

Estimating the Costs and Effectiveness of Health
Sector Policy Alternatives in Developing Countries

Progress Report: February 1981

United States Agency for International Development
Grant No. AID/OTR-G-1740

Department of Health Planning and Administration
School of Public Health
The University of Michigan
Ann Arbor, Michigan

INTRODUCTION

Our previous progress reports, in January and July of 1980, reviewed the applications of models, work done to enhance their capabilities, and research activities in such fields as sanitation and literacy and their relationships to health status in developing countries. Now that we are more than half way through the projected duration of the grant, it seems useful to focus this report on the future course of the collaborations based upon our experience and such insights we may have as to the future.

The specific purpose of the grant "is to design and implement a method to develop information and techniques to enhance the capability of governments of LDCs to conduct health sector planning at regional and national levels." (Attachment 1, Grant No. AID/otr-G-1740).

Implementation includes development of estimates of the effectiveness and costs of health sector programs and combinations of programs, completion of an operational model, and the improvement of data. Further, it was stated:

As the objectives are to develop tools to be used by ministries in less developed countries and to provide technical services to help Ministries of Health apply these tools, collaborators in the research include researchers and planning officials from these countries. The research will also generate information that will enhance A.I.D.'s capacity to identify priorities among health care programs (Ibid.).

Technical aspects of the model development have progressed well, and applications have been made to generate the health status and costs of programs. Relationships with LDC collaborators, in particular the development of improved data bases, have not followed as smooth a course.

In requesting AID support, we stated that it was "the intention of our work to include at least two, and possibly three, of the Third World Countries in the collaborative research." We described arrangements that had been made with the government of Indonesia, and noted the possibilities of collaboration with Ghana, Egypt, and Pakistan.

The report which follows discusses where we stand with regard to each of these countries, and suggests what we think is the preferred way to proceed in each case.

INDONESIA

Collaboration began with the National Center for Research on Health Services in Surabaya. Dr. Julie Sulianti Saroso, Chairman of the National Institute of Health Research and Development (to which the Center reports), and Dr. R. H. Pardoko, Director of the Center, visited the University of Michigan and established a collaborating group in Surabaya, charged with developing quantified relationships as coefficients for the model, based on field studies in East Java. The University group delivered the health effects model program through IBM Cards, arranged for transfer to a limited computer capacity in Surabaya and held training sessions in their use.

Two critical personnel changes led to reorientation of the work in Surabaya. Dr. Sulianti retired, and Dr. Pardoko accepted a high post with the Family Planning Coordinating Body in Jakarta. Dr. Budiono Sastradjojo replaced Dr. Pardoko as principle investigator of the collaborative project, Dr. Widodo Seotopo became the Director of the Center, and Dr. A. A. Loeden became Chairman of the NIHDR.

The immediate effect of these changes was to shift the Surabaya project away from data collection for the model and towards orienting the Center's staff to the usefulness of cost-effectiveness analysis. Dr. Budiono is now with us in Ann Arbor, working on the application of the Michigan modeling approaches to primary care manpower development and nutrition programs.

In the meantime, other units of the Indonesian Ministry of Health have become more interested in some collaborative research. These include:

Health Policy Analysis for the Province of Aceh (Sumatra)

This work began with a visit of the planning officer for the Province's Health Department, Dr. I. Nja'Raden, to Ann Arbor. He has continued the work, with the assistance of Robert Tilden (a former research assistant of the University, now stationed in Jakarta with the Helen Keller Foundation, who is a consultant to our project).

Health Service Design for West Java

Dr. Berlian Siagian of the Division of Ecology of the Directorate General of Health Research and Development has been sent to Ann Arbor to complete a doctoral dissertation on policy options for health services design in the Bogor region of West Java using the Michigan models and household survey data in which questions useful for model relationships had been included. Professor Grosse, Dr. de Vries, and others of the Michigan faculty are collaborating with Dr. Berlian on this effort.

Bureau of Planning, Ministry of Health

Dr. Hapsara, Director, Bureau of Planning, Dr. G. Frester, WHO consultant to the Bureau of Planning, and Robert Tilden, Michigan consultant have decided to pursue a time-phased planning model, similar in concept to the one we developed with Ghana (progress report of January 1980) and the Michigan health effects model. Professor Grosse is planning to visit with them in the near future to discuss further steps.

Health Care Planning for Transmigration Areas

Dr. Setiady, when he was in the Director of Communicable Disease Control, asked us to collaborate in the health aspects of transmigration planning. Dr. Setiady is now the Director of the Division of

Ecology of the Directorate General of Health Research and Development. Dr. Berlian Siagian of the Division assisted with the survey design for the Transmigration area in South East Sulawesi while in Jakarta, and has recently received the data tapes to analyse here. We will collaborate with Dr. Berlian in this analysis and subsequent health policy analysis based on these survey data using the Michigan models.

A significant concern of ours is that the basic data collection effort for which we looked to our Indonesian colleagues has not been implemented. There are numerous collaborative activities in process and in prospect. They are somewhat inhibited by Dr. Loeden's reservations about quantitative analysis for planning. This limits the allocation of research personnel and funds for collaboration with us.

Our strategy is to continue to support those Indonesian activities in the planning area which wish to make use of our approach (Bureau of Planning, Aceh Province, Division of Ecology, Surabaya) without forcing the issue at the level of the Chairman of NIHRD. We are unlikely to see major expansion of our work in Indonesia until there has been more demonstrated ability of our approaches in planning agencies. Logic might, perhaps, lead us to begin at the research and development level and then move towards applications. In Indonesia it appears that until we have more of a record of application, there will be little significant research oriented toward these quantitative tools. Changes in personnel could, of course, change this prognosis.

