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INTEGRATED POPULATION AND DEVELOPMENT PLANNING - II [INPLAN]

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Submitted to:

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## I. EXECUTIVE SUMMARY

The Integrated Population and Development Planning II (INPLAN) project provides assistance designed to strengthen the technical capabilities of planning institutions in developing countries for evaluating population-development relationships and for incorporating population considerations into development planning work. This is accomplished through training, technical assistance, and research support activities.

During this, INPLAN's first, reporting period considerable development work was carried out within host countries and on model development, software development, and hardware and software evaluation. In addition, significant technical assistance was carried out in three countries, and the INPLAN three month course on Applied Population and Development Planning was developed and begun.

Over the past six months, project development work took place in 15 countries each of which was visited at least once by INPLAN staff. These visits resulted in requests for assistance from host country institutions, which were supported by the Missions, in every case. In three countries, Indonesia, Morocco, and Thailand, significant technical assistance was provided.

INPLAN developed and began carrying out the first of three planned courses on Applied Population and Development Planning. Coursework began on March 18. This intensive course includes ten weeks of instruction at RTI, followed by a study tour to Washington, DC and New York. It provides planners with both conceptual frameworks and practical tools for integrating population factors into development planning. Microcomputer applications, including demographic-economic modeling, are emphasized. The twelve participants are from ten countries.

Significant modeling development activity took place during the past six months. The Multiregional Population Projection model was successfully implemented on the IBM/PC and the IBM/AT microcomputers in both a five year and a single year version. A spreadsheet version of a cost-benefit model of family planning programs was developed in connection with technical assistance to the Indonesia AID Mission. In connection with technical assistance activities in Morocco, an initial version of a microsimulation model of population, education, and the labor force was developed. Work was also carried out on the RTI population-education-labor force model and on a food/agriculture model.

In addition to purchasing, testing and evaluating microcomputer hardware and software for transfer to host country institutions, significant progress was made during this reporting period in programming a shell for modeling applications. It will handle the input and output and greatly facilitate both future model development and use by host country planners.

## II. PROJECT STAFF

During this first reporting period of the new INPLAN project, most of the technical, program and support staff who devoted substantial proportions of their time to the project had also been heavily involved in the predecessor project, IPDP. In addition, the president of the major subcontractor to INPLAN is the former director of the IPDP project. Thus a smooth transition from IPDP to INPLAN activities was ensured.

RTI program and technical staff members who spent half or more of their time working on the INPLAN project during this reporting period are listed below.

James E. Kocher, PhD, Director  
Ellen Shapiro Fried, PhD, Deputy Director  
Mary C. Scott, Project Manager  
R. Scott Moreland, PhD, Senior Economist  
Dennis N.W. Chao, PhD, Senior Population Economist  
Oleh Wolowyna, PhD, Senior Demographer  
Gordon Cressman, MS, Microcomputer Specialist and Programmer  
Luis Crouch, PhD, Economist  
Diane Napolitano, Analyst  
Hazel Ryon, Analyst

The following additional RTI technical staff members made significant contributions to specific project activities during the reporting period, while working less than half-time on the project.

Gustavo Arcia, PhD, Economist  
Beth Barnwell, PhD, Software Design Specialist  
Randy Lucas, MS, Programmer  
Larry McMaster, Microcomputer Specialist  
Kirsten Olson, MS, Economist  
Susan Settergren, MS, Analyst and Statistician

Through a subcontract with The Knowles Corporation, Dr. James C. Knowles spent approximately four months working on INPLAN project activities during the reporting period.

Liz Lundy, Lydia Lyon, Sheila Walls and Jacki Epperson were the principal RTI support staff who worked on the project during this period.

## III. COUNTRY-BASED ACTIVITIES

Most of the country-based activity carried out during this reporting period was project development-related. Project development work took place in 15 countries each of which was

visited at least once by technical staff over the past six months. In addition, significant technical assistance was provided in three countries: Indonesia, Morocco, and Thailand. Six of the countries visited had not been major IPDP assistance countries, although some had had participants in IPDP training activities. In the other nine countries, past IPDP work provided a framework for developing a plan for assistance with Missions and host country institutions. This section describes the country-based activities carried out during this reporting period and expected future activities.

## A. AFRICA

### i. MALI

Considerable technical assistance and microcomputer equipment provision to the Institute of the Sahel took place under the IPDP project. In February, 1985, as a result of a request received previously under IPDP, RIT/INPLAN Senior Economist, Dr. R. Scott Moreland visited Mali to determine an appropriate set of assistance activities under INPLAN.

A program of activities, which will be coordinated with scheduled DDD activities at the Institute, was identified. This included two in-country seminars on population and development planning techniques for planners and demographers from the Sahel countries. In addition, technical assistance to the Institute in the development of a socio-demographic data base is under consideration.

## 2. NIGERIA

The IPDP project carried out substantial assistance work for Nigeria. The microcomputer training and technical assistance activity forms the basis for work to be carried out under INPLAN. In August and September 1984, the IPDP project provided nine microcomputer systems to eight Federal Government of Nigeria Ministries or equivalent agencies. IPDP staff also provided a formal two-week training program for 26 Nigerian technical staff followed by a week of informal and highly individualized training.

In late January and early February 1985, INPLAN Director Kocher and Economist Moreland visited Nigeria to review the use of the microcomputers to date and to discuss and develop possible INPLAN assistance activities. This is a particularly opportune time for INPLAN to provide further assistance to federal planning agencies in Nigeria. In the second half of 1985 the Ministry of National

Planning (MONP), in collaboration with planning departments of other ministries, will write the Nigerian Fifth Five Year Plan, 1986-1990.

Of the nine computer systems provided by IPDP, seven were found to be used intensively and productively, particularly so in the important Federal Ministries of National Planning, Agriculture, and Health. Discussions with the Mission and with planning department directors and technical staff trained in the 1984 course produced a consensus on the desirability of INPLAN assistance during the next several months in the development and application of microcomputer-based planning models, in the key sectors, in addition to population, of health, agriculture, education and possibly macroeconomics. The results of the modeling work would be used in drafting the Five Year Plan.

As part of this effort, one Nigerian planner is attending the INPLAN three month course in applied population and development planning. Three other Nigerian planners will come to RTI in April and early May to participate in parts of the modeling sections of the course and to plan with INPLAN modellers the work that will be carried out. Two technical assistance trips of INPLAN staff to Lagos are anticipated in connection with this activity.

In addition to these activities, additional microcomputer hardware, spare parts, and supplies were dispatched to the Ministries of Health, Agriculture and Planning. This augments the equipment which had previously been supplied under IPDP.

