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S+T Bureau

Action Plan FY1987

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MEMORANDUM

June 25, 1987

ACTION PLAN
S&T BUREAU

TO: See Distribution

FROM: S&T/PO, Gerald F. Gower

SUBJECT: S&T Action Plan

Attached is the Bureau for Science and Technology FY 1989 proposed Action Plan. The Action Plan also includes ABS budget tables III and V. Dr. Brady will chair the Agency review of the S&T Action Plan/ABS, which is scheduled for **Friday, July 10 at 1:00 p.m., in Room 5951 New State.**

The Action Plan is presented in essentially the same format as was developed for FY 88 last year. The attached Action Plan is considered a draft, as Dr. Brady is presently away from Washington and has not had an opportunity to formally review and clear the document. Additionally, some budget/account numbers are still under review/refinement.

Issues meetings are scheduled for **Wednesday, July 1, Room 1912 NS, from 10:00 a.m. to 4:30 p.m.** The issues meetings will be organized by development problem areas as follows:

| | | |
|---|---|---|
| 10:00 | - | Population Pressures |
| 10:45 | - | Health Deficiencies |
| 11:30 | - | Education |
| 2:30 | - | Hunger and Inadequate Income |
| 4:00 | - | Other issues |

To faciltate development of the issues for the Action Plan/ABS Review, it would be appreciated if issues and points for clarification of information are submitted in writing to S&T/PO prior to the July 1 issues meeting and/or provided in writing at the meeting.

Att: a/s

Distribution list attached.

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June 26, 1987

# BUREAU FOR SCIENCE AND TECHNOLOGY
# ACTION PLAN

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# BUREAU FOR SCIENCE AND TECHNOLOGY ACTION PLAN

## INTRODUCTION

### SUMMARY

The CPSS for the Bureau for Science and Technology was approved by the Administrator last fall. The CPSS sets forth, in an integrated fashion, the strategies and emphases of the S&T Bureau in support of the Agency's attack on the five key development problems. Since then, the Agency has embarked on a major program to deal with the AIDS epidemic and has issued a new focus statement for the 103 account. Additionally, the budget outlook is significantly less promising than the level approved by the Administrator for the CPSS planning period. Nevertheless, the CPSS remains valid for the period covered by this Action Plan.

This second S&T Bureau Action Plan continues to carry the CPSS conceptual strategic program framework forward to the project level. The Action Plan sets forth, by development problems, the near-term objectives, benchmarks, projects and funding required to achieve the Agency and Bureau's long-term goals in conformity with the strategies set forth in the CPSS. In addition, the Action Plan enumerates in some detail the progress we have made against the benchmarks identified last year.

Since the review of last year's Action Plan, S&T and the Regional Bureaus have completed an intensive review of the S&T project portfolio. As was reported to the Administrator, there was [redacted] general agreement between S&T and the Regional Bureaus on the priority ranking of all but a handful of our activities. We have begun a collaborative effort with the Office of Financial

In addition to the Program/Budget presentation in the Action Plan, the document presents selective program management objectives, constraints, and issues.

Lastly, the Program/Budget presentation includes certain budget tables normally only included with the ABS. With regard to these tables, we wish to note: (a) that the budgets are presented at the FY 1988 CP and FY 1989 AAPL levels, and (b) that the project priority ranking in the Table Vs are based on substantive considerations only.

Impact of Reduced Funding Levels

The greatest threat to achievement of our objectives is reduced funding levels. Some examples:

-- As a result of the budget reductions in FY 86 and 87 and the CP request level for FY 88, S&T/AGR projects are seriously impaired in their ability to sustain long-term research and support activities. For example, long-term training programs, particularly in the CRSPs, are jeopardized because universities cannot undertake such commitments with the twelve months of funding currently being provided. Research objectives have to be modified because sufficient staff cannot be assigned to the effort. The CRSP management entities and the other grant/contracts managers are unable to visit LDC project sites as frequently as necessary to meet their management responsibilities. Core funded technical services for feasibility studies, consultation, or a case study effort, which are often a prerequisite to Mission buy-ins, are becoming increasingly difficult to fund from our limited resources. In several instances, entire components are being dropped from projects because, while

important, they are of lower priority or represent a new project phase. Highly regarded project directors and principal investigators are becoming disenchanted with the program and are departing for other assignments. In short, projects are being "maintained" increasingly at that level below which it will not be cost-effective or efficient to continue.

-- The Agency has announced a new agriculture focus statement which has the three-pronged objective of increasing the incomes of the poor, expanding the availability and consumption of food, and maintaining and enhancing the natural resource base. New initiatives will be necessary to provide the technical leadership needed to implement this new focus. The Agriculture Office is in the process of an intensive review of its portfolio which will be completed late this summer. While it may be possible to shift modest amounts of resources to support the new focus by reducing or phasing out lower priority activities, this can be accomplished only over time and the funds generated thereby will fall far short of requirements. We have tentatively identified some areas which will require new activities including a project to assess the income dimensions of the Agency's 103 strategy, one to address farm management practices, and one in the area of high value horticulture crops. To be totally responsive, other new starts, particularly in the livestock sector, should be included. We estimate an immediate requirement of at least $5 million in additional resources to be minimally responsive to the new focus statement.

-- At the S&T/AGR AAPL level, the Milkfish and Spring X Winter Wheat projects must be placed below the line in FY 1989. These projects do not enjoy any significant support within the Regional Bureaus. Though these activities have proponents, they are not Agency or S&T high priorities.

-- In response to the AIDS pandemic, funds were added to S&T's OYB in FY 87 to enable us to contribute to the WHO AIDS campaign, to provide a condoms contingency and to initiate a flexible umbrella project to meet field requirements for technical assistance in a variety of defined areas. We have managed to include $2.5 million at our planning levels to meet the S&T share of these activities. Funding will need to be identified by the Agency as S&T add-ons in both FY 88 and FY 89 to meet Agency requirements.

-- S&T/RD's core budget is now at $5 million. The reductions sustained to date have lowered our contributions to field support, since we are emphasizing R&D activities. This trend was noted last year; further cuts would only sharpen this pattern. The $1 million new project which will complement and support the expected Congressional initiative on micro-enterprise is a shelf item. Our current budget cannot accommodate it.

-- Reductions in funding for energy, tropical forest research, biological diversity or Vitamin A, for example, would raise serious questions of Agency responsiveness to Congressional concerns.

-- In population, although our basic strategy would not need to change, funding at the FY 1988 CP level could require elimination of activities in selected programs and/or geographic areas. In addition, we need additional funds to support our contribution to the commodity requirements of the AIDS program.

## Staffing

S&T shares the Agency's staffing plight and notes that just as adequate funding is critical to A.I.D.'s scientific research and technological development, so is an adequate technical staff

critical for planning, guiding, managing and evaluating R&D technical services and networks. The workload continues to increase as we respond to major challenges such as the AIDS pandemic, biological diversity, the new agriculture focus statements, micro-enterprise initiatives, Vitamin A, biotechnology opportunities, etc. Additional reporting and monitoring requirements are also being experienced as project documents have continuously been revised to reflect the major changes in project budgets, apart from additional work associated with buy-in arrangements and accounting systems, Bumpers amendment compliance, participant training cost reporting, cost-sharing accounting systems, and improved financial management systems. With recurring direct-hire reductions, we require ready access to outside state-of-the-art advice and services. This means the use of non-direct hire scientific and technical talent. The Bureau has experimented with a number of innovative mechanisms to access this pool. Some mechanisms are no longer available, and may have serious limitations. We need to explore new options for obtaining the skills of the scientific and technical community which are urgently needed.

As is the case throughout the Agency, secretarial and other management support positions are either unfilled or unavailable due to ceiling limitations. Given the rules which pertain to filling secretarial vacancies, and the long recruitment/placement lead times, we believe a system of obtaining temporary secretarial support is crucial. The work load requirement placed on staff requires continuous secretarial support coverage to ensure effective and efficient operations. We must give attention to this issue. We need sensible options.

Adequate equipment -- WANG work stations and personal computers -- is not available for current staff to maximize their productivity. We may well be approaching system overload where

the current staff -- professional and clerical -- are simply unable to function effectively under the constraints of limited money, time and equipment.

The Agency needs to intensify its efforts to rationalize the mix of its resources -- people, at all levels, and equipment -- to carry out its functions.

## Forward Funding and Pipeline

During last year's Action Plan and ABS discussions, S&T's forward funding norms and project pipelines arose as subjects for critical examination. As was indicated at that time, it was and is S&T's practice with regard to incrementally funded projects to provide in each fiscal year funding for an additional twelve month period from the anniversary of the contract or grant. As most contracts and grants are awarded initially in the last quarter of the fiscal year, the project pipeline at the end of the budget year is roughly equivalent to nine to twelve months of forward funding.

This period of forward funding is considered minimal. As indicated elsewhere in this Action Plan, even this degree of forward funding is inadequate to provide our collaborators a responsible planning horizon. This is especially true in a period of declining and uncertain budgets. The evaluation of the CRSPs last fall identified short forward funding periods as a major impediment to program efficiency.

This period of forward funding is also minimal from a program operations perspective. Passage of appropriations legislation only after the start of the fiscal year, delays in issuance of the OYBs, and the time required to process and negotiate PIO/Ts, effectively precludes most incremental funding actions being completed prior to the third quarter of the fiscal year.

The pipeline issue that arose last year, when examined, was revealed not to be one of degree of forward funding, but rather one of differences between FM and S&T on the level of past and current expenditures. These expenditure estimates were being derived independently without the benefits of mutual interaction.

FM and S&T are now engaged in an effort to derive mutually agreed or reconciled expenditure estimates. Such reconciliation will take time, however. We are currently working with FM on the reconciliation of 31 test projects, with the target to reconcile expenditure estimates for all projects by the end of FY 87. We wish to express here appreciation to our FM colleagues for their cooperation in this endeavor.

## Portfolio Reviews

S&T has augmented and strengthened its system of portfolio reviews this year. In addition to the program content reviews with the Senior Assistant Administrator, which are being continued, intensive implementation reviews have been initiated. These implementation reviews are chaired by the two Deputy Assistant Administrators and are attended by the office directors, project managers, technical office program support staff, the S&T Program Office and a representative of PPC.

These portfolio reviews have focussed especially on financial and evaluation performance of projects. Other reccuring topics included solicitation and monitoring of cost sharing; interactions with Missions; buy-in mechanisms, procedures and volumes; audit issues; Gray Amendment performance; staffing issues; progress of projects towards achievement of project benchmarks; and the requirements for substantive project amendments. Although the portfolio review process has been highly demanding of scarce staff resources, we believe it already has proven to be a valuable program management tool.

Evaluation

The diversity of the Bureau's projects and programs and the organizational structure of the Bureau along technical disciplines prescribe a decentralized evaluation system. Although decentralized, our evaluations have common concerns and standards. Central to our evaluation system is the utility of evaluation for making programming and portfolio decisions, for materializing questions related to strategic issues, and for acquiring timely answers about the progress of our projects and programs. We use evaluation to judge relevance, effectiveness, efficiency and sustainability of development efforts undertaken by the Bureau.

At the project level our evaluations are conducted to provide information about use and impact of resources. Project evaluations track progress from which managers determine changes needed to improve performance. At the program level the Bureau's evaluations generate information to asses progress toward achievement of overall sector development objectives, and are tools by which we can asses development assistance management accountability. Although the Bureau, has had good reason for conducting a preponderance of its evaluations at the project level, there are some opportunities for multi-project evaluations. The recent assessment of the CRSPs, conducted by CDIE, provides an example of the type of multi-project or program evaluations envisioned.

As is required of all the Agency's Bureaus, S&T is completing a review of the quality and quantity of recently conducted evaluations. We have developed a ranking system to determine the quality level of our evaluations. Upon completion, we will share our findings with Bureau personnel and provide guidance for improving the Bureau's evaluation system.

In addition to HB-3 type evaluations, the Bureau routinely employs other methods of evaluating, monitoring, and assessing our work. Of the variety of assessment methods, management reviews and peer

group reviews are employed rigorously. Management reviews are conducted throughout the year at the technical office level. These in-house reviews examine the day-to-day aspects of project implementation, paying especial attention to structural, administrative, logistical details and evaluation requirements. Peer Group reviews are the internationally recognized process for overseeing the technical quality of research.

Beginning April, the Bureau began holding portfolio reviews by office during which evaluation was discussed in depth on a project by project basis with each project manager. We have completed review of more than 95% of the Bureau's portfolio. During these reviews the following principles were established:

-- all S&T projects would be evaluated in preparation for project extensions, amendments, or follow-on activities.

-- evaluations would be conducted on an as needed basis determined by the project manager or as a result of findings from management or portfolio reviews notwithstanding the planned date of evaluation.

-- implementation of evaluation recommendations is to be evident in ongoing activities and factored into PIDs, PPs or amendments thereof.

Future Bureau evaluation plans are to:

-- make better use of the evaluation process for directing ongoing and future programs;

-- conduct more program evaluations; and

-- fine-tune the Bureau's evaluation system.

The list of planned FY 87 and FY 88 evaluations are to be found following the problem area discussions. Statements of evaluation objectives, broadlly defined, will be transmitted separately to PPC.

Peace Corps

The Science and Technology Bureau, using the abilities of the Peace Corps, has developed a variety of collaborative activities and is committed to continue the relationship in the future.

- This past year S&T began a major ten-year collaboration effort with the Peace Corps through its Forest Resource Management project to train 125 Peace Corps volunteer foresters to assist in A.I.D.-supported forestry projects. This effort will utilize P.L. 480 generated local currency to support reforestation and conservation efforts in LDCs. Peace Corps volunteers will, in turn, train PVOs in forestry-linked watershed management and multi-purpose tree culture. The first of several workshops was held in Kenya to bring together PVOs, Peace Corps, A.I.D. and host country counterpart staff to begin the planning for the development of joint programs in forestry.

- The Health Office will continue to work closely with the Peace Corps in a number of areas.

  1) Three hundred volunteers and their counterparts will participate in in-service training programs that deal with child survival skills development.

  2) Eighty newly inducted volunteers will receive pre-service training in all technical components of their respective countries' child survival projects.

3) A.I.D. will fund three Peace Corps regional workshops that will formulate child survival policies, strategies and plans.