GHANA

The primary focus of our work with the Planning Unit of the Ministry of Health has been in the manpower and facilities planning area. In addition, work on modelling referral systems and on the incorporation of traditional medicine and self-care into the work has continued. Dr. Ampofo of our staff visited Ghana in September and October. Dr. Adibo, Head of the Planning Unit, visited with us in October and November.

Good relationships with the Ministry have continued, and the development and application of model developments have proceeded to operational problems, but developments in the Ghanaian Ministry have been affected by general economic troubles. The consequence has been the frequent absence of professional personnel from ministerial posts, and a significant delay in implementing training experiments and basic data collection. In addition, Mrs. Samarasinge, the official in charge of manpower planning, has been seconded to Lagos for one year, as secretary of the West African Nursing Association. While she returns to Accra intermittently, and has acted as a major source of manpower inventory information for us, communications take much longer than we had hoped.

We have previously reported the development and operational use of a Manpower/Facilities Model and the development and testing of a Dynamic Planning Model. During recent months we have developed and tested an optimizing model which has been applied to an operational manpower training policy problem specified by Dr. Adibo. We have transmitted the results, and suggested some changes in the specification of constraints. New runs reflecting these changes have just been completed. The results, together with executive summaries and users' manuals of the models will shortly be forwarded to the Planning Unit in Ghana and to AID.

While designed in collaboration with Ghanaian officials, the models are being considered for applications elsewhere. The Manpower/Facilities model and Dynplan are being considered for use by the Bureau of Planning of the Indonesian Ministry of Health, and we are currently considering the use of Dynplan in a potential application to Egypt.

While development of improved data and the testing of systems have moved slowly in Ghana, we believe that supporting work and research on our part should be pursued, in the expectation that Ghana's general conditions will improve. The investment in managerial training under Kaiser International's auspices, the educational experience that was provided in Ann Arbor to Ghanaian governmental health planners, and the collaborative research that has taken place in the last year and a half may bear fruit if we are patient. The time frame originally envisaged when the research was proposed and funded, however, would need to be extended.

PAKISTAN

As noted in our progress report of January 1980, work with the Pakistan Ministry of Planning and Development and the Pakistan Medical Research Council was suspended at the request of the U.S. Department of State.

Although we tried to secure permission of our government to begin again when President Carter was suggesting military aid to Pakistan following the Russian Invasion of Afghanistan, we were told it was not yet permissible.

We have not kept in touch with our colleagues in Pakistan on the matter, and do not know if they pursued the research without our participation. Should the U.S. position free us for this work in the future, we would, of course, be very interested in it, although the timing and funding of the project would need to be changed.

EGYPT

In December 1980, at the request of the AID Mission in Cairo, Robert Grosse and Boyd McCleary visited with them to discuss an analysis of resource flows against PQLI targets (infant and child mortality, fertility, and literacy). These discussions, and those with Egyptian Government officials at the Ministry of Health and CAPMAS and with university research centers (Cairo University, American University in Cairo, and the High Institute of Public Health in Alexandria), led to further delineation of the proposed work and to a request from Cairo to PPC/Human Resources for collaboration (enclosures 1 and 2).

In February, Mr. McCleary returned to Cairo, and Dr. Jan de Vries and Professor Demetrius Plessas are visiting to investigate the problems further. Professor George Simmons, Director of the University of Michigan's Interdepartmental Program in Population Planning and Dr. Teshome Wagaw, Professor of International and Comparative Education (c.v.'s: enclosures 3 and 4) have agreed to participate in the project.

THAILAND

The earlier expected collaboration with the MOH/Thailand through WHO has altered direction into preparing teaching modules for certain aspects of health and development planning for WHO, the MOH, Thailand having decided that it wants the designated financial assistance from the Netherlands in another activity. With the demise of our major contact person in Bangkok. Dr. Somboon Vachrotai, Director General of Health, last August, the collaborative program has been temporarily in abeyance. We have recently taken up contact again with the Chief of the Policy, Planning and Research Section of the Health Planning Division of the MOH and proposed

an introductory seminar on the Michigan Simulation model for health planning staff at the MOH.

If the Ministry replies inviting us, we would try to schedule the seminar in the summer of 1981, and use our analysis of health service options for the City of Bangkok as illustrative material. In earlier discussions the Ministry had indicated its interest in demonstration applications in one or two provinces.

SOME GENERAL CONCLUSIONS

In each country we have experienced implementation difficulties. Our work in Egypt was delayed by a change in Ministers and concern on the Mission's part with uncertainties about Ministry priorities. We maintained our contacts with the Ministry and the High Institute of Public Health, and may be at the beginning of a fruitful activity in Egypt. In Indonesia we began with enthusiastic support from the National Institute of Health Research and Development, and now other governmental units are more interested. In Ghana mission and ministerial support continued, but a general decline in governmental activities has been a constraint. In Pakistan international policies have blocked us completely.

In a formal sense we have met the implementation specifications of the Grant's Program Description in that we have produced "reasonable estimates of the effectiveness of alternative health care programs... and the budgetary costs of such programs" and "completion of an operational model for calculating costs and effects, collection and examination of existing studies... to be done in collaboration with designated health officials, particularly health planners." This has been done in Ghana and Indonesia and we are planning analogous work in Egypt. Further (see enclosure 5), we have developed disease profiles (health effects model

applications) and equal cost cases (cost-effectiveness studies) with officials of developing countries who have participated in our research seminars.* Such work is currently continuing for Bangladesh, Uganda, Senegal, Honduras, Bolivia, Botswana and U.S. Trust Territory of the Pacific Islands.

The major lack so far has been in the development of improved data from field work and the testing of the approaches in governmental decision-making. These will take time, with considerable variation in scenarios among the collaborating countries. It seems wise to consider revisions in the project's time-table and funding to make use of the insights and contacts gained.

