
Travel	25	5	2	8	5	5
Translation and						
Publication	5	5	-	-	-	-
Workshop and						
Participants	120	10	5	45	30	30
Overhead	7	1	1	3	1	1
Contingencies	10	-	-	4	3	3
TOTAL	193	26	11	68	44	44

Development of Innovative Procedures and Technology:

Item	Total	(\$000)				
		1979	1980	1981	1982	1983
Personnel	20	5	5	5	5	-
Travel	6	1	2	2	1	-
Development						
Projects	48	12	12	12	12	-
Overhead	7	2	2	1	2	-
Contingencies	5	-	-	2	3	-
TOTAL	81	20	21	20	20	-

Short-term Advisory Assistance:

Item	Total	(\$000)				
		1979	1980	1981	1982	1983
Personnel	6	1	2	1	1	1
Technical Advisors	70	14	14	14	14	14
Travel	74	15	15	15	15	14
Overhead	2	-	-	-	1	1
Contingencies	8	-	-	2	3	3
TOTAL	160	30	31	32	34	33

Vital Registration Improvement Projects (VISTIM):

Item	Total	(\$000)				
		1979	1980	1981	1982	1983
Personnel	568	112	118	109	112	117
Travel	293	49	66	82	48	48
VISTIM Projects	2929	555	420	617	662	675
Overhead	153	31	33	30	31	33
Contingencies	212	-	-	53	71	88
TOTAL	4160	747	637	891	924	961

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS PART I		1. TRANSACTION CODE <input type="checkbox"/> A ADD <input type="checkbox"/> C CHANGE <input type="checkbox"/> D DELETE	PAF
3. COUNTRY ENTITY Interregional		2. DOCUMENT CODE 5	
5. PROJECT NUMBER (7 digits) <input type="text" value="936-0621"/>		4. DOCUMENT REVISION NUMBER <input type="text"/>	
6. BUREAU/OFFICE A SYMBOL DSB B CODE <input type="text" value="36"/>		7. PROJECT TITLE (Maximum 40 characters) <input type="text" value="Measurement of Demographic Change II"/>	
8. PROJECT APPROVAL DECISION <input type="checkbox"/> A APPROVED <input type="checkbox"/> D DISAPPROVED <input type="checkbox"/> DE DEAUTHORIZED		9. EST. PERIOD OF IMPLEMENTATION YRS. <input type="text" value="05"/> QTRS <input type="text" value="2"/>	

10. APPROVED BUDGET AID APPROPRIATED FUNDS (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY <u>79</u>		H. 2ND FY <u>80</u>		K. 3RD FY <u>81</u>	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) PH	410	410		900		700		1,169	
(2)									
(3)									
(4)									
TOTALS				900		700		1,169	

A. APPROPRIATION	N. 4TH FY <u>82</u>		Q. 5TH FY <u>83</u>		LIFE OF PROJECT		11. PROJECT FUNDING AUTHORIZED	
	O. GRANT	P. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN	ENTER APPROPRIATE CODE(S): 1 - LIFE OF PROJECT 2 - INCREMENTAL LIFE OF PROJECT	A. GRANT B. LOAN
(1) PH	1,106		1,120		4,995			2
(2)								
(3)								
(4)								
TOTALS		1,106		1,120		4,995		C. PROJECT FUNDING AUTHORIZED THRU FY <input type="text" value="83"/>

12. INITIAL PROJECT FUNDING ALLOTMENT REQUESTED (\$000)			13. FUNDS RESERVED FOR ALLOTMENT		
A. APPROPRIATION	B. ALLOTMENT REQUEST NO. _____				
	C. GRANT	D. LOAN	TYPED NAME (Chief, SER: FM/FSD)		
(1) PH	900		SIGNATURE _____		
(2)			DATE _____		
(3)					
(4)					
TOTALS		900			

14. SOURCE/ORIGIN OF GOODS AND SERVICES
 000
 941
 LOCAL
 OTHER _____

15. FOR AMENDMENTS, NATURE OF CHANGE PROPOSED

FOR PPC/PIAS USE ONLY	16. AUTHORIZING OFFICE SYMBOL	17. ACTION DATE MM DD YY	18. ACTION REFERENCE (Optional)	ACTION REFERENCE DATE MM DD YY