4) The WASH project is providing in-service training for Peace Corps volunteers in Honduras and Senegal on surface well improvements as well as technical assistance in program design. In FY 1988 the project will provide volunteers with in-service training on water and sanitation technologies in 3 countries; volunteers will participate in water and sanitation assessments and/or evaluations in 5 countries.

5) In Haiti, Thailand and Ecuador, vector biology and control, in collaboration with the Peace Corps, is being explored.

- The Office of Nutrition will continue its program with the Peace Corps to train volunteers in home gardening. These trainees in turn provide instruction overseas to other Peace Corps volunteers and counterparts to increase nutritional and income levels in LDCs.

- The Office of Forestry and Natural Resources, through its Coastal Resources Management project has continued to use Peace Corps fisheries experts in increasing fish harvests and coastal zone management. The office has also begun exploring the ways Peace Corps and A.I.D. may be able to collaborate in the area of biological diversity.

- The S&T Bureau, through the A.I.D./Peace Corps Small Assistance project, will continue to provide funds to the Peace Corps that will enable volunteers to respond to small-project targets-of-opportunity in up to 60 LDCs per year.

It should be noted that several of the above-mentioned activities rely on OYB transfers from PPC during the course of the operational year. In those instances it will be necessary for those contributions to take place if the activities are going to continue.

Gray Amendment Implementation

Since Fiscal year 1985 -- the first full year of the Gray Amendment's implementation -- the S&T Bureau has been among the Agency's leaders in this effort. Despite diminishing budgetary resources and the concomitant impact on new project funding, the S&T Bureau continues to meet and exceed its annual Gray Amendment goals. Through aggressive utilization of such initiatives as creative procurement mechanisms, intra-bureau networking and outreach, use of minority and women-owned/or controlled entities and Historically Black Colleges and Universities, the S&T Bureau engages the universe of organizations covered by the provisions of the Gray Amendment.

| | FY '85 | FY '86 | FY '87 |
|---|---|---|---|
| GOAL | $ 14.2 M | $ 13.5 M | $ 20.0 M |
| ACHIEVEMENT | $ 30.7 M | $ 33.9 M | TBD |

Beginning in Fiscal Year 1987, and beyond, special emphasis will be given to the full potential of a wider involvement of Gray Amendment organizations in the area of subcontracting. All prime contractors performing on non-construction awards of $500,000 or more, are required under Public Law 95-507 to submit acceptable

sub-contracting plans describing their use of minorities. As a means of showing the Agency's support for the legislation and to facilitate appropriate sub-contracting, language encouraging the use of Gray Amendment organizations as sub-contractors is to be included in all procurement documents. Through collaboration with the Office of Small And Disadvantaged Business Utilization, greater attention will be paid to monitoring the acceptability and actual implementation of the plans.

The Small Business Administration's 8(a) Program remains the principle method for achieving the set-aside provisions of the Gray Amendment. As the more A.I.D.-seasoned 8(a) firms either graduate from the set-aside program or exceed the size standards for their respective classifications, a window of opportunity grows wider for the ever evolving cadre of new, highly qualified 8(a) firms. To optimize use of new firms, appropriate S&T Bureau technical offices will explore the "Senior Consulting Program" concept developed within A.I.D. several years ago. This concept provides a higher degree of quality control through teaming or sub-contracting of more experienced, proven performers with the new 8(a) entries to assist them in overcoming their general absence of LDC experience and familiarity with A.I.D. regulations.

Quantitative projections for the S&T Bureau through FY '89

| OFFICE | FY '87 | FY '88 | FY '89 |
|---|---|---|---|
| Agriculture | 200 | 200 | 200 |
| Education | 235 | 235 | 235 |
| Energy | 295 | 75 | 75 |
| F&NR | 388 | 85 | 355 |
| Health | 1,500 | 1,500 | 1,500 |
| Inter. Trng. | 239 | 600 | 600 |
| Nutrition | 3,924 | 1,775 | 1,815 |
| Population | 12,400 | 13,260 | 11,760 |
| Rural Devel | 538 | 589 | 589 |
| RUR | 3,000 | 3,000 | 3,000 |
| | $22,719 | $21,319 | $20,129 |

Historically Black Colleges & Universities (HBCUs)

Executive Order 12320 --The White House Initiative", signed in 1981--established a process whereby each Federal agency is held responsible for seeking ways and means for "significantly increasing the participation of historically Black colleges and universities in Federally sponsored programs". The office of Research and University Relations, which has the leadership responsibility for managing the Agency's efforts, seeks to:

- increase the percentage share of funding for all higher education to be allocated to HBCUs;

- encourage efforts to eliminate barriers and to single out policies and regulations which inhibit full participation of HBCUs, and

- wherever possible, to place emphasis on the use of program funds to improve the administrative infrastructure of the HBCUs.

In Fiscal Year 1985 the S&T Bureau allocated $5.1 million in various activities to the HBCU community. And, in Fiscal Year 1986, slightly over $4.1 million went to support HBCU related activities. Future year plans include efforts to involve HBCUs in in the more mainstream program activities by seeking to identify and utilize ways and means for establishing a "set-aside" mechanism.

Buy-Ins

During FY 1986, 75 of S&T's activity projects received nearly $46 million in buy-ins, an amount equal to 18% of S&T's OYB. We expect that buy-in activity will continue to play a significant role in S&T projects through FY 1989. The Agency's Task Force on Buy-Ins made substantial progress during the year in defining new guidance

which satisfactorily addresses the several management issues which surfaced last year without impairment to buy-ins serving as an effective, flexible mechanism for the achievement of common S&T and Mission objectives.

## Cost Sharing

S&T supports the proposed Agency policy to encourage cost-sharing under its grants and cooperative agreements. During FY 1986, our OYB funded $136 million in grants and cooperative agreements for activities whose aggregate budgets exceeded A.I.D.'s contribution by $89 million. While there is already substantial cost-sharing in the S&T portfolio, an increased emphasis on cost-sharing may permit certain projects to continue at a total level of effort higher than the increasingly tighter S&T budgets would permit. However, as recognized in the proposed policy, there is also a substantial number of S&T projects where cost-sharing cannot be expected to make a significant contribution.

## Problem Area Discussions

# I. Plan to Lessen Hunger

## I.1. Rationale

The A.I.D. Administrator recently announced a "refocus" of the Agency's agriculture, rural development, and nutrition programs aimed at lessening hunger. The elements of this focus statement are: (1) to improve incomes among the poor, (2) to expand food availability and consumption, and (3) to conserve and enhance the natural resource base. The Bureau for Science and Technology, through basic, applied, and collaborative research, and the provision of technical assistance, works to achieve a lessening of worldwide hunger from three standpoints:

1. Expansion of the availability and consumption of food through research to: (a) strengthen the analysis of economic policies to assure the supply of food at affordable prices; (b) develop technologies for third world farmers to increase their supplies of food and sources of income; (c) reduce postharvest waste in storage, processing, and marketing; and (d) improve crop and livestock resistance to disease, pest, drought and other stresses so as to enhance production and farm incomes.

2. Development of measures to conserve biological diversity resources and to ensure environmentally sound production that sustains or enhances the natural resource base (plant, animal, soils, water, etc.) on which agriculture depends.

3. Improvement of nutritional intake through research to: (a) improve nutritional quality of indigenous foods; (b) analyze social cultural factors influencing awareness of nutritionally balanced diets; and (c) enhance education about dietary changes.

Environmental and biological stresses as well as economic and social inequities are major causes of hunger and malnutrition. These include inappropriate agricultural technologies and policies, unwise management of renewable natural resources, access to land, postharvest losses and wastage of food, inadequate energy for rural needs, population pressures, and inadequate income. Appropriate technologies in Agriculture permit improved productivity; increase food supplies; and help correct egregious patterns of food availability.

In countries where agriculture is the dominant economic activity, the agriculture sector should provide sufficient and dependable supplies of nutritious food at affordable prices. Yet, agriculture, the key to development of most LDC economies, has been frequently a lagging sector. In Africa, agriculture output per capita has been declining steadily over the last two decades. According to the World Bank, food imports by LDCs have increased sixfold in the last 20 years while per capita incomes of rural populations dependent on agriculture have been less than half of the national averages.

Inappropriate use of land and overexploitation of natural resources by ever increasing populations are contributing to both hunger and poverty. Long-term economic growth in developing countries will depend on maintaining ecosystem processes and life-support systems such as soil regeneration and protection, recycling of nutrients, and cleansing of waters, all of which are needed for sustainable production of goods for human existence. There has been an increasing awareness that the loss of biological diversity is a major threat to food and income. There is widespread concern among biologists that the diversity of earth's living resources could be dramatically reduced with perhaps 5-20% of the currently estimated 10 million species becoming extinct within the next 20-50 years, principally due to the loss of wild habitats, especially in tropical forests. Among the many species at risk may be new foods, new sources of medicines, and other products that might be useful or even essential to meeting our long-term goals of reducing hunger, enhancing health, and sustaining the natural resource base for agriculture, forestry, range, and fisheries production.

Agricultural production based on a well maintained natural biological and physical resource base is not the only factor in hunger alleviation. Poor people often lack the financial resources to meet minimum dietary needs. For such people, the hunger problem can only be solved by increasing their employment and incomes, and thereby increasing effective demand (purchasing power) to buy food.

For purposes of presentation, our activities which have as their primary objective increased productivity, availability and consumption of food, are described in the hunger portion of this Action Plan. Selective activities addressing the effective demand side of the hunger equation, such as improvement of agricultural marketing channels are also found in this section. However, the bulk of activities targeted to effective demand by the Bureau for Science and Technology have been consolidated in the income portion of this paper. Virtually all of the Bureau's activities described in this Hunger Section also contribute to increased income objectives. Conversely, those agricultural activities described in the Income Section also have important food objectives.

## I.2. Long Range Objectives to Lessen Hunger

Our long range objectives to lessen hunger are indexed below and are elaborated in the sections indicated.

I.3. Increase food availabilities, with emphasis on the development of improved technologies for plant and animal production. Specific objectives include:

- I.3.1. Develop high yielding varieties tolerant to stress
- I.3.2. Improve pest, weed and disease control
- I.3.3. Postharvest conservation
- I.3.4. Improved animal production

I.3.5. Improved management of aquatic resources
I.3.6. More effective technology transfer
I.3.7. Promote consumption of nutritious food
I.3.8. Strengthen policy dialogue

I.4. Effective management of renewable natural resources to preserve and enhance the productive base upon which agriculture depends.

I.5. Develop appropriate technologies to provide adequate supplies of energy for home use and to sustain small and large farm production.

I.6. Stimulate employment generation and the promotion of small and medium private enterprises (see Income Section).

## I.3 Benchmarks for Attaining Food Stability to Lessen Hunger

### 1.3.1. Develop Stress Tolerant Varieties

A major inhibitor to reducing variability in food supply is the absence of high yielding, stress tolerant plants. The Bureau's strategy addresses the most universally common stresses. The benchmarks are:

**FY 1987/88 Benchmarks:**

-- Identify high yielding, efficient, profitable crop plant varieties that are tolerant to stress from salt, insects, diseases, weeds, and adverse climates by FY 1988. **Additional varieties will be identified by FY 1989.**

PROGRESS TO DATE:

Sorghum lines have been identified which exhibit resistance to the weedstriga - the most serious weed problem in Africa.

Thirty lines of wheat have been identified for high yielding characteristics.

Drought tolerant sorghum, pearl millet, and cowpea have been identified.

-- At least 2 percent more acreage of profitable varieties of rice, sorghum, maize and cowpeas planted in seven countries during fiscal years 1987/1988 than was planted in fiscal years 1985/1986. **An additional 2 percent more acreage will be planted in FY 1988/89.**

PROGRESS TO DATE:

Increased acreages of Hageen Dura 1 Sorghum have been planted in Sudan, and California; number five cowpeas in Senegal.

-- Identify wheat, barley, maize, pigeon peas, and sweet potato varieties that are resistant to nematodes by FY 1988.

PROGRESS TO DATE:

A number of varieties of each have already been identified.

-- Release eight stress tolerant varieties; two superior nitrogen fixing bean varieties; two drought tolerant peanut varieties; and one multi-disease resistant wheat variety by FY 1988. **Field test these varieties by FY 1989.**

PROGRESS TO DATE:

Two superior nitrogen-fixing bean varieties and two wheat lines with resistance to three diseases have been released.

-- Release three salt-tolerant lines of wheat and sorghum in FY 1988. **Field test these lines by FY 1989.**

PROGRESS TO DATE:

Four salt-tolerant sorghum lines have been released. Wheat salt tolerance work has been terminated due to budget reductions.

-- Aluminum tolerant varieties: two millet, three sorghum and three wheat released by FY 1988. **Two more aluminum tolerant varieties for millet and two more for sorghum will be released by FY 1989.**

PROGRESS TO DATE:

Acid and aluminum tolerant varieties for millet have been identified.

New Benchmarks for FY 1989

-- Wide crosses in both wheat and rice using domesticated and wild strains in search of drought resistance will have produced at least three new lines of promising material for wheat and rice by FY 1989.

-- Field test three salt-tolerant lines of sorghum by FY 1989.

Projects Contribution to Attainment of Benchmarks

| Project No. | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 0621 | Spring X Winter Wheat | 300 | 300 | (300) |
| 1254 | Sorghum/Millet CRSP | 1,530 | 1,890 | 1,890 |
| 1310 | Bean/Cowpea CRSP | 2,125 | 1,820 | 1,820 |
| 4048 | Peanut CRSP | 1,200 | 1,200 | 1,200 |
| 4111 | International Agricultural Research Centers | 600 | 300 | 300 |
| 4136 | Special Constraints Research | 550 | 500 | 500 |
| 4137 | Biotechnology/Tissue Culture | 348 | 485 | 485 |
| 4143 | R&D of Improved Seed Production and Utilization | 130 | 255 | 255 |
| 4177 | Improved BNF through Biotechnology | 375 | 390 | 420 |
| 5053 | HBCU Research Grants | 800 | 760 | 758 |
| | TOTAL | 7,958 | 7,900 | 7,628 |

I.3.2. Improve Pest, Weed and Disease Control

Food supplies are limited not only by an inadequate number of appropriate high yielding, stress tolerant varieties but also by losses and inefficiencies which occur during the production and harvesting cycles. Pests can decimate crops and harvests no matter how productive the variety planted. The Bureau's pest control benchmarks include:

FY 1987/88 Benchmarks:

-- Initiate two regional network groups for integrated pest management in Southeast Asia. Complete one training course on weed management and one course on crop loss assessment in FY 1987. **Assessments in at least four more countries and training courses procedures in at least two more countries by FY 1989.**

PROGRESS TO DATE:

One network for integrated pest management was initiated in Southeast Asia.