Given the investments to date and the uncertainties of working with any LDC government, it seems rational to maintain the linkages with interested countries and, when possible, pursue project implementation. The changing economic and political climate requires maximum flexibility on our part, and we have attempted to structure our efforts accordingly. Hence, we early on made significant headway in Indonesia, but are now biding our time; however, we are placing considerable time in developing planning modules for Egypt. This appears to us to provide the most logical approach to assisting developing countries develop a health planning capacity.

* Not funded by this grant.

ENCLOSURE 1

Dec. 17th, 1980

Memorandum for J.S. Blackton (DPPE/SPE)

From: R.N. Grosse, The University of Michigan

The University of Michigan is currently engaged in research on the costs and effectiveness of health sector programs and policies in LDC's, with the support of AID's Bureau of Program and Policy Coordination. Most of the work thus far is being done with the collaboration of colleagues in Indonesia and Ghana.

The approach taken in the research involves the development of a model and the estimation of its coefficients to translate program specifications and scales of operations into budgetary requirements and changes in the health status of various groups of the population in terms of mortality and disability.

AID/Cairo has expressed interest in exploring the effects on elements of an expanded physical quality of life index of public and private social sector expenditures.

The University of Michigan group believes that extensions and adaptations of their current approach might help in producing quantitative estimates to enhance insight into the consequences of alternative strategies aimed at reducing Egypt's infant and child mortality and its fertility rate, and in increasing the literacy (and numeracy) of its school age population.

For each objectives we would design a classification system for public and private resource flows which might identify

- sources of funds (e.g., recurrent budget)
- agency responsible (e.g., MOH rural health services)
- program (e.g., diarrhea control)
- activity (e.g., training in oral rehydration)
- type of cost (e.g., one-time - variable)
- beneficiary group (e.g., children of low-income farm families)
- location (e.g. rural, Upper Egypt)

Intermediate (service or activity) variables linking the expenditure with the accomplishment of the objectives would be specified. The relationships among the spending flows, the intermediate variables and the dependent variables (mortality, fertility and literacy) would be modeled, and estimates of quantitative coefficients would be attempted.

The problems to be encountered are considerable, and include, in addition to preliminary classification and modeling, access to relevant information or its development, quantitative analyses, coping with uncertainties of relationships, and adequately dealing with joint product and joint cost situations.

With respect to health, a potentially useful model for predicting mortality change has been developed, and it is necessary to secure Egyptian inputs. Many questions relevant for developing epidemiological information for this model have been included in the NCHS Health Profile of Egypt, but much of the data^a will not be accessible for some period, perhaps years. For the proposed study, a focused special purpose survey of a small sample population would need to be conducted.

Information on current-account expenditures of the government and private sector on various health programs may also be available in the Health Profiles study. Investment expenditures may be available from the Ministry of Planning. Some information on health service costs and effects may become available from the Moh-AIB-Westinghouse studies Strengthening of Rural Health Services, the Diarrheal Disease Control Study and possibly the Urban Health Services Project. The National Household Survey should be useful in projecting family expenditures on health services.

With regard to family planning and fertility control, much research has been done largely sponsored by UNFPA on factors influencing fertility. We have discussed the proposed research with Dr. Helmy El-Bermawy of the MOH and he has offered his cooperation in gaining understanding and information. We plan to consult with Prof. Dr. Aziz El Bindary, Director of the Population Family Planning Board and coordinator of the Population Studies Program of the Development Research, Technological Planning Center of Cairo University.

Prof. George Simmons, Director of Michigan's Interdepartmental Population Planning Program, whose major field of interest is in the economics of population, has indicated his interest in participation in the proposed study. He has published research evaluating the impact of various factors and strategies on fertility behavior.

We would formulate a model linking family planning expenditures, activities and fertility rates, and pursue relevant information to develop recent expenditure patterns and their likely consequences. The structure of this model will have to be sensitive to the nature of data available.

The field of literacy and education in LDC's is one with which we have least experience in the formulation of cost-effectiveness modeling. The Michigan group has been working on the relationship between literacy and female education and health in LDC's, and an international symposium on the ~~subject~~ will be held at the University next March sponsored by the Ford Foundation.

In the field of education, as well as in mortality and fertility, we are engaged in exploring collaborative research arrangements with Cairo University (DRTPC). We have had an encouraging discussion with Prof. Dr. Aly El Salmi, the Center's Director, and will be meeting with his health, education, and population studies program coordinators shortly to explore possible work further. It is our opinion that the Center's contacts and knowledge would be a vital complement to Michigan's analytic and research experience.

We would, of course, anticipate advice from the AID/Cairo Staff, and their help in gaining access to relevant information and knowledgeable people.

We hope to have preliminary resource flows analyses in all three fields and possibly the results of the special survey on mortality completed within about 11 months of initiation of the work in Egypt, with a final report on our findings by August 1982.

Personnel : We propose keeping in Egypt 1.5 FTE Research Associates plus up to 1.0 FTE Senior Faculty visiting for short periods. Professors Grosse, De Vries, Simmons, Plessas would be the senior faculty responsible.

We would draw upon other colleagues in the Center for Population Planning, the Center for Research in Economic Development and the Institute for Social Research from time to time.

The principle investigator will be Robert Grosse, Professor of Health Planning and Chairman of the Department of Health Planning and Administration at the University of Michigan. Professor Grosse is also Director of the Program in Health Planning and Economic Development is a member of the Center for Population Planning, and serves on the Executive Board of the Center for Economic Development and the Program Committee of the Ph. D. Program in Urban and Regional Planning. Before coming to Michigan he was Deputy Assistant Secretary of HEW for Planning and Evaluation.

Recent publications include :

"Interrelation Between Health and Population : Observations Derived From Field Experiences," Social Science and Medicine, Vol. 14C, No. 2, June 1980, pp. 99-120.

with Jan L. de Vries, et al., A Health Development Model Application to Rural Java, The University of Michigan, School of Public Health, October 1979.