### 3. SENEGAL

In late January and early February 1985, Dr. Knowles, INPLAN subcontractor and president of The Knowles Corporation, made a project development trip to Senegal. Through IPDP activities, institutional and personal ties had been developed with Mr. Abdelkader Faye, Executive Secretary of the National Population Commission (CONAPO), who has overall responsibility for integrating population into development planning and who has collaborated with several AID population policy projects in the past. During the past year, Professor Robin Barlow of the University of Michigan and the RAPID-II project had worked with Mr. Faye and others to develop a RAPID-II modeling project with the Senegalese Government. The proposed set of activities would involve a multi-sectoral modeling exercise to be undertaken by Senegalese working in several different Ministries (including Plan, Economy and Finance, Employment, Education, Health, and Rural Development). Mr. Faye recognized that considerable training, particularly in the use of microcomputers, would have to be provided in order for the work to be successfully carried

out by the Senegalese. Therefore, he proposed that two months of US training be provided to staff of the participating Ministries at the outset of the proposed training. In addition, at least one microcomputer would need to be provided to each of the participating Ministries. It was the purpose of Knowles' trip, therefore to develop a set of activities complementary to those of RAPID-II.

It is anticipated that INPLAN will provide six to eight weeks of training in applied population and development planning to about eight Senegalese planners who would come to RTI for the training. The training would be similar to that being provided at the three month course on applied population and development planning at this time. It would include considerable instruction in the use of microcomputer hardware and software in population-development work, including sectoral modeling. This training is expected to take place in August and September and to be followed by shipment and installation of five microcomputers for the participating ministries. It is hoped that Professor Barlow will be able to take an active part in the training exercise.

#### 4. ZAIRE

Zairian attendance at the 1984 IPDP Seminar on Population and Development Planning held in Washington, DC sparked considerable enthusiasm for INPLAN assistance to GOZ. During a project development trip by Dr. Moreland in February 1985, a program of technical assistance and training for the Ministry of Plan was identified. This would be coordinated with RAPID-II project activities in Zaire, which are scheduled to end in the summer of 1985. A series of three in-country seminars on population and development planning techniques has been requested. These would begin with the transfer of up to four microcomputer systems and a seminar on the Use of Microcomputers for Population and Development Planning. The final two seminars would be on sectoral planning, one in the areas of education, manpower, and employment and the second in health, nutrition and family planning.

#### B. ASIA

##### 1. INDIA

Although Indian officials had attended IPDP seminars on Population and Development Planning, no in-country work was carried out under that project. In the Fall of 1984, AID/New Delhi requested both INPLAN and RAPID-II assistance in India, with funds to be provided through a buy-in from the Mission, on condition that the AID/Washington Policy Development Division

select a single contractor to be responsible for both INPLAN and RAPID-II work in India. It was decided by AID/W that INPLAN was the appropriate project to assume that responsibility. At the request of the Mission, INPLAN Director Kocher visited India in February 1985, to discuss with Mission and Government of India (GOI) officials and others possible INPLAN and RAPID-II activities.

With the assistance of AID/New Delhi Population Advisor Dr. Jack Kantner and Population Chief Michael Jordan, a set of technical assistance and training activities was planned and informally agreed to by GOI officials, the proposed Indian collaborating organizations, AID/New Delhi and Kocher. The activities would be known within India as the Population Simulation Project (PSP). Phase I of PSP is planned to consist mainly of the development and application of RAPID-II models for two Indian states (Maharashtra and Gujarat). Phase I is expected to commence in about mid-1985 and to continue until early 1986. Phase II would consist of the development and application of health and family planning models in Maharashtra and Gujarat, and the application of a family planning program cost-benefit model at the National and/or State levels. Phase II would commence during the second half of 1985, and work would continue throughout 1986. All work would be the responsibility of, and undertaken by, the INPLAN project, with assistance as appropriate from RAPID-II staff and others, through subcontracting or consultancy arrangements with the INPLAN project.

In support of this work, a total of five to seven microcomputers would be transferred to the five Indian agencies which are expected to collaborate fully in this work. Training in use of the microcomputers for a wide range of appropriate applications would be provided to staff of these agencies at various times during the implementation of the work. The five agencies are the Evaluation and Policy Units of the Ministry of Health and Family Welfare; the Department of Demography and Statistics of the National Institute of Health and Family Welfare; the International Institute of Population Studies, Bombay; and the Health Secretariats of the Governments of Maharashtra and Gujarat.

Once formal approval of this proposed package of activities is received from GOI, a project visit will be undertaken by two or three people to begin development of the Phase I models and detailed planning for the Phase II work.

In addition to the proposed activities described above, Mr. P.N. Kapoor and Mr. A.K. Vishandass, both technical staff members of the Ministry of Health and Family Welfare, are participating in the Spring 1985 INPLAN three-month course in Applied Population and Development Planning.

## 2. INDONESIA

During this reporting period, INPLAN/RTI Economist Dr. Dennis N.W. Chao visited Indonesia twice and INPLAN Director Kocher visited once. Chao's first project development trip took place in November, 1984. During this trip, preliminary identification of appropriate host country collaborating institutions and planning of assistance activities took place. The National Family Planning Coordinating Board (BKKBN) and the Ministry of Population and Environment (MOPE) were identified as the two government organizations which are most appropriate for INPLAN to work with at this time. MOPE has an urgent need to build its technical capabilities to perform its newly assigned role as population policymaker and population programs coordinator. Also during this visit, the Mission requested that Chao return to Jakarta for two weeks in early 1985 to assist the Mission in preparing the government expenditure impact section of a paper that examines the impacts of the Indonesian family planning program during the last fifteen years.

In response to the request for technical assistance to the Mission, RTI/INPLAN prepared a program, using a commercial spreadsheet package, which allows analysis of the financial impact of the Indonesian family planning program on GOI education and health sector objectives. During his second trip to Jakarta, in February, 1985, Chao continued work on the family planning program impact analysis. Preliminary results indicated that family planning program expenditures incurred during the past decade or so are now resulting in substantial, and rapidly increasing, savings to the GOI in education and health sector expenditures. Revisions and a written report are currently being completed at RTI.

Since INPLAN Director Kocher was visiting other Asian countries during February 1985 concerning INPLAN activities, he stopped briefly in Jakarta to join Chao in further discussions about possible INPLAN assistance to Indonesia. A number of appropriate activities were identified, and tentative commitments were made for two activities. It was tentatively agreed that INPLAN staff would conduct a two-week microcomputer applications training course in the Fall of 1985, to be hosted by and jointly organized with BKKBN. INPLAN was also requested to, and hopes to be able to, work with the GOI Ministry of Education in the development of an education sector planning model. Chao will work with GOI officials and the Mission on his return in June to develop these proposed activities further and to plan additional INPLAN assistance. The Mission has provided partial support for the technical assistance activity, and it is anticipated that some cost sharing will help to fund the other proposed activities.

### 3. SRI LANKA

The principal objective of IPDP activity in Sri Lanka had been to support an assessment of the cost-effectiveness of family planning program efforts conducted by the Population Division of the Ministry of Plan Implementation (MOPI). As the project neared completion, officials of MOPI indicated that the project should be expanded to include a cost-benefit study of the family planning program. IPDP prepared a proposal which had the strong support of both MOPI and the Mission; however, GOSL clearance could not be obtained in time to carry out the work prior to the expiration of the IPDP contract. Nevertheless, interest in carrying out the work remained high.