-- Conduct ten training programs in safe use of pesticides in six countries by FY 1988. Conduct six more programs by FY 1989.

PROGRESS TO DATE:

Four training programs in safe use of pesticides in four countries conducted.

-- Assess postharvest losses from vertebrate pests in at least six countries and conduct training courses on control procedures for LDC technical personnel in at least eight countries in FY 1987. Initiate one regional network for integrated pest management in a region outside Southeast Asia.

PROGRESS TO DATE:

Postharvest losses assessed in six countries.

New Benchmark for FY 1989

-- Complete one course on weed management and crop loss assessment in FY 1989.

Projects Contributing to Attainment of Benchmark

| Project No. | Project Name | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 4142 | Integrated Pest Management and Environmental Control including Biocontrol | 300 | 340 | 400 |
| 4173 | Vertebrate Pest Management Systems | 300 | -- | -- |
| | TOTAL | 600 | 340 | 400 |

I.3.3. Postharvest Conservation

Postharvest conservation of food products through efficient storage, processing, and marketing is essential to hunger reduction. The Bureau's postharvest conservation benchmarks are:

FY 1987/88 Benchmarks:

-- Methodologies for drying grains on small farms and agribusiness enterprises selected. Seven-week grain storage and marketing course for 35 students completed in FY 1987. **An additional seven week course will be conducted by FY 1989.**

PROGRESS TO DATE:

A seven week course on postharvest methodologies for grain marketing, drying, and storage will take place June-July, 1987 with 37 students in attendance.

-- Technical assistance in three countries, to upgrade small food processing plants completed in FY 1987.

PROGRESS TO DATE:

Technical assistance to upgrade food processing plants was provided to Grenada, Thailand, and India.

A four week course in postharvest technology of perishables will be offered in August 1987 for approximately 24 LDC participants.

-- Two host country workshops on preservation of perishables by solar drying conducted. Low technology solar cooling unit for testing identified by FY 1988.

PROGRESS TO DATE:

Solar drying workshops conducted on the preservation of perishables in two countries - Barbados and Grenada. A low-cost solar cooling prototype unit will be tested in summer, 1987.

-- Regional networks, promoting research and exchange of information on postharvest conservation among West African agricultural researchers in six countries organized and functioning by FY 1987.

-- Improve methods for assessing effectiveness of marketing systems, and carry out rapid appraisal of marketing system in four countries by FY 1988. **Begin marketing strategies appraisal in two additional countries by FY 1989.**

PROGRESS TO DATE:

Agricultural Marketing Improving Strategies project and contract began FY 1987; 22 USAIDs interested. Rapid appraisal in Philippines FYs 1987-88. Field work in four additional countries FY 1988.

New Benchmarks for FY 1989:

-- Begin pilot tests of marketing innovations in two countries by FY 1989.

-- Conduct a postharvest loss reduction and technology course for perishables for at least 25 students.

-- Develop and publish manuals containing simple, quick methodology for assessing magnitude of losses for for two perishable crops in LDC's. Pilot test the utility of these manuals in two countries.

Projects Contributing to Attainment of Benchmark

| Project No. | Project Name | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 1323 | Storage and Processing Fruits and Vegetables | 185 | 200 | 200 |
| 4144 | Postharvest Grain Systems Research and Development | 300 | 340 | 340 |
| 5447 | Agricultural Marketing Improvement Strategies | 195 | 250 | 550 |
| | TOTAL | 680 | 790 | 1,090 |

I.3.4. Improve Animal Production

To reduce hunger and improve diet, LDCs need reliable sources of animal protein. Animal diseases and other factors limit severely animal protein availability in A.I.D.'s cooperating nations. The Bureau's benchmarks for quantitative increase of animal protein are:

FY 1987/88 Benchmarks:

-- Increase the number of small farm families producing small ruminants in at least four countries by FY 1988. **Continue increase in small ruminant production through outreach network, and small farmer cooperatives in LDCs by FY 1989.**

PROGRESS TO DATE:

Goats and sheep have been distributed to individual farmers and/or farmer groups in Indonesia, Peru, and Kenya.

-- Increase the quality of animals and the care of small ruminants by farmers in four countries.

PROGRESS TO DATE:

Higher quality and quantities of meat, milk, and fiber per animal from alpaca, sheep, and goats have increased the efficiency of production for subsistance farmers in Kenya, Peru, Morocco, and Indonesia. These improvements have been brought about by research in breeding.

-- Research for production of new vaccines to control three important diseases among cattle and sheep underway in FY 1988.

PROGRESS TO DATE:

Work on the development of a rinderpest vaccination is progressing on schedule, and it will be produced in FY 1988.

-- Research grant to develop vaccines for Anaplasmosis and Babeoisis will be awarded in FY 1987. Work will begin soon to develop heat-stable vaccines.

PROGRESS TO DATE:

Project paper completed and approved. Initial obligation expected FY 1987.

-- An effective vaccine for Contagious Caprine Pleuropneumonia (CCPP) virus in goats produced and field tested by FY 1988. **Produce CCPP vaccine on a commercial basis, and distribute to agencies in several LDCs by FY 1989.**

PROGRESS TO DATE:

A heat-stable vaccine for contagious Caprine Pleuropneumonia was developed and proven effective in preliminary field tests.

New Benchmark for FY 1989:

-- Purify and chemically characterize the tick middet antigen so it can be produced to permit large scale testing.

Projects Contributing to Attainment of Benchmark

| Project No. | Project Name | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 1328 | CRSP-Small Ruminants | 990 | 1,400 | 1,400 |
| 4109 | Agricultural Technology Research & Development | 300 | 245 | 300 |
| 4178 | Improved Animal Vaccines through Biotechnology | 175 | 240 | 480 |
| | TOTAL | 1,465 | 1,885 | 2,180 |

I.3.5. Improve Management of Aquatic Resources.

Fish as a source of protein is important to the diet of many individuals, and in some instances, may be the only source of affordable animal protein. The Bureau's benchmarks for fish production, are:

FY 1987/88 Benchmarks:

-- Four methods for assessing fish stock tested in Costa Rica and the Philippines by FY 1987. **Additional models from Thailand and Indonesia will be tested by FY 89.**

PROGRESS TO DATE:

Four methods for assessing fish stock were tested in Costa Rica and the Philippines.

-- At least twelve LDC scientists educated in hydroacoustic techniques for fish stock assessment by FY 1987. **Four more LDC scientists educated in hydroacoustic techniques for fishstock assessment by FY 1988.**

PROGRESS TO DATE:

Eight LDC scientists were educated in hydroacoustic techniques.

-- Closed life-cycle reproduction techniques for fish in the Philippines, Indonesia, and Taiwan developed and tested by FY 1988.

PROGRESS TO DATE:

While reproduction techniques are still in the experimental stage in Indonesia, they have been successfully developed and demonstrated in the Philippines and Taiwan, and are being introduced at the farm level.

-- Present 7% annual rate of increase for aquacultural production in the world maintained. (FY 1986 production is 9.3 million metric tons)

PROGRESS TO DATE:

Worldwide annual increase in aquaculture production continues at the 7% level. However, A.I.D. assistance contributed to substantial increase in aquaculture production in the Philippines, Panama, Zaire Jamaica and Indonesia.

-- Achieve an annual rate of increase of 2% in capture fisheries landings by LDCs (LDC production in 1984 was 39 million metric tons).

PROGRESS TO DATE:

A.I.D. efforts to increase capture fisheries landings have concentrated on introduction of more economical ways to catch fish and controls (time restrictions or area restrictions) to address overfishing. In Guinea-Bassau introduction of new fishing techniques led to successful exploitation of fish that here-to-for were not economically feasible to catch. In the Philippines, area restrictions for large fishing vessels led to significant increases in fisheries landings.

-- Integrated management strategy for protecting natural fisheries areas prepared. Research needs identified by FY 1987. Final strategy for sustained production of natural fisheries prepared and research needs identified by FY 1988.

PROGRESS TO DATE:

Draft strategy has been prepared and tentative research needs have been identified.

New Benchmark for FY 1989:

-- Strengthen social and economic research capabilities in fisheries in Southeast Asia through networking and training by FY 1989.

Projects Contributing to Attainment of Benchmark

| Project No. | Project Name | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 0242 | Fisheries and Aquaculture Technical Assistance | 100 | 100 | 100 |
| 1314 | Aquaculture Technology Development | 100 | 100 | 100 |
| 4023 | CRSP Pond Dynamics | 390 | 370 | 370 |
| 4024 | Fisheries Development Support Services | 100 | 100 | 110 |
| 4111 | ICLARM | 600 | 300 | 300 |
| 4146 | CRSP Stock Assessment - Fish | 360 | 280 | 280 |
| 4161 | Reproductive Studies: Milkfish | 600 | 600 | (400) |
| | TOTAL | 2,250 | 1,850 | 1,260 |

I.3.6. More Effective Technology Transfer

Increasing agricultural productivity requires introduction of new and improved technologies for use on farm and in the processing and marketing of products. Identifying, transferring, and adapting these technologies for farmers and small entrepreneurs is more than a scientific or technical problem. Developing productive technologies that get used requires knowledge of the motivations and incentives faced by private individuals, men and women, and of the institutions and policies that create and sustain those incentives. S&T benchmarks for enhancing technology transfer include:

FY 1987/88 Benchmarks:

-- Six training manuals drafted for rapidly diagnosing constraints on systems for conducting on-farm tests of new technologies: Three in FY 1987; three in FY 1988.

PROGRESS TO DATE:

Three manuals have been completed.

-- Eight case studies completed highlighting the contribution of Farming Systems Research on technology development and transfer by FY 1988.

PROGRESS TO DATE:

Work proceeding on schedule; project scheduled for termination on 12/31/87.

-- Annotated references prepared for farming systems research literature; two training workshops in FSR conducted; case studies field tested for use in training by FY 1988.

PROGRESS TO DATE:

Three volumes of annotated references in French, Spanish, and English were completed in FY 1987. FSR bibliography completed, and two African networks were supported.

-- Instructional systems for transferring agricultural technology among farmers, researchers, and extension workers started in Honduras, Peru and probably Ecuador, in FY 1987. In Indonesia and Jordan in FY 1989.

PROGRESS TO DATE:

In-depth analysis of institutional framework of technology transfer system in Ecuador.

Completion of two case studies of technology transfer extension process in Egypt extension systems in Taiwan, Jamaica and Mexico, respectively.

On ground establishment of beginning effort at special agriculture communications effort in Honduras and Peru.

Workshop held and research workplan established for effort at identifying ready for dissemination agricultural technology systems in Africa.

-- Eight replications of innovative elements of appropriate technology in agriculture (ATI generated activities) completed by FY 1988.

PROGRESS TO DATE:

Of eight proposed replications of innovative elements of appropriate technology in agriculture, four have been put into place, with another two in process.

-- In West Sumatra and Peru, apply the results of farming systems and continuous cropping research using low-input technology in FY 1987 and FY 1988.

New Benchmarks for FY 1989:

-- Establish alternative strategies for using communications to upgrade innovation processes in areas not presently identified. New technology packages ready for application by FY 1989.

-- Subprojects in four countries begin in FY 1988 which promote local NGO's as agents of transfer of technologies for agricultural product processing.

-- Methodology for computer simulation of land use for agricultural production demonstrated by FY 1989 for agro-ecological zones on a worldwide basis.

-- Workshop for African irrigation specialists on the effective adoption of sound water management practices and the organization of water user groups to improve the performance of small-scale irrigation in Africa by FY 1989.

-- Studies to determine merits and possibilities for greater supplemental irrigation in West African countries which have adapted proven techniques used in other countries and regions by FY 1989.

-- Active pilot communication programs (daily radio broadcasts) to be established in Peru and Honduras in FY 1988, and in Indonesia and Jordan in FY 1989.

-- Training manual in communications to be revised and improved in FY 1988 and FY 1989.

-- Diagnostic framework technical report for rapid assessment of agricultural extension systems to be completed in FY 1988. Four case studies and four technical reports (Jamaica, Malawi, Mexico, and Taiwan) to be published in FY 1988.

Projects Contributing to Attainment of Benchmark

| Project No. | Project Name | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 1282 | Title XII Strengthening Grants | 1,178 | 1,080 | 1,081 |
| 4054 | International Benchmark Sites for Agrotechnology Transfer | 178 | 216 | 216 |
| 4099 | Farming Systems Support | 300 | -- | -- |
| 4109 | Agricultural Technology Research and Development | 772 | 715 | 760 |
| 4127 | Water Management Synthesis II | 285 | -- | -- |
| 4148 | Technology Development Transfer and Information Feedback Systems in Agriculture (Interpaks) | 104 | -- | -- |
| 4179 | Irrigation Management Support and Research | -- | 180 | 360 |
| 5052 | Project Review | 173 | -- | 133 |
| 5055 | Technical Advisory Support Services | 530 | 530 | 479 |
| 5058 | Joint Memoranda of Understanding - Agriculture | 2,823 | 3,140 | 3,059 |
| 5060 | Matching Support Grants | 390 | 390 | 390 |
| 5428 | Appropriate Technology International II | 1,500 | 1,500 | 1,500 |
| 5438 | Development Strategies For Fragile Lands | 116 | 116 | 116 |
| 1406 | Program Development and Support | 797 | 1,200 | 1,200 |
| 1421 | A.I.D./Peace Corps Small Project Assistance | 400 | --- | --- |
| 5054 | Information Transfer | 265 | --- | --- |
| | TOTAL | 9811 | 9149 | 9294 |

I.3.7. Promote Nutritious Food Consumption

Abatement of hunger demands attention not only to how much food is produced -- quantity -- but also what kinds of food are consumed -- quality. It also requires special attention to three groups of people in developing countries who aren't getting enough of the right kinds of food. The absence of mechanisms for monitoring nutritional status of mothers and children in particular; the absence of means to fortify indigenous diets lacking in essential nutrients; and the absence of useful information about the nutritional benefits of diverse diets; have prompted the Bureau to select the following nutritional benchmarks in the effort to abate hunger:

FY 1987/88 Benchmarks:

-- Technical assistance provided in three countries to demonstrate use of extrusion cookers underway by FY 1988.