With Jan L. de Vries, et al., A Study of the Costs and Coverage of Low-Cost Integrative Health Services, American Public Health Association, July 9, 1979.

With Hillel I. Shuval and Robert L. Tilden, "The Effect of Sanitation Investments on Health Status : A Threshold-Saturation Theory" (accepted for publication in the Bulletin of the World Health Organization).

With Barbara H. Perry, "Correlates of Life Expectancy in Less Developed Countries" (accepted for publication Res. In Human Capital and Development, JAI Press, Inc.)

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 2. DPPP:CFW/DSR/COM
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E.O. 12958: N/A

SUBJECT: DR. ROBERT GROSSE AND EGYPT SOCIAL SECTOR
 ASSESSMENT

1. FOR FPC/HUMAN RESOURCES DR. ANN VAN DUSEN. FROM ELACKTON.

2. VISIT OF ECONOMISTS GROSSE AND MCLEARY WAS EXTREMELY USEFUL IN DEFINING THE AREA OF CONGRUENCE BETWEEN MISSION'S INTERESTS IN AN ANALYSIS OF RESOURCE FLOWS AGAINST POLI TARGETS AND THE PROFESSIONAL INTERESTS AND CAPABILITIES OF DR. GROSSE'S GROUP.

3. IN PRINCIPLE A WORKING ARRANGEMENT WAS AGREED UPON BETWEEN GROSSE AND THE MISSION. THE BASIC ELEMENTS OF THE AGREEMENT WERE AS FOLLOWS. GROSSE'S GROUP WOULD SUPPLY ONE PERSON, PROBABLY DR. MCLEARY, FOR SEVERAL MONTHS EARLY IN CY 1981 TO DEVELOP THE BASIC DATA SOURCES FOR THE RESOURCE STUDY. THIS WOULD BE DONE WITHIN THE FRAMEWORK OF HIS PRESENT GRANT WITH YOUR OFFICE. OVER THE COURSE OF THIS INITIAL DATA REVIEW PERIOD, DR. GROSSE AND STAFF WOULD DEVELOP A PLAN OF ACTION FOR ADDITIONAL RESEARCH, ANALYSIS AND MODELING WHICH WOULD BE PRESENTED TO THE MISSION FOR US TO CONSIDER FUNDING DIRECTLY AS A CONTRACT ADD-ON (ASSUMING YOUR OFFICE CONCURS). THIS POTENTIAL ADD-ON WOULD PROVIDE FOR ABOUT ONE YEAR'S WORK FOLLOWING ON THE INITIAL FEW MONTHS UNDER THE CURRENT GRANT.

4. BASIC SCOPES WOULD BE TO DEVELOP A MODEL AND ESTIMATE ITS COEFFICIENTS FOR THE TRANSLATION OF PROGRAM SPECIFICATIONS AND SCALES OF OPERATION INTO BUDGETARY REQUIREMENTS AND CHANGES IN BASIC SOCIAL INDICATORS (POLI AND ECONOMIC) FOR VARIOUS GROUPS OF THE EGYPTIAN POPULATION. THE KEY INDICATORS WOULD INCLUDE LITERACY AND NUMERACY BY AGE GROUP, FERTILITY RATE, INFANT AND CHILD MORTALITY. FOR EACH INDICATOR THE CONTRACTOR WOULD DESIGN A CLASSIFICATION SYSTEM FOR PUBLIC AND PRIVATE RESOURCES WHICH WOULD PERMIT ANALYSIS OF THE RELATIONSHIPS AMONG THE SPENDING FLOWS, THE INTERMEDIATE VARIABLES (SERVICES OR ACTIVITIES) AND THE DEPENDENT VARIABLES (POLI COMPONENTS). THE ANALYSIS WOULD PERMIT THE MODELING OF THESE RELATIONSHIPS AND THE ESTIMATION OF QUANTITATIVE COEFFICIENTS.

5. MISSION AND UNIV. MICHIGAN GROUP RECOGNIZE THE MAGNITUDE OF THE PROBLEMS WHICH CONFRONT THIS ENDEAVOR. ACCESS TO RELEVANT AND ACCURATE DATA IS PARAMOUNT. COPING WITH THE

UNCERTAINTIES INHERENT IN THE DATA AND THE UNCERTAINTIES IN THE RELATIONSHIPS AMONG THE VARIABLES IS ALSO A COMBINED PROBLEM. CHALLENGING, BUT NOT INSURMOUNTABLE, IS THE TASK OF DEALING ADEQUATELY WITH JOINT-PRODUCT AND JOINT-COST SITUATIONS.

6. RECOGNIZING ALL OF THESE RISKS, BOTH THE UNIV. MICHIGAN GROUP AND THE MISSION ARE PREPARED TO LAUNCH A TRIAL PHASE UNDER THE PRESENT GRANT WHICH WE WOULD PICK UP AND EXPAND IF THE TRIAL RESULTS ARE ENCOURAGING.

7. ACTION. REQUEST CONCURRENCE IN PRINCIPLE FROM VAN DUSEN OFFICE FOR PURSUING THIS LINE OF DEVELOPMENT. BELIEVE THAT IF AGREEABLE A VAN DUSEN VISIT DURING THE LATTER STAGES OF THE FIRST PHASE WOULD BE OF REAL VALUE TO THIS MISSION IN PLANNING THE MISSION-FUNDED EXPANSION OF THE ACTIVITY. FYI: OUR TIMING CONSIDERATIONS ARE KEYED TO TWO THRESHOLDS. FIRST, A NEED TO HAVE AN ADEQUATE BASE FOR DECIDING TO EXPAND THE STUDY BY MAY 1991 AND SECOND (IF WE EXPAND), A NEED FOR A GOOD INTERMEDIATE PRODUCT BY NOVEMBER 1991 TO SUPPORT THE CDS SUBMISSION IN WHICH MISSION INVESTMENT STRATEGY AGAINST POLI OBJECTIVES IS SET AS A CENTRAL ELEMENT ALONG WITH A FULL ARTICULATION OF MISSION INDUSTRIAL STRATEGY.