The purposes of the trip of Dr. Chao in November, 1984, to Colombo were to participate in a symposium on microcomputer applications in developing countries sponsored by the National Academy of Sciences, USA, and the Computer and Information Technology Council of Sri Lanka and to conduct INPLAN project development work. The Mission and MOPI both indicated a continuing strong interest in the package of activities proposed under IPDP. Building on past work, a microcomputer-based model would be developed for Sri Lanka to evaluate the cost-effectiveness and the cost-benefit of the national Family Planning Program. In conjunction with this modeling effort, a local research team would be supported to study the relative impacts of socio-economic development and the family planning program on Sri Lanka's fertility. In addition, an in-country training seminar on integrating population into development planning would be held. Although there were discussions concerning the Government's absorbing some of the costs with UN funding, to date there has been no indication that this is forthcoming and alternative funding sources are being explored.

Also during this reporting period, Mr. Lionel of MOPI is attending the INPLAN three month course on Applied Population and Development Planning at RTI.

### 4. THAILAND

Under the IPDP project, RTI provided technical assistance to Thailand by preparing a microcomputer-based benefit-cost analysis of the Thai Family Planning Program, which was instrumental in strengthening the Royal Thai Government (RTG) commitment to family planning program efforts, and by building local capabilities to carry out such work more independently in the future through technical assistance in microcomputer assisted analysis and demographic-economic modeling to members of the faculty of Chulalongkorn University.

In November 1984, Dr. Chao made a project development trip to Bangkok. The appropriateness and desirability of INPLAN activities in Thailand were reconfirmed by the Mission and the Royal Thai Government. The Mission requested that INPLAN provide technical assistance to a group of Thai university professors who are preparing the section on the social and economic consequences of population factors for the Population Policy Background Paper for the Sixth Five Year Plan. Other aspects of the Population Policy Background Paper work were to be carried out by other Thai institutions, and, it was expected that the eventual consolidation of the parts would be carried out with the assistance of the World Bank which had initiated the entire package. For the longer term, the National Economic and Social Development Board (NESDB) and, perhaps, the Ministry of Public Health were identified as the most appropriate candidates for INPLAN continuing assistance. The Mission, the Asia Bureau, AID/Washington, and INPLAN concur that NESDB in particular has substantial need for capability building assistance of the kind INPLAN is designed to provide.

Because of the expected direct impact on Thai national planning of the Population Policy Background Paper, AID/Washington and INPLAN agreed to provide the necessary technical assistance on the research studies. Assistance would be provided in-country through an initial visit of a team of INPLAN experts followed by long-distance assistance and an interim visit of one person in April. One or two INPLAN technical staff would return to Bangkok in July to attend the seminar at which the results would be presented and plans made for final revisions of the papers.

Therefore, in February 1985, INPLAN sent a four person team, Drs. Chao, Crouch, Fried and Kocher, to Bangkok for periods of time ranging from one to two weeks. Through discussions at a three day seminar attended by many of the institutions involved in the Background Paper and small group meetings with the investigators, the objectives and scopes of work for the four research studies were clearly defined and narrowed, resulting in tasks which can be expected to be completed during the short time remaining until the information is needed for the Plan.

Meetings with NESDB again stressed their considerable need for the type of capability building assistance that could be provided through the INPLAN project. In particular, there is need for microcomputer equipment and training as well as assistance in model preparation. As a first step in this program of assistance, one member of the Population and Manpower Division of NESDB is attending the INPLAN three month course on applied population and development planning.

## C. LATIN AMERICAN AND CARIBBEAN

### 1. BOLIVIA

In January and February, 1985, RTI/INPLAN Demographer Dr. Oleh Wolowyna visited Bolivia to discuss with the Mission and Bolivian institutions assistance available under INPLAN and to develop a tentative assistance agenda. Under the IPDP project, Dr. Wolowyna, as a subcontractor, carried out development work on the multiregional population projection model (see Section V on Model Development) using Bolivia as the pilot country for both a mini and micro-computer version of the package. This was done under agreement with the Population Policy Project of the Ministry of Planning and Coordination and the National Statistical Institute, both of which received the packages and training in their use. On September 1, 1984, the Government of Bolivia created the National Population Council (CONAPO) within the Ministry of Planning and Coordination, thus institutionalizing the Population Policy Project, which has been supported by UNFPA since 1978.

During this project development trip, CONAPO was identified as the most appropriate organization to receive INPLAN support. The Mission strongly supports their activities and is eager to upgrade their technical capabilities, since CONAPO is responsible for formulating and coordinating population policy and planning at the national and regional levels.

Both a short-range and a longer range plan of activities was discussed with CONAPO and the Mission. The short-range plan includes: participation of one CONAPO professional, Arq. Maria Teresa Aguirre, in the INPLAN three month course on applied population and development planning; provision of microcomputer hardware and software to upgrade CONAPO's Apple and an IBM microcomputer system; a two-week in-country training seminar on microcomputer use and use of the Multiregional Population Projection (MPP) model for the microcomputer; and application of the MPP model to the health and nutrition sectors. As part of the short-term plan, the National Statistics Institute has requested training in regional population projection methodology and the MPP model and program, as well as technical assistance in the production of regional population projections.

Activities requested for the longer term include application of the MPP model to evaluate and quantify CONAPO's plans for population redistribution policies; elaboration of a demographic evaluation methodology of a colonization program for the Amazon River Basin Commission; development of a planning model for the Ministry of Education; possible development of a labor force projection model for the Economic Policy Unit; and possible activities with the Regional Development Corporation of Santa Cruz, the largest and richest Departamento of Bolivia. The

realization of these activities is subject to the possibility of partial funding from the Mission and other sources.

## 2. DOMINICAN REPUBLIC

During this reporting period, Dr. Luis Crouch, INPLAN/RTI economist, made two project development trips to the Dominican Republic, a country which was not included in IPDP. The first trip, in January, 1985, served to identify Dominican institutions which are potential collaborating institutions. Crouch visited the Ministry of Planning (ONAPLAN), Public Health (SESPAS), the National Commission on the Family and Population (CONAPOFA), the Institute for Population and Development Studies (IEPD), and the National Agricultural Council (CNA), and discussed the potential for INPLAN work at these institutions with Mission personnel.

Following correspondence concerning INPLAN assistance, Crouch made a second visit to the Dominican Republic in March, 1985. This trip focused on CONAPOFA and IEPD. After discussions with Mission personnel and meetings with IEPD and PROFAMILIA (IEPD's parent organization), it was decided that INPLAN could most productively work with IEPD, and that the next step would be the preparation of a work plan. IEPD is currently in the process of preparing a three-year activity proposal to AID, so the work plan will attempt to coordinate with this proposal. Development of the work plan is proceeding in consultation with IEPD. Activities being considered for the Dominican Republic include training of IEPD personnel both in the US (either at the INPLAN course on applied population and development planning or the University of Michigan-ILO semester long course) and in the Dominican Republic; technical assistance in the modeling area; and research support.

## 3. ECUADOR

Although no INPLAN-funded project development work has taken place to date in Ecuador, while Crouch was there under an RTI International Labor Office/Interamerican Development Bank project, discussions were held with personnel at the Planning Ministry (CONADE) and with AID/Quito about the potential for INPLAN work. The possibility of working with CONADE on an AID-funded population project is an extremely delicate matter, and yet could be very important. For this reason the subject has been approached carefully. The ideal situation would be if INPLAN could follow-up on the ILO/IDB work. Therefore, further project development work in Ecuador will have to await the end of the ILO/IDB project later in the year 1985.