PROGRESS TO DATE:

Technical assistance in engineering, product formulation and commercial marketing of products has been provided in Sri Lanka, Costa Rica, Tanzania and Guyana, Zambia, and Zimbabwe in FY 1987. Assistance has resulted in large-scale production and marketing of nutritionally improved foods processed by extrusion cooking.

-- Technical assistance in the Philippines to fortify Monosodium Glutemate with vitamin A and in Egypt to fortify flour with iron underway by FY 1988.

PROGRESS TO DATE:

Indonesia: Assisted in development and successful addition of vitamin A to MSG, helped plan recently completed successful pilot study, and directed development of new technology for producing and using white vitamin A product to be used in large scale filed trial scheduled to begin soon.

Egypt: Conducted feasibility study for iron fortification of wheat flour in Egypt, participated in planning of project which provide technical assistance in application of appropriate technology when project activities are initiated.

-- Generic standards for high-density weaning foods in the Cameroons, Peru, and six other countries produced and issued by FY 1988.

PROGRESS TO DATE:

Preliminary formulations have been developed toward goal of increasing nutrient density of weaning foods. Model food systems are being put together and evaluated for their properties. Standards will be generated when formulation studies are completed.

-- Field trials on rice bran stabilization in the Philippines completed by FY 1988.

PROGRESS TO DATE:

Unforeseen complications have stopped field trial activities at this time and alternative approaches are now being considered.

-- Several new soy-based weaning and snack foods using extrusion cooking produced. At least four new processes for preparing soy foods in homes completed by FY 1989.

PROGRESS TO DATE:

Technical assistance is being provided to food processor in Zaire for use of extrusion cooking process to produce and market nutritionally improved weaning and snack food.

Two new snack foods have been developed using extrusion cooking. One product has been developed in combination with cornmeal and the second product in combination with cassava meal.

-- Consumption of underutilized fish products -- shellfish, squid, sharks -- in two Asian and/or South Pacific countries increased by FY 1988.

-- Pilot activity on consumption analysis in the Caribbean completed by FY 1988.

PROGRESS TO DATE:

Technical assistance and policy analysis activities are in progress which will serve as basis for a workshop which will take place in FY 1988.

-- Case studies of consumption/nutrition effects completed in three countries by FY 1988.

PROGRESS TO DATE:

Countries are currently being identified for these case studies.

New Benchmarks for FY 1989:

-- Programs to maintain or improve rates of initiation of breast feeding and improve weaning practices in three child survival countries by FY 1989.

PROGRESS TO DATE:

Programs are in process in Ecuador by Manoff International and Wellstart. Programs will be initiated in Kenya and Indonesia in FY 1988.

-- Technical assistance to implement growth monitoring programs in at least three child survival countries during FY 1988-1989.

PROGRESS TO DATE:

Technical assistance being provided to Ecuador, Zaire and Bolivia, and potentially 5 other countries will receive technical assistance by 1989.

-- Technical assistance in improving the bio-availability of iron in cereals used in infant weaning by FY 1989.

PROGRESS TO DATE:

Laboratory and field testing is underway which will be available to LDCs by FY 1989.

Projects Contributing to Attainment of Benchmark

| Project No. | Project Name | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 0045 | Vitamin A Deficiency Program Support | 1,175 | -- | -- |
| 0262 | Scientific/Technical/Planning Support | 488 | 300 | 300 |
| 0831 | Nutrition and Food Technical Services | 800 | -- | -- |
| 4132 | Soybean Utilization and Research | 400 | 430 | 455 |
| 5114 | Food Technology for Development | -- | 800 | 800 |
| | TOTAL | 2,863 | 1,530 | 1,555 |

I.3.8. Policy Objectives to Lessen Hunger

Although policy dialogue is a priority function of A.I.D. field Missions and others in direct contact with LDC governments, the Bureau for Science and Technology can and does provide research results and technical assistance to help Missions assess policy options and promote policy dialogue with LDC governments. The benchmarks are:

FY 1987/88 Benchmarks:

-- Analytical services for use in agricultural policy dialogue in Sri Lanka, Madagascar, Togo, Egypt and Mali provided during FY 1987/1988.

PROGRESS TO DATE:

Analytical services for use in agricultural policy dialogue are being provided to Indonesia and the Dominican Republic, and are in place in Togo and Mali.

-- Ways to diminish policy constraints to technology transfer in agricultural production and marketing identified by FY 1988.

PROGRESS TO DATE:

Major input to SADCC (Southern Africa) regional Agricultural production and trade policy paper, issued by joint meeting of concerned country ministries.

-- Guidelines for assessing impact of economic policies on agricultural performance drafted in FY 1987. Publish guidelines for analyzing policy and program impacts on food consumption based on the integration of economic, physical demographic and health survey data by FY 1989.

PROGRESS TO DATE:

A cooperative agreement has been signed, two contracts are planned and a workshop was held in FY 1987 to define the state-of-the-art.

New Benchmarks for FY 1989:

-- Contributions to policy dialogue which indirectly affect agriculture made in three countries (based on long-term advisers) and in five countries (based on short term policy analysis) and other technical assistance inputs by FY 1989. Further studies and incorporation of findings in at least three Africa Countries by FY 1989.

-- Establishment of on-going program, and actual application, in focus or more countries, of program for developing regional natural resource management strategies, policies and program by FY 1989.

-- Guidelines for assessing impact of economic policies on agricultural performance published and distributed in FY 1988.

-- Publish research data for policy utilization regarding the impact of marginal malnutrition physical and mental functioning by FY 1989.

PROGRESS TO DATE:

Country workshops in Kenya, Egypt and Mexico being planned for FY 88. Grant to conduct these workshops is being negotiated. Final CRSP report due January 88.

-- Establish nutritional surveillance systems in three countries by FY 1989.

PROGRESS TO DATE:

Workshops held in Peru and Ecuador and another one for Africa region in early FY 1988.

Projects Contributing to Attainment of Benchmark

| Project No. | Project Name | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 1064 | Nutritional Surveys and Surveillance | 50 | -- | -- |
| 1190 | Food Security in Africa | 100 | -- | -- |
| 1275 | Subsidized Food Consumption | 541 | | |
| 1309 | Nutrition CRSP: Functional Implications of Malnutrition | 273 | -- | -- |
| 4084 | Agricultural Policy Analysis | 590 | 590 | 590 |
| 5110 | Consumption Analysis of Food and Agriculture Policy | -- | 350 | 350 |
| 5111 | Establishing Nutritional Surveillance | -- | 100 | 100 |
| 5426 | Employment and Enterprise Policy Analysis | 3 | 10 | 37 |
| 5438 | Development Strategies for Fragile Lands | 117 | 117 | 117 |
| | TOTAL | 1,674 | 1,167 | 1,194 |

I.4. Benchmarks for Attaining Natural Resources Objective to lessen hunger

Preserve the Productive Base Upon Which Agriculture Depends.

Deterioration of natural resources can be greatly reduced by appropriate management of resources at the local level. Conflicts frequently arise over use of land and water for food production, human consumption, and industrial development. Host countries will be helped to understand the affects of the various components of natural resource systems on economic growth, hunger and health. The benchmarks are:

FY 1987/88 Benchmarks:

I.4.1. Soils

-- Application of comprehensive soil classification system and use of crop simulation models to facilitate rapid transfer of agrotechnology for land use and crop production in progress in five LDCs by 1988, and one additional LDC in 1989.

PROGRESS TO DATE:

Application of the system is underway in Pakistan, Thailand, the Philippines, Zambia, and Botswana.

-- Short-cut methodology for agrotechnology transfer via minimum data set on soil and weather tested in Indonesia, Peru, Cameroon, Zambia, and Niger.

PROGRESS TO DATE:

Methodology being tested in Indonesia, Zambia, Burundi, Hawaii, Thailand, and Venezuela.

-- Use of rhizobium innoculent for nitrogen fixation on legumes increased by 2% in FY 1987 and 4% in FY 1988 and another 2% in FY 1989 (base year FY 1986).

PROGRESS TO DATE:

Use of rhizobium inoculent for nitrogen fixation on legumes was increased by 2% in FY 1987

-- Sector assessment and management models for soil, water, and fertilizer completed for use in rainfed and irrigated areas in Indonesia, Thailand, Philippines, Niger, Burkina Faso, Zambia, Cameroon, Ecuador, Columbia, Mali, and Zimbabwe.

PROGRESS TO DATE:

Work is progressing on schedule.

-- New chemical nitrogen fertilizer tested in ten or more of the following countries by FY 1988; and in 10 additional countries by FY 1989.

AFRICA: Botswana, Burundi, Cameroon, Kenya, Mali, Mauritania, Malawi, Niger, Rwanda, Senegal, Tanzania, Zambia, Zimbabwe.

ASIA: Bangladesh, Burma, India, Indonesia, Pakistan, Nepal, Philippines, Sri Lanka, South Pacific, Thailand.

LATIN AMERICA CARRIBBEAN: Belize, Bolivia,, Costa Rica, Dominican Republic, Guatemala, Haiti, Honduras, Jamaica, Peru.

NEAR EAST: Egypt, Jordan, Morocco, Tunisia.

PROGRESS TO DATE:

Fertilizer tested in eight countries in FY 1987: Cameroon, Colombia, India, Indonesia, Mali, Niger, Peru, and the Philippines.

-- New biological nitrogen-fixing organism strains tested for effectiveness in two or more of the above countries in FY 1987; and two more countries by FY 1989.

PROGRESS TO DATE:

New BNF strains tested in seven countries in FY 1987: Burma, India, Pakistan, the Philippines, Thailand, and Zambia.

-- Packaging and marketing of chemical and biological nitrogen products evaluated in six countries in FY 1988.

-- Fragile lands field work started in LAC, two workshops conducted in FY 1987, and one additional workshop in FY 1989.

PROGRESS TO DATE:

One workshop on Andean Steep Slope Agriculture conducted in FY 1987.

Two long-term advisors on fragile lands planning in Haiti and St. Kitts, respectively.

Project designed for fragile lands project in Bolivia.

-- Strategies for fragile lands identified for seven countries.

-- Test technologies in the semi-arid tropics, for such things as control of sandfighter and improvement of forest-soil management in Niger and SAFGRAD countries by FY 1988.

-- Assess the Semi-Arid Food Grains Research and Development network during FY 1988.

-- Use new technology of soil amendment to make infertile acid tropical soils productive on a continuing basis in Indonesia, Peru and Niger in FY 1987 and FY 1988.

PROGRESS TO DATE:

Work is progressing on schedule.

-- Direct training of 300 fertilizer technicians (senior and middle level managers) in policy, planning, production, marketing, distribution, research and extension during 1987, and an additional 300 trained in FY 1988.

PROGRESS TO DATE:

Direct training of 300 fertilizer technicians took place in FY 1987.

-- Develop and evaluate indigenous fertilizer resources (phosphates and sulfur) for their exploitation and use in four LDCs during 1987. Develop strategy for exploitation and use of these resources in four countries by FY 1989.

PROGRESS TO DATE:

Indigenous fertilizer resources developed in FY 1987.

-- Fertilizer related technical assistance provided to approximately ten USAIDs during 1987; six USAIDs in FY 1988 and six USAIDs in FY 1989.

PROGRESS TO DATE:

Technical assistance provided in six USAIDs in FY 1987.

I.4.2. Agroforestry

-- Alley cropping systems using multipurpose tree species defined for selected areas in Thailand, Peru, Ecuador, Sri Lanka, India, and Indonesia and several countries in Africa initiated by FY 1988.

-- Agroforestry networks installed for research in subhumid bimodal highlands zones of Kenya, Rwanda, Burundi, and Uganda.

-- Agroforestry networks for research in subhumid bimodal highlands zones of Kenya, Rwanda, Burundi, and Uganda installed.

-- Workshops in the inventory of land resources and data interpretation held in 4 countries for a total of 60 participants.

-- Training in agro-ecosystems and analysis techniques and application to Mission programs in Thailand and Indonesia.

-- Genetic improvement of multipurpose tree species for integration into agroforestry systems initiated in Thailand, Philippines, Malaysia, India, Indonesia, Kenya, Burundi, Rwanda, and Uganda in FY 1988.

-- Agroforestry technologies developed for various land-use configurations in Kenya, Burundi, Rwanda, Thailand, India, Malaysia by FY 1988.

PROGRESS TO DATE:

Establishment of an on-the-ground combined biological/social science network/technical assistance team.

I.4.3. Water

-- Efficiency in irrigation systems -- on farm management for crop production increased by 3% in FY 1987 and 6% in FY 1988: (base year FY 1986).

PROGRESS TO DATE:

Efficiency in irrigation systems increased by 3% in FY 1987.

-- River basin/watershed/management guidelines produced in FY 1987. Incorporation of guidelines to actual river basin development plans of two African countries by FY 1989.

PROGRESS TO DATE:

River basin/watershed/management guidelines were produced in FY 1987.

Multi-donor, USAID, host country workshop held on development of Juba Valley (Somalia) watershed.

Work in progress on guidelines (expected 4th quarter 1987).

Major on-going analysis of central Tunisia water system and development plans.

-- Regional network, promoting exchange of information among West African agriculture researchers functioning.

PROGRESS TO DATE:

Regional workshop held in Niger.

-- Host country nationals trained in natural resources management programs in FY 1987 and in FY 1988.

New Benchmark for FY 1989:

-- Soil and Water Management Strategies developed for three local regions in Latin America by FY 1989.

-- Establish a joint biological/social science network and research coordinating group of Asian scientists concerned with small farmer multi-purpose tree development and extension by FY 1989.

-- Research/studies to develop more effective practices and procedures for irrigating steep slopes to both reduce soil erosion and to make better use of available resources underway by FY 1989.