ATTENTION

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CURRICULUM VITA
GEORGE B. SIMMONS

TITLE:

Associate Professor of Population Planning and Lecturer in Economics,
Director, Program in Population Planning.
University Addresses:

Department of Health Planning and Administration, School of Public Health,
The University of Michigan, Ann Arbor, Michigan 48109, Tel. (313)-763-5568.

Department of Economics, The University of Michigan, Ann Arbor,
Michigan 48109.

PERSONAL:

EDUCATION:

Graduate Studies:

Ph.D. in Economics, University of California, Berkeley, 1969.

Fields of Concentration:

Economic Demography, Economic Development, Public Finance.

Dissertation:

"The Indian Investment in Family Planning," completed June, 1969.

Other Degrees:

B.A., Magna Cum Laude, Harvard University, 1961.

Certificat d'Etudes Politiques, L'Institute d'Etudes Politiques,
Paris, 1962.

Fellowships and Scholarships:

National Defense Foreign Language Fellowship - Hindi 2 years

Departmental Grant from Population Council

Fulbright Scholarship - India

POSITIONS HELD:

Associate Professor of Population Planning and Lecturer in Economics
(1974 to present)

Assistant Professor of Economics and Population Planning.
(1969 to 1974)

Acting Instructor, Department of Economics, University of California,
Berkeley. (1967 to 1969).

GRANTS RECEIVED:

Economic Demography Training Grant, 1970-1976, NIH.
Kanpur Research Project, 1971-1974, U.S. A.I.D.
Fertility in Baroda, India, 1971-1972, U.S. A.I.D.
The Family Planning System in Uttar Pradesh, India, 1974-1976, NIH.
Fertility and Mortality in Rural Uttar Pradesh, 1976-1978, NIH.

TEACHING AND RESEARCH EXPERIENCE PRIOR TO 1969:

RESEARCH:

Field Research in India, 1966-1967, with the guidance of Dr. S.N. Agarwala of the Institute of Economic Growth, Delhi, India.

1. A study of the effectiveness from the economic point of view of the Indian Family Planning Program.
2. A survey of 1,650 women using the IUD in the rural areas of Northern India.

TEACHING:

Acting Instructor, Department of Economics, University of California, Berkeley, 1967-1968.

Course Taught:

Economic Theory

Acting Instructor, Department of Economics and Department of Social Sciences, University of California, Berkeley, 1966-1969.

Courses Taught:

Economic Theory (intermediate micro and macro)
Economic Development
Society and Civilization of India

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PROFESSIONAL AFFILIATIONS:

American Economic Association, Econometrics Society, Population Association of America, International Union for the Scientific Study of Population.

PROFESSIONAL ACTIVITY SINCE 1969:

TEACHING:

Courses Taught:

Economics 202: Principles of Economics - Economic Growth, Environmental Problems, and Population Growth.

Economics 401: Price Theory.

Economics 466: The Economics of Population Growth (undergrad).

Economics 667: The Economics of Population Growth (grad).

Economics 867-868: Seminar in Economic Demography (every semester except two since coming to Michigan, with Ron Lee the past three years).

Health Dev. 951: Quantitative Methods of Family Planning Program Evaluation.

Population Planning 600: Introduction to Population Planning.

Population Planning 620: Population Policy (with Munson).

Population Planning 642: Evaluation and Decision Making in Population Planning.

Population Planning 800: Doctoral Seminar in Population Planning.

Population Planning 690A: Cost-Benefit Analysis and Family Planning

Population Planning 690B: Kanpur Seminar.

Other Teaching:

Guest Lectures in graduate and undergraduate Economic Development, Honors Seminar, South Asia Course, HD 650, HD 550, Medical School, etc.

Doctoral Dissertation Committees:

Richard Anker - Economics (Chairman - 1972)

Fred S. Arnold - Economics (1972)

John Clark - Geography (1974)

Gordon Davies - Economics (1972)

David Kleinman - Population Planning (1970)

John Herzog - Economics

Boone A. Turchi - Economics (1973)

Jose Ramon Perez - Economics (1973)

Pierre Pradervand - Population Planning

Shea Rutstein - Economics (1971)

Jack Goodman - Economics (Chairman - 1974)

Maurice MacDonald - Economics (1973)

Doctoral Dissertation Committees cont'd.

Marilyn Clark - Political Science (1976)
Alfredo Gutierrez - Economics (1973)
Rashid Faruqee - Economics (Chairman - 1974)
Michael Mertaugh - Economics (1975)
Frank Lad - Economics (1974)
Tom Hoopengardner - Economics (1974)
Art Gibbs - Economics (1974)
Jay Smith - Economics (Chairman - 1977)
Celeste Smucker - Economics (1975)
Prasanta Majumdar - Population Planning (1978)
Michael Koenig - Population Planning (Chairman)
Helge Brunborg - Economics
Andrea Long - Economics
Mark Browning - Economics

MAJOR ADMINISTRATIVE RESPONSIBILITIES:

Program Director, Economic Demography Program - 1969-1976.
Economic Demography Committee - 1970-1976.
Undergraduate Curriculum Committee - Department of Economics - 1970-1971.
Executive Committee, Department of Population Planning - 1970-1971, 1972-1973, 1973-1975.
University Overseas Population Interns - member of committee to supervise program - 1970-1973.
Publications Committee, Center for South & Southeast Asian Studies - 1970-present.
N.D.F.L. Committee, Center for South & Southeast Asian Studies - 1969-1970, 1970-1971.
School of Public Health, Ad Hoc Committee on Administration - 1973.
School of Public Health, Committee on Instruction - 1972-1973.
Economics, Graduate Curriculum Committee - 1972-1973.
Advisory Committee in the Search for a New Dean of the School of Public Health - 1973.
Department of Economics, Library Committee - 1973-1974.
Administratively responsible for Type I University Service Agreement Projects - 1973-1974.
School of Public Health, Executive Committee - 1974-1977.
Department of Population Planning, Doctoral Committee - 1974-present.
Department of Health Planning and Administration, Chairman, Research Committee
Acting Director, Economic Demography Program Jan-June 1978