#### 4. MEXICO

The first activity of IPDP or INPLAN in Mexico was the project development trip made by Dr. Wolowyna in February, 1985. Following a number of meetings and in collaboration with the Mission, it was determined that the National Population Council (CONAPO) and the Institute of Social Security (IMSS) were the two government organizations which could most appropriately receive INPLAN assistance in the near future. Both of these institutions expressed great interest in INPLAN activities.

CONAPO suggested an outline of three closely related activities to be carried out over the next two and a half years: development of age-sex population projections for each of the 32 Estados, using the Multiregional Population Projection (MPP) model; application of the results obtained to estimate future needs in the education, health and labor force sectors; and diffusion of the MPP model to population councils in selected Estados. IMSS is interested in two interrelated sets of assistance activities from INPLAN. The first is the production of rural-urban-metropolitan population projections using the MPP model. The second would be an elaboration of the fertility rates in the previous projection by user vs. nonusers of contraceptive methods. The focus would be on estimating the effect on overall, as well as rural and urban, fertility of different paths of urban-to-rural diffusion of family planning activities. Both institutions are preparing detailed proposals for these activities and are also interested in training activities for their personnel. The next anticipated activity to be carried out in Mexico is a two-week in-country training seminar on the use of the MPP model, to be held in June, 1985.

The following institutions expressed interest in other INPLAN models: Secretariat of Health, Research and Development Division, education and health sector models; Secretariat of Health, Evaluation of Family Planning Office, family planning cost-benefit model; and Secretariat for Urban Development and Ecology, urbanization and housing models.

#### D. NEAR EAST AND NORTH AFRICA

##### 1. EGYPT

The IPDP project supported research oriented efforts to demonstrate to Egyptian planners the importance of population-development relationships. This set of activities culminated in a two-day seminar for high level planners held in Alexandria, Egypt in June 1983. There had been no IPDP/INPLAN involvement in Egypt since that time. Meanwhile, the effectiveness of the National Population and Family Planning Board (NPFPPB) was visibly

deteriorating. In an effort to rejuvenate Egypt's population and family planning program, in mid-January 1985, by Presidential Decree, a National Population Council was established and the NPPFB was abolished.

In September 1984, Adrienne Allison of the Policy Development Division visited Egypt, and upon her return to Washington she encouraged a brief exploratory visit to Cairo by a senior INPLAN staff member. Therefore, in conjunction with other travel, in January 1985, INPLAN Director Kocher visited Egypt to initiate discussions with AID/Cairo and Egyptian officials concerning possible INPLAN assistance to Egypt, and to identify an appropriate Egyptian planner to participate in the INPLAN three-month course on applied population and development planning. The Mission expressed strong interest in INPLAN assistance in Egypt, provided that appropriate collaborating arrangements could be developed with one or more Egyptian institutions. They encouraged Kocher to hold discussions with officials of the Egyptian Institute of National Planning (INP).

Kocher concluded that INP is an appropriate collaborating agency for INPLAN activities in Egypt. The initial activity is the participation of Dr. Lotfalla Imam Saleh, a senior health economist at INP, in the Spring 1985 INPLAN three-month course. It is anticipated that following completion of this course, INPLAN will provide a complete IBM/AT microcomputer system to INP, using funds provided to the INPLAN project through a buy-in from the AID/Cairo population bilateral. Follow-up INPLAN project development in Egypt is expected to take place in the second half of 1985. This work may focus on the application of a health sector planning model and/or a family planning program cost-benefit analysis model, in collaboration with Dr. Lotfalla and others, including possibly staff of the recently-created Egyptian National Population Council.

## 2. MOROCCO

During the last year of the IPDP project substantial technical assistance was provided by the project to the Ministry of Plan. IPDP assistance to Plan included the installation of two microcomputers, training of Plan staff in the use of the microcomputers, and holding a three-day internal seminar at Plan on population and sectoral planning in Morocco. During the seminar, it became clear that some formal population and development modeling work was much needed. Therefore a follow-on project was developed which provides for assistance to Plan in the area of population and development modeling intended to feed into the preparation of Morocco's next Three Year Development Plan and to form the basis of a national seminar to be held in June 1985; installation of additional microcomputer hardware and software; and additional training in population and development

planning. As was the case with the work carried out under IPDP, the Mission will fund most of the work.

In February, Dr. James C. Knowles, President of The Knowles Corporation, a subcontractor to the INPLAN project, made a three week technical assistance and planning visit to Rabat. Although this was the first trip to Morocco to be made under INPLAN, project activities had already been initiated from the US. In early December, a third microcomputer (an IBM/PC) was installed in Plan by Mr. Larry McMaster, an RTI computer specialist who was in Morocco in connection with another project. During this trip, Knowles and his principal collaborator, Mr. Ahmed Benrida, Chief of the Human Resources Division of Plan, planned the remainder of activities to occur prior to the June Seminar. The priority ranking of models to be developed was determined to be: first, modeling education and employment; second, modeling the relationship between reduction in fertility and the levels of contraceptive prevalence which they imply; and third, projecting food requirements in relation to the effective demand for food among different socio-economic groups.

In addition to discussions with Plan and the Mission concerning INPLAN's calendar of activities and the scope of the modeling work, Knowles carried out work on the model itself during his stay. Working closely with Mr. Benrida, he developed an initial version of a employment projection module to complement the education projection module he had worked on in the US. He was also able to evaluate and gather a great deal of the data required by the model. In addition, he assisted the Mission in its procurement of 14 microcomputers for the Statistics Directorate and provided training and technical assistance to Plan staff in their use of the three microcomputers previously installed by the IPDP and INPLAN projects.

Additional technical assistance trips are planned for April and May, with model development taking place during the trips and in the interims. The seminar at which results will be presented is scheduled for June 1985.

### 3. TUNISIA

Under the IPDP project a number of activities were carried out with the Ministry of Plan (MOP). These included supporting a staff member at the semester long course on population and development held at the University of Michigan; development of a microcomputer based Regional Human Resources Planning Model and training in its use; and provision of microcomputer hardware and software.

Activity in Tunisia during this reporting period consisted primarily of project development work during a visit to Tunisia by Dr. Moreland in January 1985. In collaboration with the Mission and host country institutions, a number of follow-on tasks to the IPDP work in Tunisia were identified for possible inclusion as an INPLAN component of the anticipated Tunisia population bilateral project. The activities identified with MOP include technical assistance and training in the preparation of regional population projections for the up-coming Five Year Plan; extension of the IPDP Human Resources Model; and development of a long-term Multisector Economic-Demographic Model. A Tunisian planner, Mr. Mohamed Skouri, our collaborator under IPDP, is scheduled to spend three weeks at RTI in April learning the RTI/INPLAN Multiregional Population Projection model. As part of this activity, supported by central funds, MOP microcomputer equipment will be enhanced to allow transfer of the MPP model to the Ministry.

Within the Ministry of the Family and Promotion of Women, possible activities include technical assistance in the design and planning for a proposed Institute for Population Research, and technical assistance in the implementation of a database on women and the family. Proposed activities with the National Population Office include a family planning target model application and a cost-benefit of family planning study.