-- Three training courses to encourage transfer of operational responsibility of government-owned irrigation schemes to local water user groups leading to greater sustainability of these systems will be conducted by FY 1989.

-- Work on placement of modified granules of urea as an alternative to sulfur-coated, slow-release nitrogen fertilizer for rice in ten of the following countries during FY 1988-89.

AFRICA: Botswana, Burundi, Cameroon, Kenya, Mali, Mauritania, Malawi, Niger, Rwanda, Senegal, Tanzania, Zambia, Zimbabwe.

ASIA: Bangladesh, Burma, India, Indonesia, Pakistan, Nepal, Philippines, Sri Lanka, South Pacific, Thailand.

LATIN AMERICA CARRIBBEAN: Belize, Bolivia,, Costa Rica, Dominican Republic, Guatemala, Haiti, Honduras, Jamaica, Peru.

NEAR EAST: Egypt, Jordan, Morocco, Tunisia.

-- Provide a biological diversity analyses prototype systematic conservation map for use by Missions for the CDSS and for use by host-country governments and other institutions concerned with environmental profiling and national conservation strategy formulation by FY 1989.

-- Stimulate the initiation of at least three Phase-II Country Environmental Profiles (CEPS) over three years with strategic biological diversity conservation overviews by FY 1989.

-- Stimulate National Conservation Strategies in at least three A.I.D. host countries over three years by FY 1989.

Projects Contributing to Attainment of Benchmark

| Project Number | Project Name | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 0054 | International Fertilizer Development Center | 2,000 | 2,000 | 2,000 |
| 0610 | Biotechnology: Limiting Factors in BNF | 160 | 160 | 160 |
| 1096 | Program Development and Support | 53 | -- | -- |
| 1135 | Human Settlements and Natural Resources Systems Analysis | 200 | 200 | 200 |
| 1229 | Soil Management Support Services | 550 | 600 | 600 |
| 1311 | CRSP Soil Management | 1,000 | 1,100 | 1,100 |
| 4021 | Technology of Soil Moisture Management | 195 | 380 | 450 |
| 4054 | International Benchmark Sites Network | 267 | 324 | 324 |
| 4127 | Water Management Synthesis II | 500 | -- | -- |
| 4142 | Integrated Pest Management and Environmental Protection Including Biocontrol | 125 | 125 | 140 |
| 4179 | Irrigation Management Support & Research | -- | 180 | 360 |
| 5438 | Development Strategies for Fragile Lands | 117 | 117 | 117 |
| 5519 | Forest Resources Management | 1,545 | 717 | 717 |
| 5547 | Forestry Fuelwood Research and Development | 1,650 | 1,250 | 1,200 |
| 5550 | Biological Conservation in Development | -- | 600 | 600 |
| 5826 | Communication for Technology Transfer in Agriculture | 250 | 250 | 175 |
| | TOTAL | 8,612 | 8,003 | 8,143 |

I.5. Benchmarks for attaining Energy objectives to lessen hunger.

1.5.1. Energy technologies to provide adequate supplies of energy to sustain small and large farm production. According to the FAO, each increase of 1% in agricultural output requires an additional energy input of more than 2%. The intent to increase agricultural growth by a minimum 2% by FY 1988 requires substantial attention to energy use, constraints and production. The Bureau's energy benchmarks are:

FY 1987/88 Benchmarks:

-- Working with Regional Bureaus and Missions, integrate renewable energy into agricultural and rural development projects during FY 1987 and FY 1988.

PROGRESS TO DATE:

S&T/EY is integrating numerous energy activities into agriculture and rural development projects. In FY 1987, S&T/EY and Africa Bureau sponsored a conference in Botswana (with representation from 16 African countries) which examined options for improving water pumping systems, especially regarding energy use. In addition, S&T/EY contributed to the design of the Niger Irrigated Agriculture Research Project and the Honduras Irrigation Development project.

-- Assessments of energy requirements associated with groundwater pumping for irrigation in Asia -- probably Pakistan and India. Pumping needs assessments in Africa: Zimbabwe, Somalia, and Mali completed by FY 1987.

PROGRESS TO DATE:

S&T/EY participated in an Asian regional irrigation workshop and S&T/EY offered several initiatives to respective USAID project officers. Three countries interested in energy/pumping issues include: Pakistan, India, and Bangladesh. Pakistan is interested in a operation and maintenance manual for improving the performance of public tubewells and a power component calling for S&T/EY assistance. The India Mission is interested in working with S&T/EY on activities for FY 1988.

Pumping assessments were completed for Zimbabwe, Mali, and Chad.

-- One sugar cane plant producing locally derived power under construction in FY 1987; feasibility studies for use of cane as a power producer completed in the Philippines and Thailand in FY 1987; and project design for use of cane for power in a yet to be determined country in FY 1988. Also a sugar cane power plant under construction in FY 1988.

PROGRESS TO DATE:

The Jamaica study succeeded in generating U.S. and Jamaican interest in private investment. The original power concept is being expanded to include both bagassee and peat in program to support power to the national grid, sugar mills, and bauxite/alumina refineries. This could serve as a prototype for replication in many can producing LDCs such as the Philippines, Thailand, Pakistan and Dominican Republic.

An in-depth feasibility study was completed in September 1986 for a private sector 35 MW power project at a sugar factory in Jamaica that will burn sugar can bagassee and trash; feasibility study for use of cane as a power producer completed in September, 1986 for Thailand and December, 1986 for the Philippines; work began on a project design for use of cane for power in India for FY 1988.

-- Four decentralized energy systems using either cane, rice hulls, other local biomass or fossil fuels, to substitute for costly imported fuels operating in India, the Philippines, Jamaica and probably Costa Rica.

PROGRESS TO DATE:

In the Philippines and Jamaica, the work proceeds to locate private investors and invest in cane or rice energy plants. In Costa Rica, the manufacturer of the gasification system has made several attempts to start the gasifier which should be in operation in FY 1987. The India Groundnut Shell Energy Project has been delayed because no bidders satisfied the commercial requirements and is being converted to a research and development project.

-- Assessment of rice hulls to generate power for agriculture and rural use completed by FY 1988.

-- Teams in place to promote U.S. and LDC private sector investment in small power systems, energy conservation and cogeneration in Pakistan, India, Thailand in FY 1987 and two more countries in FY 1988.

PROGRESS TO DATE:

Worked closely with USAID/New Delhi to design a 6-year, $20 million project, "Program to Accelerate Commercial Energy Research" (PACER). This project, which will begin in June 1987 will move India toward a more technologically dynamic market economy and will support approaches to mitigate serious electricity shortages.

-- Study of energy needs for irrigation in Niger, Malawi, and India completed in FY 1987.

PROGRESS TO DATE:

S&T/EY is examining energy needs for irrigation and other agricultural subsectors in Malawi. S&T/EY, through its buy-in to the Water Management Synthesis project, participated in a pumping assessment for Niger. The India pumping assessment has been delayed until FY 1988.

New Benchmarks for FY 1989:

-- Five model energy conservation programs for agricultural industries (including private sector industries) underway in Pakistan, Thailand, and Egypt by FY 1989.

-- Development of a methodology and applied testing in the field for Niger by FY 1989.

-- Development of training activities for diesel, solar, and wind pumps at a selected location in Sudan by FY 1989.

-- Catalyze LDC private sector investment in small power systems, energy conservation, and cogeneration in Pakistan, India, Indonesia, and Thailand in FY 1989.

Projects Contributing to Attainment of Benchmark

| Project Number | Project Name | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 5709 | Bioenergy Systems and Technology | 881 | 1,240 | 1,113 |
| 5724 | Conventional Energy Technical Assistance | 100 | 150 | 478 |
| 5728 | Energy Policy Development and Conservation | 1,600 | 435 | 1,167 |
| 5730 | Renewable Energy Applications and Training | 210 | 305 | 208 |
| 5734 | Energy Training | 375 | 600 | 1,100 |
| | TOTAL | 3,166 | 2,730 | 4,066 |

I.6. Stimulate employment generation and the promotion of small and medium private enterprises (see Income Section).

New Projects

936-4179 - Irrigation Management Support and Research

The goal of the proposed Irrigation Management Support and Research Project is to bring about improved LDC irrigation system performance, including increased productivity of the irrigated agricultural subsector, through better water management and more effective use of water resources. Its more immediate aim is to increase the capability of AID-recipient countries in Africa and Latin America/Caribbean to address constraints to achieving these objectives, and it will be pursued through a two-pronged strategy of direct field support to Missions and host governments as well as a longer-term program of research and broader sector support.

The former will focus on technical assistance in designing, developing, monitoring and evaluating AID-funded efforts in irrigation and water management and the training of host-country nationals through in-country short courses, workshops, and the development of training aids and materials. Besides applied research into a wide variety of problems facing improved irrigation system performance, the latter component of the project will also facilitate technology transfer and other actions that will stimulate the adoption of sound irrigation practices at both the farm level and by those responsible for irrigation systems operations and management.

936-5110 - Consumption Analysis of Food and Agriculture Policies

In most developing countries public policies for agricultural and economic development are generally formulated without considering their impact on food consumption. For instance, a policy to invest in export cash crop cultivation (such as sugar cane) rather than in domestic food crop cultivation (such as cassava) would commonly be made on economic considerations having to do with foreign exchange earnings. Similarly, agricultural planners and managers in developing countries do not visualize food consumption analysis as part of their responsibilities, and they assume that food output automatically gets to consumers on some equitable basis. Experience has proven these attitudes and assumptions wrong, as in the case of the establishment of the National Milling Corporation in Tanzania, a parastatal organization which completely disrupted the agricultural economy it was intended to serve.

The prinicipal emphasis of this project will be on technical assistance in the design, implementation and evaluation of food and agriculture projects, programs and policies. Project-level assistance will derive from the linkages between food production and consumption -- often seen in the seasonality of food production, labor requirements, and food prices. It will also deal with questions of commodity choice and marketing strategy. Policy-level assistance will cover both the formulation and monitoring of agricultural and food policies, and the development of a base of data and analysis as inputs to the policy-formulation process. Focused studies of consumer income levels and food behavior will be undertaken in support of this policy-oriented technical assistance. Overview studies will also be undertaken to summarize the lessons learned from prior undertakings.

## II. Plan to Address Problem of Inadequate Income Growth

### II.1. Rationale

A prevailing condition in LDCs is the existence of sizable unemployment or underemployment. This underutilization and misallocation of human resources may take many forms, from open unemployment -- as in seasonal unemployment which especially affects surplus agricultural workers -- to "disguised" unemployment, where, for example, a work process that could be performed by two persons is in fact performed by three or more. Whether disguised or hidden, underemployment of human resources is frequent, onerous, and in economic terms, costly. The result of underemployment and unemployment -- real, seasonal, disguised or hidden -- is lack of income. Absence of income impacts across the spectrum of basic needs.

Poor policies and misdirected investments are major causes of low employment growth. Low productivity of workers is often a fundamental cause of low earnings. Increasing industrial productivity requires a continuing stream of improved technologies. The development of human resources (e.g., technical and managerial), financial markets, and commercially oriented science and technology institutions are essential components of systems that produce continually improved industrial technologies. While some former A.I.D. recipient countries have escaped the worst symptoms of poverty (e.g., Brazil, Chile, Korea, Malaysia and Taiwan), conditions have worsened among many LDCs. Poverty has increased for various reasons which include prolonged recession; structural weaknesses in policy compounded by poor administration; absence of both a stable labor market and a qualified labor force.

Women constitute a major and frequently inefficiently-used group in rural and urban income producing sectors. For centuries women have been virtually ignored as earners of real income by both the public and private sectors. Yet women, as a group, have been and continue to be major earners of invisible income. In Africa, for example, while village men often have gone to the urban areas in search of work, women are left to till the fields, carry the water, prepare the food, search for fuel, and tend the children. Often women constitute the most reliable source of income among poor rural and urban families in maturing countries.

Experience and exposure have taught that countries which have over-extended the role of the public sector and restricted the operation of the private sector have had slow growth, heavy budget deficits and rising debt burdens. A climate conducive to private sector activity among A.I.D.'s recipient nations is now emerging. If A.I.D. is to succeed in promoting economic growth and its corollary, growth in income, the Agency should take advantage of the new environment permitting fuller participation of the private sector in seeking ways and means to stimulate equitable growth in family income.

### II.2. Long Range Objectives to Achieve Growth in Income

II.3 Increase off-farm employment opportunities, income growth and productivity.

II.4. Improve LDC capability to finance and manage development activities at the local level.

II.5 Enhance rural income growth through sustainable agricultural production.

II.6 Improve management of natural resource base for economic growth.

II.7 Develop less expensive energy systems to spur economic growth and reduce LDC dependence on imported fuels.

II.8 Increase policy objectives.

## II.3. Benchmarks for Attaining Off-farm Employment Objectives to Achieve Growth in Income

Labor forces in LDCs are growing disproportionately to opportunities in the labor market. The absence of productive jobs in rural areas especially results in depressed rural incomes and internal migration to cities, which further exacerbates urban employment problems. The Bureau's strategy assigns high priority to activities designed to overcome inadequate income through employment and enterprise development. For the FY 1987/1988 year, employment enterprise benchmarks include:

FY 1987/88 Benchmarks:

-- Facilitate policy dialogue to remove biases against labor-intensive and small-scale enterprises (Rwanda, Bangladesh, Thailand, Dominican Republic, Indonesia) by FY 1988. **Continue policy dialogue in FY 89.**

PROGRESS TO DATE:

Long-term policy research and advisory teams in place in Rwanda, Bangladesh, and Sri Lanka during FY 1987, and in Indonesia in FY 1988.

-- Case studies to galvanize self-employment and corresponding training modules in El Salvador, Bangladesh and Philippines completed by FY 1988. **Case studies to develop self-employment and other small business promotion training modules in six countries in FY 89.**

PROGRESS TO DATE:

Case studies will begin in five countries during summer 1987.

-- Two research documents on self-employment and micro-enterprise promotion published in FY 1988.

PROGRESS TO DATE:

Approximately ten research documents issued during FY 1987.

-- Replication of employment generation activities sponsored by Appropriate Technology International in process by FY 1987. **Continuation of replication activities in FY 89.**

PROGRESS TO DATE:

Six replication projects in operation, and another four being designed, as of the end of FY 1987.