SERVICES OUTSIDE OF THE UNIVERSITY

Editorial Consultant for Demography
NIH Consultant
ESCAP Consultant
UNFPA Consultant
Asian Development Institute Consultant

RESEARCH

Publications in journals with peer review:

- "Reflections on the Future of Family Planning," Economic and Political Weekly, September 1977, with B.D. Misra, Ruth Simmons, and Ali Ashraf.
- "People Versus Development: An Overview of the Economics of Population Growth," Preventive Medicine, Vol. 6, No. 1, March 1977.
- "Fertility and Socio-Economic Change: How Scientific Is the New Wisdom," Population and Development Review, forthcoming.
- "Patterns and Causes of Infant Mortality in Rural Uttar Pradesh," forthcoming in Journal of Tropical Pediatrics (with Celeste Smucker, B.D. Misra, and Prasanta Majumdar).
- "The Dilemma of Family Planning in a North Indian State," Studies in Family Planning, Vol. 7, No. 3, March 1976 (with B.D. Misra, Ruth Simmons, and Ali Ashraf).
- "Organizing for Government Intervention in Family Planning," World Politics, Vol. XXVII, No. 4, July 1975 (with Ruth Simmons, B.D. Misra, and Ali Ashraf).

Books written:

- Organization for Change: A Systems Analysis of Family Planning in Rural India, Submitted for publication (with Ruth Simmons, B.D. Misra, Ali Ashraf). August 1977.
- Measures of Efficiency for Family Planning Evaluation Or Input/Output Approaches to Evaluation, Monograph prepared for the Population Division of ESCAP, January 1978.
- The Indian Investment in Family Planning, The Population Council, New York, 1971.

Chapters of Books:

- "Public Expenditure Analysis and Population Control Programs," Population Growth and Economic Development in the Third World, Leon Tabah, ed., International Union for the Scientific Study of Population, Ordina Editions, 1976.
- "Economic and Demographic Characteristics of the Village Population of Kanpur and Etawan Districts, U.P., India," Abstract, IUSSF Papers, No. 6, 1977.

- "The Policy Implications of the Relationship Between Fertility and Socio-Economic Status," forthcoming in Population and Development, M.E. Khan, ed.
- "Systems Approach to Family Planning in Uttar Pradesh," Studies on Fertility in India, Monograph Series No. 7, R.S. Kurup, ed., Gandhigram, India, 1975 (with B.D. Misra, Ruth Simmons, and Ali Ashraf).
- "Economic Determinants, Consequences, and Policy Implications of Contraceptive Sterilization," Behavioral-Social Aspects of Contraceptive Behavior, S.H. Newman and Z.E. Klein, eds., (Lexington, Mass.: Lexington Books, D.C. Heath and Co., 1978), pp. 187-198.
- "The Economics of Voluntary Sterilization for the Parent and for the Nation," Advances in Voluntary Sterilization, Proceedings of the Second International Conference, Geneva, 1973. (Excerpta Medica, Amsterdam, 1974).

CONFERENCE PAPERS AND REVIEWS:

- "Choice of Technique: The IUD vs. Sterilization in India," paper presented at the 1969 Meeting of the Population Association of America.
- Comment on Julian Simon's paper, "Income, Childlessness, and Fertility America in the Census of 1960," at the 1970 Meeting of the Population Association of America.
- Desai, P.B., Size and Sex Composition of Population in India: 1901-1961, Journal of Asian Studies, Vol. 29, No. 4, August 1970. (Book review).
- Nitisastro, Widjojo, Population Trends in Indonesia, Journal of Asian Studies, December 1971. (Book review).
- "New Frontiers in the Economics of Fertility," (comments on five papers given at the PAA Meetings, April 1973).
- "A New Perspective in Family Planning Research: A Comprehensive Analysis of a Family Planning Program in India." Paper prepared for Session of Family Planning: Research, Programs, Activities. Annual Meeting, The Canadian Sociological Association, Kingston, Ontario, May 27-31, 1973. (with B.D. Misra, Ruth Simmons, and Ali Ashraf).
- "Determinants of Family Planning Performance at the Clinic Level in Uttar Pradesh," paper delivered to PAA meetings in Seattle, April, 1975, Department of Population Planning, Working Paper No. 13 (with Ruth Simmons, B.D. Misra, and Ali Ashraf).
- "Economic and Demographic Characteristics of the Village Population of Kanpur and Etawah Districts, U.P., India," paper delivered to IUSSF meeting in Mexico, 1975.
- Family Planning In Uttar Pradesh: Final Report of the Kanpur Project, May 1975, (with B.D. Misra, Ruth Simmons, and Ali Ashraf).

RESEARCH ACTIVITIES AND RESEARCH IN PROGRESS:

- 1.) An extension of previous work in the economics of family planning program evaluation. I hope to submit a research proposal to AID on this subject: soc

- 2.) A development and more detailed empirical application of the ideas contained in my forthcoming papers on the use of interventions to change infant mortality, women's status and income distribution as alternatives to family planning programs.
- 3.) Further work on infant and child mortality in India. One paper is forthcoming, a second is in draft, and the basic research has been done for two more.
- 4.) Two papers on the determinants of contraceptive use in Uttar Pradesh. One uses village level data and the other a combination of village level and individual data.
- 5.) Explorations of the economic consequences of family size.
- 6.) Further examination of the organizational correlates of family planning impact.