#### IV. NON-COUNTRY-BASED TRAINING

During this reporting period, INPLAN developed and began carrying out the first of three planned courses on Applied Population and Development Planning to be held at the RTI campus. Coursework began on March 18, 1985, and is scheduled to be completed on May 24. This intensive course is being taught in English and includes ten weeks of instruction at RTI, followed by a one week study tour to Washington, DC and New York. (Later courses are anticipated in French and Spanish.) The morning lecture-discussions cover development economics, population dynamics and measurement, population-development relationships and sectoral and multisectoral demographic-economic modeling. Afternoons are spent in instruction and practice with population-development related microcomputer applications, including demographic-economic modeling. Participants have extensive experience with the microcomputers since there is one machine for every two students.

There are twelve participants from 10 countries attending the course. Countries represented are Kenya, Malawi, Nigeria and Somalia (2) in Africa; India (2), Sri Lanka and Thailand in Asia; Egypt and Turkey in the Near East; and Bolivia in Latin America.

(See Appendix Table 1 for a list of participants.) Participants are from their planning ministries or have planning responsibilities in other ministries, such as health. Each of them will have developed strong population-development related skills, both conceptual and practical. In cases in which equipment or software necessary to apply these skills is lacking in the home institution, INPLAN will provide them as part of its ongoing relationship with these institutions. In some cases existing hardware and software will be enhanced; in some cases entire systems will be provided; and, in still other cases, only software need be provided through INPLAN.

Instruction is being provided primarily by INPLAN staff, with some lectures being presented by Dr. Knowles and by staff of other AID contractors including RAPID-II, DDD, and the Population Council.

## V. MODEL DEVELOPMENT

Significant modeling development activity took place during this reporting period. The Multiregional Population Projection (MPP) model, which had previously been developed and applied to Bolivia under IPDP (see Section III, Bolivia), was successfully implemented on the IBM/PC and the IBM/AT microcomputers in both a five year and a single year version. The first anticipated application is in Tunisia, and requests for applications have been received from a number of other countries including Thailand and Mexico.

In the areas of health, education, and agriculture, research on alternative approaches took place in anticipation of applications in various countries, most immediately Nigeria. Existing models which might be used as the basis for INPLAN models were identified.

Work began during this reporting period on transferring the population-education-labor force model developed by RTI for the ILO/IDB project in Ecuador (see Section III, Ecuador) from the p-system to the DOS/Turbo Pascal operating system. To date, the work has gone smoothly. The model program runs about twice as fast under Turbo Pascal, and compilation is at least ten times faster. After the existing model is transferred, changes in substance may be made.

Sketches of a food/agriculture model were developed in relation to Dr. Crouch's February trip to Thailand and for a non-INPLAN RTI course recently given by Crouch and Ms. Olson in the Dominican Republic. In connection with further activity in

Thailand and the Nigeria modeling activity, Crouch, Arcia, and Olson will begin formal development of a model which will make detailed forecasts of food and derived inputs required by growing populations. In applying this model, both a high-level language approach and a spreadsheet approach will be used. This will give INPLAN the ability to test, explicitly for the first time, spreadsheet vs. high-level language implementation of a model with regard to ease of development, power, flexibility, and ease of learning and use.

A spreadsheet version of a cost-benefit model of family planning programs was developed in connection with technical assistance to the Indonesia AID Mission (see Section III, Indonesia). This model, which was developed with LOTUS 1-2-3, is expected to be applicable in other environments where relatively fast and simple applications of the cost-benefit methodology are desired. The model also contains a cohort component population projection which will be useful for training purposes.

Also during this reporting period, in connection with technical assistance activities in Morocco, an initial version of a micro-simulation model of population, education, and the labor force was developed (see Section III, Morocco). The model uses the Monte Carlo technique to simulate the evolution of a population-education-labor force system. The main advantages of this approach over the more usual "macro" approach to modeling are that it allows for the inclusion of much greater detail; is relatively easy to program; and, may have considerable intuitive appeal.

Progress on development of the software shell which can be used with nearly all of the INPLAN models being developed is discussed in the following section.

## VI. MICROCOMPUTER DEVELOPMENT

### A. MODELLING PROGRAM SHELL

A major INPLAN computer programming activity during this reporting period is a project referred to as the INPLAN Modelling Program Shell. This project is an effort to isolate all nonanalytical and input-output related program tasks and design them in such a generalized manner that they can provide these vital functions for any analytical program module conforming to a simple interface. The goal is to eliminate the necessity to write, or even modify, these requisite program sections for each new model implementation. The large number of

models to be produced under INPLAN necessitates such a comprehensive and generalized approach to avoid duplication of effort. The completion of this Program Shell within the first year of INPLAN is a major goal. INPLAN expects to use the Program Shell in connection with the modeling work in Nigeria (see Section III, Nigeria) prior to the end of FY85.

Major steps in the development of the Program Shell have been classified as follows:

- (1) Design a generalized database structure flexible enough to accommodate the anticipated, and even unanticipated, data storage requirements of prospective analytical program modules.
- (2) Develop program modules necessary to define and maintain the current database structure.
- (3) Develop a variable editor for the Program Shell allowing an operator to define or alter the value of any variable value in the database.
- (4) Develop a table definition module allowing the operator to define the structure and variable content of desired output tables.
- (5) Develop a core population projection module to test the Program Shell database, database definition, editor and table definition modules.
- (6) Develop a graph definition module allowing the operator to define the form and variable content of desired output graphics.

During this reporting period, development steps (1) and (2) have been completed. Steps (3), (4), and (5) are in their initial stages and will be developed concurrently by a team of three part-time programmers collaborating with other INPLAN staff.

#### B. MICROCOMPUTER HARDWARE TESTED AND EVALUATED

The INPLAN project will place up to 60 microcomputer hardware systems (or enhancements) in host country institutions over the life of the project. As part of its mandate, INPLAN will evaluate microcomputer hardware configurations to identify those most appropriate for host country environments and activities. INPLAN is striving toward as much standardization as is compatible with the varying environments in which these systems will be placed. Standardization greatly simplifies the logistics of maintenance, support, software configuration, and instruction.

During this reporting period, INPLAN evaluated several machine configurations, including the Compaq Deskpro, the IBM/AT with internal hard disk, the IBM/PC with external hard disk, and the IBM/AT and IBM/PC with dual 10 megabyte cartridge Bernoulli box. Various display cards permitting the display of both monochrome graphics and high resolution text were also tested. Our current configuration, and the one being used for the course in Applied Population and Development Planning, is the IBM/AT with 512K of RAM, and one high density floppy disk drive, one standard floppy disk drive, dual cartridge Bernoulli box, Genoa display adapter card, Amdek 310 monitor, 80287 numeric co-processor, and the Epson FX-100+ printer. The dual 10 megabyte cartridge Bernoulli box offers several advantages over fixed hard disks, especially the internal hard disk supplied with the enhanced IBM/AT. First, back-up, essential as the quantity of stored information increases, requires only 2.5 minutes for 10 megabytes on the Bernoulli box. In contrast, most cartridge tape backup systems require five to 15 minutes to perform the same task, with the added disadvantage that data on tape cannot be used directly. Thus, good habits of frequent back-up are facilitated. Second, head crashes, because of the nature of these drives, are impossible. Third, use by several persons with large data sets is facilitated since each user may have one or more cartridges which she simply removes and stores. With a 10 or even 20 megabyte hard disk and several users of large data sets, one may have to store each data set on tape and transfer it to the hard disk, offloading data sets currently on it, for each new use. INPLAN staff and course participants have been pleased with the configuration. INPLAN will, however, continue to monitor new developments and test equipment which may offer advantages over this configuration.