-- Programs to stimulate collaborative business ventures established in Costa Rica, Thailand, Tunisia, Turkey, Yemen, India, and Indonesia in FY 1987 (six ventures in each country); one each probably in Morocco and Jordan in FY 1988. **Employment stimulated in small-scale enterprised through collaborative business ventures broadened by private intermediaries in six countries in FY 89.**

PROGRESS TO DATE:

Programs established in Costa Rica, Thailand, Tunisia, Turkey, Yemen, and India; business ventures being developed in all sites.

A.I.D. sponsored workshop on industrial technology acquisition held in April 1987.

Draft amendment to Market and Technology Access project prepared.

-- Develop a model of commercially oriented industrial technology development based largely on the experience of U. S. state and local industrial development organizations in FY 88. **Continue activity in FY 89.**

New FY 89 Benchmarks:

-- Incomes of poor micro- and small-scale entrepreneurs increased in FY 1989 through provision of targeted credit in accordance with proposed (1987) Congressional initiative focused on provision of credit for the enterprises of the poor.

-- Refine and update present understanding of importance and relation between income generation and urban-rural links.

-- Establish and apply in at least two countries a new methodology for rapid study of urban-rural links in relation to targets of opportunity for increase rural income activities.

-- Assess the local industrial technology policy context in five developing countries.

Projects Contribution to Attainment of Benchmarks

| Project No. | Title ($000) | Obligations FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 1090 | Small Enterprise Policy Analysis | 224 | 224 | 224 |
| 1135 | Human Settlement and Natural Resource Systems Analysis | 100 | 80 | 80 |
| 4053 | Marketing and Technology Access | 100 | 500 | 175 |
| 5315 | Experimental Approaches to Rural Savings | --- | 40 | 89 |
| 5426 | Employment and Enterprise Policy Employment | 123 | 22 | 111 |
| 5428 | Appropriate Technology International | 1,500 | 1,500 | 1,500 |
| NEW | Micro-Enterprise Policy Research and Technical Support | --- | --- | (1,000) |
| | TOTAL | 2047 | 2366 | 2179 |

## II.4. Benchmarks For Improving Capability to Finance and Manage Development at Local Level

Overcoming financial instability is critical to income growth. S&T's long term objective in this area is to improve LDC private and public capabilities to finance and manage development activities at the local level.

FY 1987/88 Benchmarks:

-- A contract for applied research/technical assistance for the implementation of a systematic field analysis to mobilize actions to efficiently sustain recurrent costs of local infrastructure - completed in FY 1987. Implementation begins for applied research/technical assistance in El Salvador and possibly the Philippines, Bangladesh, and Honduras in FY 1988.

PROGRESS TO DATE:

Decentralization: Finance and Management project and contract began FY 87; buy-in estimates $12 million for recurrent work in 8 countries. FY 88 state-of-art paper and field work in Zaire, Bangladesh, Nepal.

-- Begin field work with USAID buy-ins in Bangladesh, Zaire, Nepal, and one other country. USAID-funded management improvement work implemented in 15 countries in FY 89.

PROGRESS TO DATE:

USAID-funded management improvement work implemented in 20 countries with special programs in Francophone and Southern Africa, business management education in Paraguay.

-- Publish and disseminate organizational and management R&D products. Findings on local revenue generation obtained from prior years' assessments published in FY 1988.

-- Organization and management improvement guidance papers completed, disseminated.

PROGRESS TO DATE:

Four development management books and institutional development sustainability report for A/AID published, widely disseminated.

-- Expand current programs of support to savings mobilization (prevent return to targeted subsidies) in rural financial institutions, to include Dominican Republic, Bangladesh, the Philippines and Niger (FY 1987) and possibly Indonesia and Guatemala in FY 1988.

PROGRESS TO DATE:

Continuation and expansion of savings mobilization programs in Dominican Republic and Bangladesh.

Major study of credit system and savings mobilization in Niger.

Initiation of financial sector study program plan for Philippines.

-- Expand pilot savings program in Dominican Republic in years FY 1987 and FY 1988.

PROGRESS TO DATE:

Evaluation completed in preparation for new PP.

-- Expand program to achieve market rates for interest (loans and deposits) and reserved rates in Bangladesh during FY 1987 and FY 1988.

-- Complete survey of informal savings systems and their relationship to the formal rural financial system (transaction costs and incentive structure) in Niger by FY 1987.

-- Analyze urban and rural capital mandates to assure appropriate incentives for the mobilization and utilization of capital, consistent with private sector efficiency (Rwanda, Bangladesh). Three countries will be studied in FY 88.

PROGRESS TO DATE:

Sites for capital market study identified during FY 1987.

-- Improve the financial and business management of indigenous institutions, including appropriate training, in Egypt, Bangladesh, India, Indonesia, Pakistan, Philippines, Dominican Republic, Ecuador, Haiti, Paraguay, Benin, Central African Republic, Chad, Guinea, Malawi, Niger, Swaziland, Togo, Zambia, Zimbabwe. **Institutions which support local small businesses in their credit and non-financial requirements strengthened in fifteen countries during FY 1988 and FY 1989.**

PROGRESS TO DATE:

Technical assistance for institution-strengthening provided to selected countries.

New FY 89 Benchmark:

-- Refine and adapt establish findings on the function of agricultural credit to other specific rural uses, especially micro-enterprise and needs of special groups such as women and poor majorities.

Projects Contributing To Attainment of Benchmarks

| Project No. | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 1090 | Small Enterprise Approaches to Employment | 223 | 223 | 223 |
| 5315 | Experimental Approaches to Rural Savings | 210 | 175 | 180 |
| 5317 | Performance Management | 779 | 789 | 639 |
| 5426 | Employment and Enterprise Policy Analysis | 123 | 22 | 111 |
| 5446 | Decentralization: Finance and Management | 270 | 450 | 450 |
| | TOTAL | 1,605 | 1,659 | 1,603 |

## II.5. Benchmarks for Enhancing Rural Income Growth Through Sustainable Agricultural Production

A strong agriculture sector provides productive employment either directly through family farms or indirectly through opportunities generated through forward and backward demand linkages with the non-farm sector. All S&T agricultural technology projects included in the Hunger Section of the Action Plan also contribute importantly to the income objective. Security of tenure of agricultural producers is a vital prerequisite to long term investment is sustainable activities. The FY 1987/1988 benchmarks for increased income from sustainable agricultural production include:

FY 1987/88 Benchmarks:

-- Increase food availability through the development of improved technologies for plant and animal production by FY 1988.

-- Use renewable sources of power (solar, wind and geothermal) to sustain specific agricultural and fisheries production in selected countries by FY 1988.

-- Establish programs and identify investments needed to relieve problems of energy for agricultural production by FY 1988.

-- Techniques for increases in fish production in process in Costa Rica, Indonesia, and the Philippines in FY 1988.

-- Provide training for 12 LDC scientists in hydroacoustic techniques for stock assessment in FY 1988.

-- Continue providing technical assistance for cultured and captured fish production.

-- Decrease fisheries post harvest losses by 2% annually.

(See Sections 1.3.5 and I.5.1 for Progress to Date.)

NEW FY 89 BENCHMARKS:

-- Test pond productivity models in the Philippines, Indonesia and Thailand.

-- Increase production of high value horticulture crops.

-- Identify economic policy reform that can enhance economic growth without placing burdens on particular groups, e.g., low-income farmers or nutritionally vulnerable consumers.

-- Increase productivity of African agriculture, and therefore incomes and employment opportunities within the African rural sector, through the more effective and efficient use of available water resources.

-- Through economic research and policy guidance, reduce expenditures on harvesting by fishing sector, thereby adding to incomes of small-scale fishermen.

-- Promote biotechnology, such as nitrogen fixation, to naturally and profitably produce food.

-- Assistance to at least five countries in reforming systems of securing resource use rights of small rural agricultural producers.

Projects Contribution to Attainment of Benchmarks

| Project No. | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 0054 | Intl Fertilizer Development Center | 1,460 | 1,460 | 1,460 |
| 0242 | Fisheries-Aquaculture Tech. Asst. | 140 | 140 | 140 |
| 0610 | Bio-Technology Limiting Factors | 90 | 90 | 90 |
| 1229 | Soil Management Support Services | 65 | 65 | 60 |
| 1254 | CRSP: Sorghum/Millet | 656 | 810 | 810 |
| 1310 | CRSP:Beans Cowpeas | 910 | 780 | 780 |
| 1311 | CRSP-Program: Soils Management | 1,013 | 1,000 | 1,000 |
| 1314 | Aquaculture Technology Development | 160 | 155 | 155 |
| 1323 | Storage and Procssg of Fruits and Vegs | 100 | 100 | 140 |
| 1328 | CRSP-Program: Small Ruminants | 990 | 1,400 | 1,400 |
| 4021 | Technology of Soil Moisture Management | 65 | 130 | 150 |
| 4023 | CRSP - Pond Dynamics | 292 | 275 | 275 |
| 4024 | Fisheries Development Support Services | 72 | 77 | 83 |
| 4048 | CRSP - Peanuts | 400 | 500 | 500 |
| 4054 | International Benchmark Sites Network | 445 | 540 | 540 |
| 4083 | Host Resistance/Integrated Tick Control | 260 | 260 | 260 |
| 4084 | Agricultural Planning and Policy Analysis | 250 | 250 | 250 |
| 4109 | Agricultural Technology Res & Development | 472 | 470 | 450 |
| 4111 | Int Agricultural Research Centers | 1,830 | 930 | 930 |
| 4132 | Soybean Utilization and Research | 150 | 170 | 195 |
| 4137 | Biotechnology Tissue Culture | 187 | 265 | 265 |
| 4142 | Imp and Environ Prot Incl Bio-Control | 50 | 55 | 60 |
| 4144 | Postharvest Grain Sys/Agricusiness R&D | 70 | 85 | 85 |

Projects Contribution to Attainment of Benchmarks (CONT'D)

| Project No. | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 4146 - | CRSP:Fisheries/Stock Assessment Research | 535 | 420 | 420 |
| 4161 - | Reproductive Studieson Milkfish | 600 | 600 | (200) |
| 4177 - | Improved BNF Thru Bio-Technology | 375 | 390 | 420 |
| 4178 - | Improved Animal Vaccine Thru PIO-Tech | 175 | 240 | 480 |
| 4179 - | Irrigation Mgt Support and Research | -- | 240 | 480 |
| 5301 - | Research on Access to Land Water and Natural Resources | 265 | 265 | 260 |
| 5547 - | Forestry Fuelwood and Research & Development | -- | -- | 25 |
| 5826 | Communication for Transfer and Technology in Agriculture | 300 | 175 | 175 |
| 1406 | Program Development and Support | 112 | 400 | 400 |
| | TOTAL | 12529 | 12737 | 12738 |

## II.6. Benchmarks for Increased Economic Growth Through Improved Management of Natural Resource Base

Growth and income depend, among other things, on maintaining ecosystem processes and life-support systems such as soil generation, nutrient recycling, water cleansing, and renewable biological resources, and increased public awareness. Increased incomes are directly achievable by more intensive planting of productive multi-purpose trees and better management of fresh water and marine systems for fisheries and forest products, tourism, and other commercial activities. Maintaining ecosystems processes requires the cooperation of local resource-using groups which itself demands that programs and policies conform to those groups' actual needs and that they secure direct benefits from improved management of local resource systems. The Bureau's natural resources/forestry benchmarks are:

FY 1987/88 Benchmarks:

-- Increase in income from charcoal and timber sales in Thailand, Nepal, India, and other countries in Southeast Asia by FY 88.

-- Increase in cooperation between government and private sector institutions to advance forest-based development in Ecuador in FY 88.

-- Coastal resources management activities under way in Sri Lanka, Ecuador, and Thailand in FY 87.

-- Alley cropping systems using multipurpose tree species defined for selected areas in Thailand, India, Indonesia, and several countries in Africa by FY 88.

-- Coastal resources in Sri Lanka, Ecuador and Thailand, initiated by FY 1988.

-- Analysis of the management of coastal lagoons in Sri Lanka initiated in FY 1987.

-- Third pilot coastal resources management activity for fisheries in Thailand planned by FY 1987.

New FY 89 Benchmarks:

-- Establish clear understanding of relationship between user rights and sustained resource exploitation in threatened and underproductive rural environments.

-- Assist on a country by country basis in establishing coordinated development programs for local environmental systems such as river basin and fragile mountain areas.

-- Programs completed in FY 89 that stimulate the preparation of Country Environmental Profiles or similar studies in the Caribbean region, Colombia, and three to four studies initiated in Africa.

-- Development started by FY 89 of environmental institutions that can influence public policy on natural resources management in selected developing countries.

-- Initiate analysis of Gulf of Thailand trawl fisheries data by FY 89.

Projects Contributing to Attainments of Benchmarks

| Project No. | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 1135 | Human Settlement and Resource Systems Analysis | 80 | 80 | 80 |
| 5301 | Research on Access to Land, Water and Natural Resources | 265 | 265 | 260 |
| 5826 | Development Strategies for Fragile Lands | --- | 50 | 100 |
| 5517 | Environmental Planning and Management | 1,137 | 867 | 867 |
| 5518 | Coastal Resources Management | 746 | 746 | 746 |
| 5519 | Forest Resources Management | 662 | 300 | 300 |
| 5547 | Forestry Fuelwood Research and Development | 917 | 570 | 570 |
| 5550 | Biological Conservation in Development | -- | 200 | 200 |
| 4023 | Pond Dynamics CRSP | 291 | 275 | 275 |
| 4024 | Fisheries Development Support Services | 73 | 78 | 82 |
| | TOTAL | 4171 | 3431 | 3480 |

## II.7. Benchmarks to Reduce Dependence on Imported Fuels

The A.I.D. target to achieve a 2% real increase in per capita income requires, among other things, reduction in dependence on imported fuels, an increase in use of indigenous fuels for power and considerable strides in energy conservation. Our energy benchmarks as concerns growth in income are:

FY 1987/88 Benchmarks:

-- Technology teams to promote U.S. and LDC private sector investment in small power systems fielded in FY 1987 and additional teams in FY 1988. **Field additional technology teams in FY 89, including African countries.**

PROGRESS TO DATE:

An Asia/Near East (Bangkok) Workshop was held in October, 1986. A technology transfer team of U.S. energy conservation equipment and services industry members made key contributions. Members of the team visited India and Pakistan; at least one investment opportunity was identified. A similar activity is being planned for the Central America and Caribbean area for early FY 1988.