SUMMARY OF CURRICULUM VITAE

Fall 1980

Name: Teshome G. Wagaw, Ph.D.
 Professor of International and Comparative Education, and
 Afroamerican and African Studies, The University of Michigan.

Personal:
 Citizenship: Ethiopia, (U.S. Permanent Resident)
 Marital Status: Married (Three Children)

Education: University of Maryland, Ph.D., 1965, Educational Administration
 Andrews University, M.A., 1959

**Major Areas
 of Interest:** Structure and Organization of Schooling, Human Development, Social
 Development and Social Change; Cultural Concomitants of Learning
 Outcomes.

**Language
 Competencies:** Read and write French well, speaking ability good.
 Read and understand German .
 English my language of scholarship.
 Amharic is my native tongue.

**Professional
 Work
 Experiences:** Professor Education, The University of Michigan 1977.
 Acting Director, Center for Afroamerican and African Studies,
 March - September 1978.
 Visiting Professor, Michigan State University, in the College of
 Education, Urban Development, Human Ecology and African Studies,
 1974-1975.
 Associate Professor and Chairman, Department of Educational Psychology,
 Addis Ababa University, Ethiopia, 1969-1974.
 Dean of students, Addis Ababa University, 1967-1969.
 Counselor of Ethiopian University Service, 1966-1967.
 Assistant Professor of Education and Psychology, Howard University,
 Washington, D.C., 1965-1966.

Experiences:
(continued)

Instructor, University of Maryland, 1964-1965.

Five years as Teacher and Administrator in Primary and Secondary Schools of Ethiopia prior to 1954 departure for study abroad.

Regular
Courses
Taught:

Courses taught at the University of Maryland, Howard University, Addis Ababa University, Michigan State University and the University of Michigan include:

Educational Administration
Human Development
Human Learning
Personality Development
Educational Statistics
Philosophy of Education
Education in the Non-Western World
African Education
Education of the Minority Child
International and Comparative Education
Adult Literacy and Social Development in Developing Societies.

Administrative
Experience:

As Dean of the Addis Ababa University, I was instrumental in initiating and implementing a number of Immorative Instructional and Guidance Programs.

In 1969 when I took over the chairmanship of the Department of Educational Psychology of the University, it was young with only two full-time teaching faculty and without any type of record-keeping system. Since that time, the full-time faculty has grown to ten people plus two part-time faculty and two supportive personnel. The department now offers not only several courses to students of other departments as well as all students in the College of Education, but grants a B.Sc. degree in guidance and counseling. When I left it in September 1974, the department was rated as the strongest department in the faculty of Education, and one of the three strongest in the whole University in terms of teaching quality, preparation of relevant teaching materials, as well as commitment in and contributing to research programs by faculty.

Consultancy:

United Nations Economic Commission for Africa (UNECA)
Consultant on High-Level Manpower Development and Utilization in African Countries (1969-1970), the project involved extensive field

Consultancy:
(Continued) visits of East, West and North African Countries.
Ethiopian Education Sector Review Study of 1971-1972.
(Ethiopian Government)

Memberships
of Learned
Societies:

Phi Delta Kappa, U.S.A.
African Studies Association, U.S.A.
American Educational Research Association, U.S.A.
Society for International Development
American Association of Higher Education

Honors:

Recipient of German Academic Exchange Award, 1969.
Recipient of Haile Selassie I University and USAID Grant for
Development and Publication of Educational Development in
Ethiopia, 1970-1974.
Recipient of Ford Foundation Grant for a Study Tour of African
Systems of Higher Education, 1969.
Recipient of Ford Foundation Grant (through the Addis Ababa
University) for Field Study in Child-Rearing Practices in a
Rural African Society, 1972-1974.
Recipient of Israeli Government Study and Lecture Tour Award,
1969-1970.
Recipient of American Council on Education, Overseas Liaison
Committee, International Travel Grant, 1974-1975.
Recipient of Midwestern Universities Consortium for International
Activities Award, 1974-1975.
Fulbright-Hayes International Travel Award, 1974-1975.
The University of Michigan Rackham School of Graduate Studies Faculty
Fellowships 1978-1979, listed in Who is Who in African Studies.

Journal
Articles:

"A Follow-up Study of the 1961 Addis Ababa Education Conference of
African States," Dialogue, Vol. III, No. 2, July 1971.

"Teachers and Directors Speak Out on Education," Ethiopian Journal
of Education, Vol. IV, No. 2, June 1971.

"Education for National Integration," Education Sector Review,
August 1972.

"Education During the Facist Occupation," Ethiopian Journal of
Education, Vol. VII, No. 3, March 1974.

"The Importance of Early Years in Emotional Development," The 1973
Dag Hammarskjold Seminar on the Dilemma of Quality, Quantity and
Cost in African Child Care, Addis Ababa, May 5, 1973.

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Journal
Articles:
(Continued)

"Attitudes and Values Concerning Children Among the Menz in Rural Ethiopia", The Journal of Psychology, Vol. 94, November 1976.

"Youth Participation in Ethiopia's Rural Development", Rural Africana, Vol. 30, Spring 1976.

"Child Health and Care in Africa", (in press).

"Emerging Issues of Ethiopian Nationalities: Cohesion or Disintegration", (in press).

"Appraisal of Adult Literacy Program in Ethiopia", Journal of Reading, Vol. 21, No. 6, March 1978.*

Published
Abstracts of
Papers Read
at Professional
Meetings:

"The Relevancy of Psychology in the Education of Ethiopian Teachers," presented at the Wolliso Conference on June 1, 1970.

"Some Notes on the World of Work in Ethiopian Tradition," presented at the Ethiopian Historical Society Annual Conference, April 12, 1971.

"Multiplicity of Holydays in Ethiopia: Implications for Development," presented at the Interdisciplinary Seminars of Haile Selassie I University, March 20, 1971.