### C. SOFTWARE TESTED

As with equipment, INPLAN tests and evaluates microcomputer software which has potential for application in population-development work in host countries and in demographic-economic modeling. Under the IPDP project, a number of packages were tested and are now being used successfully in host country institutions to which they were provided. Over the last six months, INPLAN staff have tested several promising packages. In addition, INPLAN has reviewed several candidate programming languages and has adopted the Turbo Pascal system as its primary high-level language development environment.

#### 1. Statistical Packages

Evaluations of the statistical packages SYSTAT and SPSS/AT indicate that at this time SPSS is the package of choice. It is,

however, limited, with its most serious drawback for work in developing countries being its lack of file handling capabilities. This presents little problem in environments where there is ready access to mainframes or minis on which one can merge and concatenate files but is serious where such access is limited or nonexistent. INPLAN is monitoring progress on SAS for the IBM/AT. SAS should be available in a fully implemented version by September, 1985 and will be tested by INPLAN. Its statistical capabilities should exceed those of SPSS, and its file handling capabilities should be excellent.

## 2. Diagnostic Software

INPLAN policy is to provide each host country institution receiving a microcomputer system with at least one complete set of technical reference manuals as well as hardware service and maintenance manuals and advanced diagnostic software. In addition, we have been evaluating supplementary diagnostic aids. Two of the software packages evaluated to date are RID and ReadScope. Both of these packages are designed to identify existing or potential problems in single or double density floppy diskette drives. ReadScope does not include all of the tests performed by RID, but provides procedures which can be used to correct some of the problems detected. RID, however, is useful only for identifying problem diskette drives before they are transferred to a host country institution. A related software product in the INPLAN Software Library is Version 3.0 of the Norton Utilities. Used by a moderately skilled operator, these utilities can be extremely valuable for recovering erased files as well as identifying and correcting some hard disk related problems.

## 3. Generalized Commercial Software

INPLAN has already made efficient use of two generalized commercial software packages: Lotus 1-2-3 and dBaseIII; and continues to monitor the potential of newer, but similar products. Two of these products are Lotus' Symphony and Ashton-Tate's Framework. Although we are still considering the use of these packages, our current conclusion is that they demand a longer training period before their many features can be put to productive use.

## 4. High-level Language Support

As INPLAN continues to improve existing modeling software, whether developed by INPLAN or by other organizations, a range of supporting high-level language development tools is necessary. INPLAN has acquired the IBM/PC BASIC Compiler to enhance the performance of some interpreted BASIC programs developed under IPDP and by other organizations. Lattice C Compiler, Blaise Computing's C Tools packages, and Creative Solutions' Windows for

C package have been acquired for evaluation and use in specific projects requiring the systems programming strengths of the C language. INPLAN has also acquired Borland International's Turbo Pascal, Turbo Toolbox and Turbo Tutor packages and has adopted the Turbo Pascal system as its primary high-level language development environment.

## 5. Graphics Procedure Libraries

To improve the graphics capabilities of INPLAN-produced software while minimizing the required programming, several libraries of graphics procedures have been acquired during this reporting period. INPLAN is currently testing Media Cybernetics' Halo Library with bindings for Lattic C and MS-FORTRAN and Borland International's Turbo Graphix ToolBox. INPLAN is also acquiring Graphic Software Systems (GSS) VDI graphics development library, perhaps the most promising of these packages in terms of immediate usefulness and long-term viability.

## 6. Other Software Tested and Evaluated

Also during this reporting period, a linear programming package with considerable potential usefulness and a linear algebra package were evaluated. Large storage disks (10 megabytes or greater) require a file organization system which facilitates the location of files and the backup and restoration of related groups of files. INPLAN evaluated two of these: lDir and IBM's Fixed Disk Organizer. Of these, lDir appears to be far superior and will be used at several host country installations in 1985.

## APPENDICES

TRAINING/STUDY TOUR PARTICIPANTS

Country	Trainee/Pos/Inst	Course	Location	Dates
Bolivia	Ms. Maria Teresa Aguirre Coordinator of Spatial Population Distribution Program Ministerio de Planeamiento Y Coordinacion	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-May 25, 1985 May 25-29, 1985 May 29-31, 1985
Egypt	Dr. Imam Saleh Lotfalla Health Economist Institute of National Planning	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-May 25, 1985 May 25-29, 1985 May 29-31, 1985
India	Mr. P.N. Kapoor Officer on Special Duty (OSD) in charge of Evaluation Ministry of Health and Family Welfare	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-May 25, 1985 May 25-29, 1985 May 29-31, 1985
T.I India	Mr. A.K. Vishandass Research Officer (Policy) Ministry of Health and Family Welfare	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-May 25, 1985 May 25-29, 1985 May 29-31, 1985
Kenya	Mr. Boniface Umuga K'oyugi Planning Officer Ministry of Finance and Planning	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-May 25, 1985 May 25-29, 1985 May 29-31, 1985
Malawi	Mr. Terry P. Zamaere Senior Statistician Ministry of Health	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-May 25, 1985 May 25-29, 1985 May 29-31, 1985
Nigeria	Mr. Gregory C.T. Nzekwu Principal Planning Officer Federal Ministry of National Planning	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-May 25, 1985 May 25-29, 1985 May 29-31, 1985

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TRAINING/STUDY TOUR PARTICIPANTS

Country	Trainee/Pos/Inst	Course	Location	Dates
Somalia	Mr. Umar Ali Mohamud Head of Demographic and Social Statistics Section Central Statistics Department Ministry of National Planning	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-May 25, 1985 May 25-29, 1985 May 29-31, 1985
Somalia	Mr. Aden Ismail Shirwa Head of Research and Studies Human Resources Department Ministry of National Planning	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-May 25, 1985 May 25-29, 1985 May 29-31, 1985
Sri Lanka	Mr. Wijerama P.A. Lionel Planning Officer Population Division Ministry of Plan Implementation	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 13-May 25, 1985 May 25-29, 1985 May 29-31, 1985
A.2 Thailand	Mrs. Chanpen Siripiphat Policy and Planning Analyst Population and Manpower Planning Division National Economic and Social Development Board (NESDB)	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-May 25, 1985 May 25-29, 1985 May 29-31, 1985
Turkey	Mr. Mahir Kondu Planning Expert State Planning Organization	Training Program in Population and Development Planning	RTPK, NC Washington, DC New York, NY	March 18-March 25, 1985 May 25-29, 1985 May 29-31, 1985