-- Assess policy barriers as these relate to private investment in energy conservation and power generation. Assessments completed in Pakistan, India and Thailand in FY 1987; three additional country assessments completed in FY 1988.

PROGRESS TO DATE:

Policy assessments completed in Pakistan, India, and Thailand.

-- Model energy conservation programs for industries (especially agricultural industries) in place in five countries by FY 1987 and 10 countries by FY 1988. **Ten additional countries, including one African, in FY 89.**

PROGRESS TO DATE:

Designed projects to promote the transfer of technology for energy management to the private sector in Egypt and Morocco, with follow-up by Mission buy-ins. Industrial energy demand management and auditing performed in Dominican Republic, India and Costa Rica.

-- Feasibility studies completed for a cane fired power plant in Jamaica in FY 1987.

PROGRESS TO DATE:

Feasibility study completed for a cane fired power plant in Jamaica - September, 1986.

-- Implement trial year for cane fired power plants in Thailand and Honduras in FY 1987.

PROGRESS TO DATE:

S&T/EY is collaborating with USAID/Bangkok in the design of a trial year to obtain institutional acceptance in which the sugar industry will produce and sell power to the utility. The major obstacles to project initiation in Thailand are institutional. Project feasibility depends on institutional changes.

S&T/EY collaborated with USAID/Honduras in the first half of 1986 to conduct an economic, financial and technology analysis of alcohol (ethanol) production for export by the sugar industry. The study recommended against a Honduran subsidy or other major incentives for alcohol production, and became the basis for USAID/Honduras to provide policy advice on future directions for the Honduran sugar cane industry.

-- Begin feasibility study for cane fired power plants in Thailand and Honduras in FY 1987.

PROGRESS TO DATE:

The feasibility study of a sugar cane energy power project in Jamaica succeeded in generating U.S. and Jamaican interest in private investment. Negotiations between the Jamaican government and a U.S. led private sector consortium are continuing. At the request of the GOJ, the original power concept has been expanded to include both bagasse and peat in an integrated program with power to be delivered to the national grid, sugar mills, and bauxite/alumina refineries. The success of the project could serve as a prototype for replication in many cane producing LDCs such as the Philippines, Thailand, Pakistan and Dominican Republic.

An in-depth feasibility study was completed in September, 1986 for a private sector 35 MW power project at the Monymusk sugar factory in Jamaica that will burn sugar cane bagasse and trash; feasibility study for use of cane as a power producer completed in September, 1986 for Thailand and December, 1986 for the Philippines; working on project design for use of cane for power in India for FY 88.

-- Feasibility study of direct combustion of oil shale completed in Jordan in FY 1987, in collaboration with private sector entity.

PROGRESS TO DATE:

S&T/EY, USAID/Amman and the Jordanian Government have now agreed on a work scope and cost-shared funding plan for conducting a prefeasibility study of a direct combustion oil shale to electric power project.

The project will employ an advanced, commercially-proven circulating fluidized bed technology. To accelerate private sector interest in the concept, USAID funded a consultation visit in 1986 that reported attractive potential benefits for Jordan from application of this new technology. A private U.S. consortium has become interested in developing a project and will be closely monitoring the prefeasibility study.

-- Prefeasibility study of direct combustion of Jordan oil shale, in collaboration with private sector, to be completed in FY 88.

-- Approximately 150 host country nationals trained in industrial and utility energy conservation by FY 1988. **Approximately 80 more trained in FY 89.**

-- Promote investment in indigenous oil exploration and development by FY 1988. **Coal resource opportunity assessments conducted in one or more of the following countries in FY 89: India, Botswana, Philippines and Madagascar.**

PROGRESS TO DATE:

A number of candidate countries will be screened, including Pakistan, India, Bangladesh, Thailand, Peru and Bolivia. Efforts will be directed at catalyzing the negotiation process between LDC governments and the private sector.

-- Promote energy planning, management, and use of decentralized power systems using renewable and conventional technologies by FY 1988. **Promote investment in clean coal technology in India and Pakistan in FY 89. Hold major conference in India for decision-makers from the U.S. and Indian private and public sectors to promote investment in innocative technologies for the electric power sector.**

PROGRESS TO DATE:

Worked closely with USAID/New Delhi to design a 6-year, $20 million project, "Program to Accelerate Commercial Energy Research" (PACER). This project will move India toward a more technologically dynamic market economy and will support approaches to mitigate serious electricity shortages. The project agreement with the Government of India will be signed in June, 1987.

-- Assessments of energy requirements associated with groundwater pumping in four African countries and in Pakistan and India in FY 1987, and India in FY 1988. **Develop a private sector mini-grid project in a rural area to provide energy for water pumping and other development needs in FY 89.**

PROGRESS TO DATE:

Assessments of energy requirements were supported by S&T/EY in several African countries: Niger, Mali, Chad, and Zimbabwe.

S&T/EY is pursuing development of a manual on energy use, operation and maintenance for tubewells. This effort is contingent on receiving Government of Pakistan approval. India work will be postponed until FY 88.

-- Examine the feasibility of straw and rice hull fired rural power plants, as substitutes for imported oil including diesel. If positive, initiate project in India or Thailand in FY 1987.

PROGRESS TO DATE:

A rice residue utilization team visited Thailand, Indonesia, and the Philippines to meet with USAID Mission officials, host country government agencies, rice millers, power plant component manufacturers, and representatives of other organizations which are interested in rice residue use, such as the Asian Development Bank and the International Rice Research Institute. Power plants using rice residues for fuel continue to look attractive. Work in India has been delayed by political instability in the Punjab, India's major rice-growing region. Work in Thailand has been delayed by the negative impact of changes in U.S. rice export policies. Work is proceeding in Indonesia and the Philippines. Expect to initiate project in Indonesia or Philippines in FY 88.

-- Assess feasibility of indigenous Costa Rican coal as fuel for a nine-month power plant, and as a substitute for oil in existing cement plants.

PROGRESS TO DATE:

A.I.D. recently completed a study of Costa Rican coal that concluded coal use in power production and cement plants was an attractive option to meet growing energy demand, to balance the hydro/thermal energy mix, and to ease foreign debt burdens. Results of the study were presented to an international conference in Dallas which addressed issues of low rank fuel use in LDCs. GOCR is considering encouragement of private sector financing for indigenous coal projects.

Projects Contributing to Attainment of Benchmarks

| Project # | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 1406 | Program Development and Support | 2,785 | 3,487 | 4,859 |
| 5709 | Bioenergy Systems and Technology | 465 | 820 | 1,000 |
| 5724 | Conventional Energy Technical Assistance | 172 | 200 | 500 |
| 5728 | Energy Policy Development and Conservation Project | 410 | 605 | 200 |
| 5730 | Renewable Energy Applications and Training Project | 118 | 125 | 150 |
| 5734 | Energy Training | 871 | 975 | 1,509 |
| 9997 | Conventional Energy Training Project | 354 | -- | -- |
| | TOTAL | 2785 | 3487 | 4859 |

## II.8. Benchmarks for Attaining Policy Objectives to Redress Inadequate Growth in Income

Among the more important policy issues of interest to A.I.D. in the context of growth in income are those concerning internal mobilization of financial resources, the privatization of parastatals, factor and product market price distortions, foreign trade and exchange distortions, subsidies, inefficient use of energy and incentives for expanding output. Our growth in income policy benchmarks for FY 1987/1988 therefore, are:

FY 1987/88 Benchmarks:

-- Provide technical assistance to field missions requesting policy analysis of country specific employment and enterprise issues. **Short-term technical assistance and long-term policy advisors will be provided to thopse requesting assistance on country-specific employment and enterprise issues in FY 89.**

PROGRESS TO DATE:

Three long-term advisory teams in field, and five short-term policy analyses carried out through FY 1987.

-- Provide technical assistance to help change policies which decapitalize rural savings institutions. Use technical experts to demonstrate ways to strengthen private savings institutions and credit markets to benefit rural producers.

PROGRESS TO DATE:

Technical assistance is being provided in a variety of countries.

-- Provide technical assistance to improve local and national revenue systems to meet recurrent costs of development projects.

-- Complete review of R&D state-of-art and Mission needs on public/private transitions including "contracting out," and public sector cost containment. **Support Bangladesh and one other USAID in policy dialogue regarding finance of rural infrastructure or decentralized revenue/expenditure systems in FY 89.**

PROGRESS TO DATE:

Three R&D review papers completed; field study of "contracting out" funded by USAID/Honduras completed.

-- Provide technical assistance to encourage private sector growth. **Continue technical assistance in FY 89 to improve the policy environment within which credit and non-financial support institutions deliver services and resources to small private enterprises.**

PROGRESS TO DATE:

A preliminary project design paper was completed for an A.I.D. initiative in Pakistan to encourage private sector power generation and distribution. A project paper is expected to be completed in 1987.

Small private enterprise, policy and institutional infrastructures reviewed in six countries through FY 1987.

-- Develop training units and skills development courses to improve LDC analytical skills for assessing the impact of economic policies on the agriculture sector.

-- Provide technical assistance to institutionalize the policy analysis process.

-- Provide technical assistance to improve LDC analytical skills for assessing the impact of policies on the agriculture sector.

-- Provide technical assistance for the effective management of water, land, and vegetation to Andean countries.

-- Options for energy pricing in India, Pakistan amd Thailand. **Analysis of policies to promote private power generation in Costa Rica, Guatemala and Indonesia in FY 89.**

PROGRESS TO DATE:

Studies on the potential for and impediments to private power generation in India, Thailand and Pakistan were completed. The Asia/Near East Workshop in Bangkok, October, 1986, highlighted private power generation and encouraged private sector investments in this area.

-- Assess institutional and policy barriers as related to energy conservation in Dominican Republic, Morocco and Costa Rica. **Target countries for FY 89 will be Bangladesh and Bolivia. Policy incentives will also be designed to promote private investment in innovative technology for the power sector.**

PROGRESS TO DATE:

Participated in the organization of energy managers associations and networks, including continued publication of ECSP Update (with worldwide circulation).

-- Provide technical assistance on food and consumption policy analysis and formulation in at least three countries during FY 1987, 1988, and 1989.

PROGRESS TO DATE:

Technical assistance to Jamaica, Haiti and Honduras. Target countries for 1988 have been determined to be Haiti, Jamaica and Liberia.

New FY 89 Benchmarks:

-- Introduce initiatives for fundamental adjustments in legal rights and regulatory practices that directly effect ability of rural producers to engage in sustained increased income production activities.

-- Coordinate regional development policies so that individual projects and programs reinforce each other toward obtaining increased income objectives.

-- Provide technical assistance on food and consumption policy analysis and formulation to Jamaica, Liberia and Jordan.

Projects Contributing to Attainments of Benchmarks

| Project No. | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 1135 | Human Settlement and Resource Systems Analysis | 65 | 40 | 40 |
| 4053 | Market Technology and Access | 35 | 169 | 100 |
| 5110 | Consumption Analysis of Food and Agriculture Policies | --- | 350 | 350 |
| 5303 | Local Revenue Generation & Administration | 100 | ---- | ---- |
| 5315 | Experimental Approaches to Rural Savings | 210 | 175 | 180 |
| 5426 | Employment and Enterprise Policy Analysis | 124 | 21 | 111 |
| 5438 | Development Strategies for Fragile Lands | 50 | 50 | 50 |
| 5724 | Conventional Energy Technical Assistance | 1,000 | 0 | 0 |
| 5728 | Energy Policy Development and Conservation Project | 400 | 488 | 1,250 |
| | TOTAL | 1984 | 1293 | 2081 |

Projects Contributing to Attainment of Benchmarks

| | | |
|---|---|---|
| 0054 - Intl Fertilizer Development Center | 60 | 40 |
| 0242 - Fisheries-Aquaculture Tech. Asst. | 40 | 60 |
| 0610 - Bio-Technology Limiting Factors | 65 | 35 |
| 1229 - Soil Management Support Services | 65 | 35 |
| 1254 - CRSP: Sorghum/Millet | 70 | 30 |
| 1311 - CRSP-Program: Soils Management | 50 | 50 |
| 1314 - Aquaculture Technology Development | 40 | 60 |
| 1323 - Storage and Procssg of Fruits and Vegs | 60 | 40 |
| 1328 - CRSP-Program: Small Ruminants | 50 | 50 |
| 4021 - Technology of Soil Moisture Management | 65 | 35 |
| 4023 - CRSP - Pond Dynamics | 40 | 60 |
| 4024 - Fisheries Development Support Services | 40 | 60 |
| 4048 - CRSP - Peanuts | 70 | 30 |
| 4054 - International Benchmark Sites Network | 50 | 50 |
| 4084 - Agricultural Planning and Policy Analysis | 70 | 30 |
| 4109 - Agricultural Technology Res & Development | 70 | 30 |
| 4111 - Int Agriculturall Research Centers | 40 | 60 |
| 4132 - Soybean Utilization and Research | 70 | 30 |
| 4137 - Biotechnology Tissue Culture | 65 | 35 |
| 4140 - CRSP: Fisheries/Stock Assessment Research | 40 | 60 |
| 4141 - High Value Hotriculture Crops | 55 | 45 |
| 4142 - Imp and Environ Prot Incl Bio-Control | 90 | 10 |
| 4144 - Postharvest Grain Sys/Agricusiness R&D | 80 | 20 |
| 4161 - Reproductive Studieson Milkfish | 40 | 60 |
| 4177 - Improved BNF Thru Bio-Technology | 50 | 50 |
| 4178 - Improved Animal Vaccine Thru PIO-Tech | 50 | 50 |
| 4179 - Irrigation Mgt Support and Research | 60 | 40 |
| 5730 - Renewable Energy Application and Training | 50 | 50 |

## III. Plan to Reduce Illiteracy and Improve Education

### III.1 Rationale

The lack of basic education and skills training at all levels impedes productivity and technological advances, lessens the chances for improvements in health, nutrition, family planning and agricultural productivity, and exacerbates the problem of unemployment. Development programs will not succeed without a literate population and skilled workforce to implement the programs of development.