"The Need for the Establishment of a Counseling Guidance Center at Haile Selassie I University," January 8, 1968.

"Education for Liberation", Association of Africans meeting, Michigan State University, East Lansing, June 20, 1976.

"Fascist Racism and Educational Policy in Ethiopia, 1936-41", proceedings Ninth Annual conference, African Heritage Studies Association, April 21-24, 1977. Detroit, Michigan.

"Colonizing the African Mind." African Studies Association Newsletter, Vol. 9, No. 3 (June 1977).

"The Role of Adult Literacy in the Development of Africa." Proceedings of First Joint Annual meeting of Latin American and African Studies Association, November 2-5, 1977, Miami Beach, Florida.

* Unabridged version of this article was published in ERIC, Resources in Education. January 1978.

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Published
Abstracts of
Papers Read
at Professional
Meetings:

"Attitudes that Inhibit the Development of Special Education Programs in African Societies." Proceedings of the Fifty-Sixth Annual convention of the council for Exceptional Children, Kansas City, Kansas, May 2-5, 1978.

"Learning to Read Amharic and Its Functionality." Proceedings of the 1977 Annual Convention of International Reading Association, May 2-6, Miami Beach, Florida.

"The Influence of Family and Community on the Development of Exceptional Children in Africa." Proceedings of the World Congress on Future special Education, Stirling, Scotland, June 25 - July 1, 1978.

Presented a paper titled "Learning to Read Amharic and Its Functionality" at the International Reading Association Annual Conference, Miami, Beach, Florida.

"Education and Social Change in Africa: An Experience of Ethiopia" at Conference organized by the Research Committee, Sociology of Education, International Sociological Association, UNESCO Headquarters, Paris, August 7-9, 1980.

With Ali A. Mazrui, "Towards Decolonization Modernity: Education and Culture Conflict in Eastern Africa," in the conference organized by Institute for Educational Planning on "Educational and Training System Reforms Contributing to Industrial and Technological Development", October 27-29, 1980, Paris.

Publications--
Monographs:

An Evaluation Survey of University Level Manpower Development and Utilization in the United Arab Republic, United Nations Economic Commission for Africa, September 1970.

An Evaluation Survey of University Level Manpower Development and Utilization in Ethiopia, United Nations Economic Commission for Africa, October 1970.

Published
Books:

A-Pilot Field Study of Child Rearing Practices in Rural Ethiopia, Addis Ababa: Addis Ababa University Press, January 1974.

Educational Development in Ethiopia: Prospect and Retrospect, Ann Arbor: The University of Michigan, 1979.

Recent
Professional
Related
Activities:

Served as Chairman of the first joint National Annual Meeting of the African Studies Association and Latin American Studies Association held November 2 thru 5, 1977 in Houston, Texas. Topic of panel: "Education and Development in Africa and Latin America".

Served as Chairman of a panel on "Human Development from an African Perspective" at the Biannual Meeting of the Society for Research in Human Development, New Orleans, April 1977.

Elected member of the Logan School (Ann Arbor) PTA Committee on Goals

Read papers at the:

Ninth Annual Conference of African Heritage Studies Association, April 21-24, 1977, Detroit, Michigan.

African Studies Association 20th Annual Meeting (Two papers presented), November 2-5, 1977, Houston, Texas.

Fifty-Sixth Annual Convention of the Council for Exceptional Children, May 2-5, 1978.

World Congress on Future of Special Education, June 25-July 1, 1978, Stirling, Scotland.

Gave interview to the Voice of American on Literacy & Development in Africa, November 6, 1977.

Manuscripts
Completed--
Articles:

"Child Rearing in Menz: Birth and Infancy"

"Weaning Practices Among the Menz in Rural Ethiopia"

"Feeding Practices Among the Menz in Rural Ethiopia"

Teshome G. Wagaw, Mary Mansfield and Mitiku Asheher,
"The Relationship between Broken Home Background and Academic Achievement of High School Students".

Work in
Progress:

A monograph series on Human Development in Rural African Societies. Eventually this may be published in book form.

Adult Literacy and Social Development.

The role of Higher Education in Social Change: An African Perspective. A book length manuscript first draft completed.

Learning for Development in Africa: Crisis and Innovation, 1960-1980.

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STATUS OF COUNTRY FILES DEVELOPED IN HPA 601

<u>Country Name</u>	<u>Year of Primary Work</u>	<u>Types of Files Available</u>	<u>Description of Files</u>	<u>Number of Alternatives Developed</u>	<u>Notebook with Printout Available</u>	<u>Report Available</u>
Afghanistan	1979	Data/Program	Disease Profile		X	
Egypt	1978	Data/Program	Disease Profile Equal Cost Case	2		
Ethiopia	1979	Data	Infant Mortality Profile			X
Ghana	1978 1979 1980	Data/Program	Disease Profile Equal Cost Case	3	X	
Honduras	1978	Data/Program	Disease Profile		X	
Indonesia	1977 1978 1979	Data/Program	Disease Profile Equal Cost Case	48	X	X
Iran	1978	Data/Program	Disease Profile	5	X	
Kenya	1979	Data	Infant Mortality Profile			X
Korea	1979	Data/Program	Disease Profile Family Planning Programs			X
Libya	1979	Data/Program	Disease Profile Equal Cost Case	3		
Nepal	1978 1979	Data/Program	Disease Profile Equal Cost Case	4	X	X
Nigeria	1978	Data/Program	Disease Profile	3	X	
Pakistan	1978	Data/Program	Disease Profile Equal Cost Case	6	X	X
Taiwan	1979	Data	Infant Mortality Profile			X
Tanzania	1980	Data	Disease Profile			X
Thailand	1979	Data/Program/Plot	Disease Profile	4	X	
Uganda	1978	Data/Program	Disease Profile	3		