## RESEARCH

<u>Country</u>	<u>Project Name</u>	<u>Princ. Invest.</u>	<u>Institution</u>	<u>Dates</u>
Thailand	Research Studies for Population Policy Background Paper			
	1. Population impact on urban problems	Thienchay	Chulalongkorn University (TDRI)	1985
	2. Population impact on land availability	Yongyuth	Kasetsart	1985
	3. Population impact on old age security	Suchada	Chulalongkorn University	1985
	4. Population impact on education planning	Wattana	Chulalongkorn University	1985

MODEL DEVELOPMENT AND APPLICATIONS

Model	Language	Micro.	Country Applic.	Collab. Institution	Key Collaborator	Dates
Modelling Program Shell	PASCAL	IBM	Developmental	————	————	1984-1985
Population, Education, Labor Force Model	PASCAL	IBM	Developmental	————	————	1985
Cost-Benefit Model	Lotus 1-2-3	IBM	Indonesia	1. USAID/Jakarta 2. Family Planning Coordination Board (BKKBN)	1. David Piet 2. Haryono Suyono	1985 1985
Family Planning Model	PASCAL	IBM	Morocco	Ministry of Plan	Ahmed Benrida	1985
Population, Education and the Labor Force Model (Microsimulation)	PASCAL	IBM	Morocco	Ministry of Plan	Ahmed Benrida	1985
Multi-regional Population Model	FORTRAN	IBM	Bolivia	1. National Population Council 2. National Statistics Institute	1. Jose Baldivia 1. Jesus Herrera	1985 1985
Population Projection Utility Model	Lotus 1-2-3	IBM	Thailand	1. Thailand Development Research Institute (TDRI) 2. Chulalongkorn University	1. Khunying Thongtip Ratanarat 2. Thienchay Kiranandada	1985 1985

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MICROCOMPUTER TRANSFER

Country	Location	Micro Specs	Hardisk	Monitor	Printer	UPS/Volt	Software	Dates
Morocco	Ministry of Plan	IBM-PC 640 K 2 Drives	—	Amdk-300A	Epson FX100	Sola 220 V		1984
							TURBO PASCAL	1985

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TECHNICAL ASSISTANCE

Country	Activity	Collab. Institution	Key Collaborator	Dates
Indonesia	Assistance to USAID in analyzing expenditure impact of Indonesia's Family Planning Program	USAID/Jakarta	David Piet and Marge Bonner	1985
Thailand	Assistance in the preparation of Population Policy Background Paper for the sixth national plan	Thailand Development Research Institute (TDRI) and Chulalongkorn Univ.	Thienchay, Suchada, Wattana and Yongyuth	1985
Morocco	Assistance in population and development modeling	Ministry of Plan	Ahmed Benrida	1985

## SUMMARY OF INPLAN COUNTRY ACTIVITIES TO DATE

### AFRICA

#### Kenya

Training: Mr. Boniface Omuga Koyugi, Planning Officer in the Ministry of Finance and Planning, is attending INPLAN's course on Applied Population and Development Planning at the RTI campus (March 18 through June 1, 1985).

Future Work: A project development trip to Kenya is planned for Summer or early Fall, 1985 to develop work with appropriate Kenyan institutions and to begin planning for a Regional training seminar as requested by REDSO/East. If necessary, INPLAN will furnish microcomputer hardware and software to supplement that available in Mr. Koyugi's division so that he and his co-workers may make full use of the training he has received.

#### Malawi

Training: Mr. T.P. Zamaere, Senior Statistician with the Ministry of Health, is attending INPLAN's course on Applied Population and Development Planning at the RTI campus (March 18 through June 1, 1985).

Future Work: It is anticipated that a project development trip to Malawi will take place during the Summer of 1985. In connection with anticipated future collaboration and in order that Mr. Zamaere and his colleagues be able to make use of the training Mr. Zamaere receives, INPLAN will provide necessary hardware and software (expected to be enhancements).

#### Mali

Project Development: Dr. R. Scott Moreland visited Mali February 9-14, 1985 to carry out project development work.

Future Work: Anticipated future work includes two in-country seminars on population and development planning for Sahelian planners and demographers (anticipated for March 1986 and March 1987) and technical assistance to the Institute of the Sahel in development of a socio-demographic database.

#### Nigeria

Project Development: A two-person project development trip was made (Kocher: January 29-February 7, 1985; and Moreland: January 30-February 4, 1985).

Training: Mr. G.C.T. Nzekwu, Principal Planning Officer in Macroeconomics of the Federal Ministry of Planning, is attending the INPLAN course on Applied Population and Development Planning being held from March 18 through June 1, 1985.

Technical Assistance: As follow up to IPDP assistance, additional microcomputer hardware, spare parts, and supplies were sent to the Ministries of Health, Agriculture and Planning.

Future Work: Over the next several months INPLAN will provide technical assistance and training in the development and application of microcomputer-based planning models in population, health, agriculture, education and possibly macroeconomics. In April, three Nigerian planners will join Mr. Nzekwu in the INPLAN three month course and begin work with staff on models. INPLAN also expects to provide external hard disks, wide carriage printers and other hardware and software to these Ministries.

### Senegal

Project Development: Dr. Knowles visited Dakar on a project development trip January 26-February 1, 1985.

Future Work: It is anticipated that INPLAN will provide six to eight weeks of training in August and September in applied population and development planning to about eight Senegalese planners. Training would take place at RTI. Following training five microcomputers would be transferred to home ministries of the trainees.

### Somalia

Training: Mr. Omar Ali Mohamed, Head of the Demographic and Social Statistics Section of the Central Statistics Department (Ministry of National Planning), and Mr. Aden Ismail Shirwa, Head of Research and Studies of the Human Resources Department (Ministry of National Planning) are attending the INPLAN course on Applied Population and Development Planning from March 18 through June 1, 1985.

Future Work: It is anticipated that a project development trip will take place in the Summer of 1985. Following the course, necessary hardware and software will be transferred to the trainees home institutions.

### Zaire

Project Development: Dr. Moreland made a project development trip during February 4-8, 1985.

Future Work: Three seminars and transfer of microcomputers to Ministry of Plan are anticipated. The seminars would concern the use of microcomputers for population and development planning; education, manpower, and employment planning; and health, nutrition and family planning.

## ASIA

### India

Project Development: Dr. Kocher visited India February 15-24, 1985 to carry out project development work for INPLAN and RAPID-II. A plan of technical assistance and training was developed and informally agreed upon by the Mission and GOI.

Training: Mr. P.N. Kapoor, Statistical Officer in Charge of Evaluation, and Mr. A.K. Vishandass, Research Officer, both of the Ministry of Health and Family Welfare, are attending the INPLAN course on Applied Population and Development Planning from March 18 through June 1, 1985.

Future Work: It is expected that two phases of the assistance (to be known as PSP - Population Simulation Project) will take place, both supported by a Mission bilateral. The first phase would consist mainly of the development and application of RAPID-II models for two Indian states. The second phase would consist of the development and application of health and family planning models in two states and the application of a family planning program cost-benefit model at the National and/or State levels. Microcomputer transfer and training are expected to take place in relation to these activities and as follow-up to training being received by Kapoor and Vishandass.

### Indonesia

Project Development: Dr. Chao made two project development trips to Indonesia (November 20-24, 1984 and February 21-March 7, 1985) and Dr. Kocher made one project development trip (February 24-March 1, 1985) to Indonesia. GOI and the Mission made requests for considerable INPLAN assistance during these trips and agreed to a cost sharing arrangement for some of these activities.

Technical Assistance: In response to a request for technical assistance to the Mission, RTI/INPLAN prepared a program, using a commercial spreadsheet package, which analyzes the financial impact of the Indonesian family planning program on GOI education and health sector objectives. (The draft report will be sent to the Mission in April, 1985.)

Future Work: Chao is expected to visit Jakarta in June 1985 to carry out additional project development. Requested activities include a two-week microcomputer applications training course, hosted and jointly organized with BKKBN; technical assistance in developing an education sector model with the Ministry of Education; technical assistance in developing a regression-based cost-benefit analysis of the family planning program; and technical assistance and training for the State Ministry of Population and Environment on the health benefits of the family planning program.

#### Sri Lanka

Project Development: Dr. Chao visited Sri Lanka for project development November 4-14, 1984. GOSL requested technical assistance and training through INPLAN.

Training: Mr. Wijerama P.A. Lionel, Planning Officer in the Population Division of the Ministry of Plan Implementation, is attending the INPLAN course on Applied Population and Development Planning from March 18 through June 1, 1985.

Technical Assistance: Dr. Chao attended and made a presentation at a symposium on microcomputer applications in developing countries sponsored by the US National Academy of Sciences and the Computer and Information Technology Council of Sri Lanka from November 4-9, 1984.

Future Work: Activities requested include technical assistance and training for a microcomputer-based model to evaluate the cost-effectiveness and cost-benefit of the National Family Planning Program; support for a small research project in conjunction with the modeling activity; and training and provision of microcomputer hardware and software. If funding can be found, INPLAN intends to carry out these activities.

#### Thailand

Project Development: During Dr. Chao's first project development trip (November 14-20, 1984), the Mission requested technical assistance for the Population Policy Background Paper for the Sixth Five Year Plan. Project development was carried out during the technical assistance trip of Drs. Chao, Crouch, Fried and Kocher in February, 1985. NESDB requested assistance in microcomputer transfer and modeling.

Training: Mrs. Chanpen Siripiphat, Policy And Planning Analyst with the National Economic and Social Development Board (NESDB), is attending the INPLAN course on Applied Population and Development Planning from March 18 through June 1, 1985.

Technical Assistance: Drs. Chao, Crouch, Fried and Kocher provided technical assistance on four research studies being

prepared for the Population Policy Background Paper for the Sixth Five Year Plan during their February, 1985 visit. The studies are being prepared by Drs. Thienchay, Suchada, Wattana and Yongyuth, all professors at Thai universities. Areas being covered are the social and economic consequences of population factors for urban problems, education, land availability and old age security. INPLAN prepared a population projection program using Lotus 1-2-3 for calculating single year, single year of age projections from five year projections.

Research Support: INPLAN is providing technical assistance for four Mission-supported research studies for the Population Policy Background Paper to the Sixth Five Year Plan (February 1985 through July 1985).

Future Work: Dr. Crouch will visit Thailand in April 1985 to monitor the ongoing research projects; teach the researchers to use the projection program; and discuss requested work with NESDB and the Mission. Drs. Chao and Fried will travel to Thailand in July 1985 to attend a seminar where the results of the four research studies will be presented and to provide technical assistance in the revision of the reports of the research studies. It is anticipated that activities will commence with NESDB and will include transfer of microcomputer hardware and software; training in the multiregional population projections model; technical assistance in preparation of an education and manpower model; and training in sectoral modeling.

## LATIN AMERICA AND THE CARIBBEAN

### Bolivia

Project Development: Dr. Oleh Wolowyna made project development visits to Bolivia during January 8-22 and January 29-February 2, 1985.

Training: Ms. Maria Teresa Aguirre, a senior technical staff member of the National Population Commission (CONAPO), Ministry of Planning, is attending INPLAN's course on Applied Population and Development Planning at the RTI campus March 18 through June 1, 1985.

Future Work: In June 1985 INPLAN expects to transfer an IBM/AT and assorted hardware and software to CONAPO, to be followed with a microcomputer applications training program for CONAPO staff in August 1985. This will be followed by technical assistance in application of the multiregional population projection model, with further training, technical assistance and research support to follow in FY86 and FY87 if sufficient funds are available.

## Dominican Republic

Project Development: Dr. Luis Crouch made project development visits during December 19-January 7 and March 10-24 (both were in conjunction with other non-INPLAN activities).

Future Work: INPLAN expects to provide IBM/ATs to both CONAPOFA and IEPD, to be followed by a microcomputer applications training program in June 1985; this may be followed by additional technical assistance.

## Ecuador

Project Development: INPLAN staff held some initial discussions with Mission and CONADE staff during non-INPLAN in-country trips in October and November 1985.

Future Work: One or more additional project development visits are anticipated for 1985, in anticipation of provision of training and technical assistance to CONADE staff.

## Mexico

Project Development: Dr. Wolowyna made a project development visit to Mexico during February 3-12, 1985.

Future Work: In June 1985 INPLAN expects to transfer two external hard disks plus software to CONAPO and the IMSS, to be followed (in June) by a microcomputer applications training program, emphasizing use of the multiregional projection model. Further training, technical assistance and research support to these agencies are anticipated.

## NEAR EAST AND NORTH AFRICA

### Egypt

Project Development: Dr. Kocher made a project development visit to Egypt January 25-29, 1985.

Training: Dr. Imam Saleh Lotfalla, a senior health economist in the Institute of National Planning (INP), is attending the INPLAN course on Applied Population and Development Planning, being held from March 18 through June 1, 1985.

Future Work: INPLAN expects to provide an IBM/AT to the INP in June 1985, to be followed by training and technical assistance in development of a health planning model, and possibly a family planning program cost-benefit model.

## Morocco

Project Development: Dr. Knowles made a project development and technical assistance visit to Morocco January 26-20, 1985, and worked with staff of the Ministry of Plan (MOP).

Technical Assistance: In December 1984 an INPLAN microcomputer was installed at MOP by an RTI staff member. In February 1985 Dr. Knowles provided technical assistance in initial development of population-development models for use in the next Three Year Development Plan (1986-88).

Future Work: Dr. Knowles will provide further training and technical assistance on model development and application during trips scheduled for April, May and June; a national seminar on population and development planning is being organized for late June 1985. Further training and technical assistance is anticipated for FY86 and FY87.

## Tunisia

Project Development: Dr. Moreland made a project development visit to Tunisia January 28-30, 1985.

Future Work: A staff member of the Ministry of Plan (MOP), Mr. Skouri, will receive three weeks training at RTI in April and May 1985 on use of the multiregional projection model. In May 1985 INPLAN will provide an IBM/AT to the MOP. INPLAN expects to provide further training and technical assistance to several proposed population-related planning activities in Tunisia, commencing in June 1985.

## Turkey

Training: Mr. Mahir Kondu, Planning Expert with the State Planning Organization, is attending the INPLAN course on Applied Population and Development Planning being held from March 18 through June 1, 1985.

Future Work: INPLAN anticipates providing two or three IBM microcomputers together with substantial training and technical assistance to staff of the State Planning Organization during FY86 and FY87.