Developing countries are struggling with the need to educate increasing numbers of children when education budgets are severely constrained. Existing education programs, whether at the primary school or university level, are frequently low quality and do not contribute fully to the country's major development efforts. In all sectors, the difficulties of reaching isolated and dispersed populations are hindering attempts to provide essential information and education about key development programs.

To respond to these critical education problems, the Science and Technology Bureau has designed activities to:

analysis and plann how to make the best use of scarce financial and human resources;

introduce and adapt technology to improve the quality of education and to extend it to large, dispersed populations;

solve key education problems in other development sectors, and ensure that Agency programs benefit from new advances in communications technology.

provision of policy guidance and administrative and technical support for the Agency's participant training program.

### III.2 Long Range Objectives to Reduce Illiteracy and Improve Education

III.3 Increase the pool of basic, professional and technically educated people.

III.4 Develop analytic methodologies for informed education decision-making with emphasis on the efficient use of human and fiscal resources.

III.5 Develop adaptable technologies enabling countries to educate better, more people.

## Benchmarks for Attaining Reduction in Illiteracy and Improvement in Education

### III.3 Increase pool of educated people

Literate, professional and technically educated people are essential to both the efficient functioning of the national economy and to the ease with which a reasonable standard of living may be acquired. To this end, the Bureau's benchmarks to increase the numbers of trained and education people are:

FY 1987/88 Benchmarks:

Increase number of number of trained and educated people though the participant training program.

PROGRESS TO DATE:

S&T Bureau trained approximately 1,200 participants in FY 87 which is 100 more then were trainedin FY 86.

-- A continued increase in the percentage of women trained.

PROGRESS TO DATE:

In FY 86, out of 1007 S&T funded participants, 227 (20%) were women. Thus far in FY 87, of 613 participants 189 (31%) are women.

Projects Contributing to Attainment of Benchmarks

| Project # | Title | FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 926-0071 | Training Evaluation and Support Services | $1,438 | $1,300 | $1,300 |
| 931-0601 | Labor Organization Development | 650 | 500 | 500 |
| | TOTAL | 2088 | 1800 | 1800 |

## III.4 Improve Analytical Methodologies and Fiscal Resources Utilization in Education

The highest marginal return on investments in education will result from improvements in the quality and efficiency of existing systems. The lack of capacity to collect and use relevant data in the process of making education policy and program decisions is a major constraint. Our benchmarks to address this and other constraints include:

FY 1987/88 Benchmarks:

-- Update the Education Sector Assessments conducted in Liberia, Somalia, Botswana, Yemen and Haiti. Conduct an Education Sector Assessment in Nepal in FY 88. In FY 1989, update the Education Sector in Indonesia.

PROGRESS TO DATE:

Sector assessment update completed in Botswana in FY 1987; scheduled for Liberia, Yemen, Somalia and Haiti in FY 88. Sector assessment scheduled for FY 89 for Nepal.

-- Conduct workshops to strengthen the capabilities of policy-makers and administrators of the Ministries of Education, Planning and Finance in the above cited countries and in Nepal. In FY 1989, all countries will manage sector analyses with minimal contractor assistance.

PROGRESS TO DATE:

Research and training in education management information systems begun in FY 87 in Somalia, Yemen, Nepal, Indonesia and Botwana.

Training workshops in education data analysis conducted in FY 87 in Somalia, Yemen, Nepal, Indonesia, and Botswana; scheduled for Haiti and Liberia in FY 88. Training in policy analysis planned for all countries in FY 88.

With minimal contractor assistance, all countries will develop improved comprehensive five-year education sector development plans based on analyses of policy scenarios to improve system performance.

-- Provide goods and services to improve education policy analysis skills of professionals in the Ministry of Education in Botswana, Liberia, Somalia, Haiti, Indonesia, Nepal, and Yemen. In FY 1989, policy analysis workshops at Ministry-level on-going in all countries and plans developed for conducting at provincial levels.

PROGRESS TO DATE:

Microcomputer and related training provided for Ministries of Education in Botswana, Somalia, Yemen, Indonesia and Nepal; planned for Liberia.

-- Conduct State-of-the-Art research reviews on key variables affecting efficiency of educational systems and policy change. In FY 1989, State-of-the-Art policy formation and decision-making in Ministries of Education to be completed.

PROGRESS TO DATE:

Drafts of eleven reviews have been completed; five are scheduled for publication and dissemination end of FY 87; five more scheduled for publication and dissemination by June FY 88.

-- Complete micro-computer based education enrollment and cost-projection model along with accompanying documentation. In FY 1989 a resource allocation model will be developed and implemented along with a projection model in Egypt, Pakistan and Indonesia. Documentation in French, Arabic and Spanish will be completed.

PROGRESS TO DATE:

Model has been completed and field tested in six Central American countries and is being used as basis for monitoring Kissinger Commission policy recommendations. Graphics and table functions will be completed and added to model by end of FY 87.

-- Design and conduct empirical research studies to determine impact of policies and variables hypothesized to have a substantial impact on educational efficiency. In FY 1989, research reports on field work in Sri Lanka and Thailand will be published and disseminated, findings from Pakistan, Yemen and Burundi will also be published and discussed at international meeting hosted by project.

PROGRESS TO DATE:

Field work is underway in Thailand and Sri Lanka on topics of educational decentralization, determinants of primary school quality, local school management and school-community relations. Studies will begin in Pakistan and Yemen on issues of female access, use of instructional materials, and teacher characteristics in FY 88. Study of link between education and work will begin in Burundi in FY 88.

-- Conduct studies and create data base to foster understanding of problems related to female access to education. In FY 1989, six studies will be completed on reporting of educational statistics on females in countries characterized by particularly low female enrollment. Enrollment projections will be run for twenty A.I.D. countries in which educational access is a problem.

PROGRESS TO DATE:

Work has begun on creation of micro-computer data base containing data on variables related to female access to primary and secondary schools; data base will be completed and disseminated to all AID missions by end of FY 88.

-- Training appropriate to carrying out research studies and implementing software models will be conducted in project countries. In FY 1989, training related to implementation of management information systems for educational planning will take place in Pakistan, Egypt and Indonesia. Regional seminars will be completed for A.I.D. and Ministry staff on use of micro-computer models in three geographic regions.

PROGRESS TO DATE:

Research methodology workshops have been conducted in Sri Lanka and Thailand. Two training sessions on use of micro-computers for planning have been held in Egypt; a four-week seminar on information use for policy analysis will be held in Cambridge at end of FY 87 with a follow-up scheduled for FY 88.

Projects Contributing to Attainment of Benchmarks

| | Obligations ($000) | | |
|---|---|---|---|
| | FY 87 | FY 88 | FY 89 |
| 5823 - Improving the Efficiency of Educ Systs | 2,300 | 2,250 | 1,50 |
| 5824 - Basic Research & Imple in Dev Educ Systs | 850 | 1,000 | 1,500 |
| TOTAL | 3150 | 3250 | 3000 |

III.5 Adapt Technologies Enabling Countries to Educate Better, More People

Great improvements can be made in education by better using existing resources. However, major breakthroughs will come about only by the introduction of tested, reliable and effective technology. The Bureau's benchmarks for identifying and testing cost-effective technologies for education include:

FY 1987/88 Benchmarks:

-- Production of high quality radio lessons fully underway in FY 87. In FY 1989, complete production and broadcast of second year of radio science lessons.

-- One year of radio scripts completed, broadcasting fully underway in FY 88.

PROGRESS TO DATE:

Science educator in place; script production in early testing phase.

-- Continue second year of collaborative program between the Bureau and Honduras and Bolivia to teach English and math by radio. In FY 1989, continue third year of work in Honduras and Bolivia. Have underway an additional field site in Africa and Asia.

PROGRESS TO DATE:

Collaborative projects are underway in Honduras and Bolivia, with significant Mission buy-ins. Somalia and Liberia trials to begin last quarter of FY 87. Lesotho is funding an adaptation through a Mission project.

-- Continue exploration of the potential for use of telecommunications as a tool for transferring development information.

PROGRESS TO DATE:

Policy implications for Rural Satellite Project are being widely disseminated among Latin America and Africa nations and development agencies; publications almost complete; video tape developed. Project ends in FY 1988.

FY 1989 Benchmarks:

-- Explore application of new information technologies to education and training needs. Results of initial field evaluations are published and their policy implications delineated.

-- Broader range of instructional technologies have been analyzed for their applicability to specific LDC problems.

-- Regular information dissemination program for the field is underway on new educational and information technologies.

-- Further experimentation underway to fill knowledge gaps.

PROGRESS TO DATE:

Evaluations of microcomputer applications to schooling and administration are well underway in Grenada and Belize.

Projects Contributing to Attainment of Benchmarks

| | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|
| 5811 - Rural Satellite Project | 0 | 0 | 0 |
| 5818 - Radio Science | 1,225 | 1,025 | 1,100 |
| 1109 - Education Techn: Studies & Applic | 126 | 100 | 275 |
| 1231 - Development Communications Clearinghouse | 248 | 200 | 200 |
| TOTAL | 1599 | 1325 | 1575 |

## IV. Plan to Lessen Health Deficiencies

### IV.1 Rationale

Despite progress toward increasing life expectancy in recent years, the health and nutritional status of the majority of people in most developing countries remains poor. In many countries life expectancy does not exceed 50 years, one-quarter of all children die before the age of five, and hundreds of millions of adults suffer from chronic debilitating illness. Chronic illness and malnutrition lead to higher mortality, less working time, and lower productivity among both children and adults.

Good health is vital to the successful pursuit of economic growth and national development. Improving health requires progress on a number of fronts simultaneously: improving basic health technologies; improving the quality and cost-effectiveness of basic health services; improving the levels and quality of nutrition; encouraging birth spacing; improving environmental conditions (water, sanitation, vector-borne disease control); improving understanding of good health and hygiene practices among the citizens in the developing world themselves, so they can take a more active role in promoting better health for themselves and their families.

The Bureau's health portfolio is designed to:

create basic, cost-effective technologies for use in primary health care programs;

promote strategies for better diagnosis, prevention (if possible) and treatment (when necessary) of infectious and parasitic diseases common to children;

identify and promote strategies to alleviate undernutrition;

alter the environmental conditions which currently exacerbate poor health through improved water supply and sanitation and other measures; and

improve the planning, management, and financing of basic health programs, with particular attention to the role that donor coordination and policy dialogue can play.

The S&T Bureau's Health program directly supports the Agency's strategic focus on child survival supported by an additional new emphasis on maternal health. A.I.D.'s goal, as stated in the Blueprint for Development, is to reduce infant mortality to less than 75/1000 and mortality of children under five to less than 10/1000. A.I.D. has also joined with other international donors and host countries in a worldwide effort to provide access to immunization against six basic vaccine-preventable diseases and to prevent two million deaths in 1990 through the use of oral rehydration therapy against the dehydration caused by diarrheal diseases in combination with support for the management of diarrhea through dietary means.

Beginning in FY 1986 and continuing through the planning period, A.I.D.'s Child Survival Strategy gives special emphasis to the following twenty-two countries. These countries account for nearly 70 percent of the infant and child deaths in the developing world.

| | | |
|---|---|---|
| Bangladesh | India | Senegal |
| Indonesia | Sudan | Bolivia |
| Kenya | Yemen | Mali |
| Bolivia | Morocco | Malawi |
| Ecuador | Nepal | Zaire |
| Egypt | Niger | Peru |
| Guatemala | Nigeria | Honduras |
| Haiti | Pakistan | |

The AIDS epidemic is now of major concern to the Agency. Since its first recognition in the United States in 1981, the AIDS epidemic has been recognized on all continents and reached the level of a widespread pandemic. It is estimated that 5 to 10 million persons have been infected worldwide. Unless effective prevention and control measures can be undertaken immediately, WHO estimates that, within 5 years, 50 to 100 million persons will have been infected by the virus. Thus, one of A.I.D.'s new objectives in health is to work with and through WHO to reduce the transmission of AIDS.

The Bureau for Science and Technology has a unique and important role in supporting the Agency's program in these emphasis countries, by providing key technical and program backstopping in non-emphasis countries, and by developing new and improving existing technologies for use in primary health care programs.

IV.2 Long Range Objectives to Lessen Health Deficiencies

IV.3 Increase the availability of effective health technologies through support of child survival systems.

IV.4 Develop new and improved technologies for primary health care.

IV.5 Improve environmental conditions most directly associated with poor health.

IV.6 Work with and through WHO to reduce the transmission of AIDS.

IV.7 Expand and improve the information base for design, management, and evaluation of health programs.

IV.3 Benchmarks for Increasing the Availability of Child Survival Technologies

IV.3.1 Child Survival Services (formerly Primary Health Care):

The World Health Organization estimates that roughly half of the children who die in LDCs could be saved through simple low-cost, health care methods. The Agency has agreed to promote and disseminate these technologies. The Bureau's benchmarks related to the expansion of the availability of these simple technologies are:

FY 1987/88 Benchmarks:

-- Implement 14 major oral rehydration/diarrheal diseases programs in FY 1987 and complete 17 in FY 1988.

PROGRESS TO DATE

Implemented 15 major oral rehydration/diarrheal diseases programs.

Developed new diarrheal disease control program which focuses on health behavior and water and sanitation in addition to ORT.

Improve child feeding during diarrheal episodes in 10 country programs in FY 1987/1988.

PROGRESS TO DATE

Improved child feeding during diarrheal episodes in 15 country programs. Country projects are underway in Peru and Nigeria.

New FY 1989 Benchmark:

Methodologies will be developed for use in LDCs from work in Peru and Nigeria in late FY 88.

-- Provide 130 months of technical expertise to ORT and immunizations programs in LDCs.

PROGRESS TO DATE

Provided 240 months of technical expertise.

Initiate additional immunization programs in FY 1987 and in FY 1988.

PROGRESS TO DATE

Initiated additional immunization programs in 13 countries.

-- Increase by 7, Peace Corps workshops in delivery of ORT assistance in FY 1987 and by 8 in FY 1988.

PROGRESS TO DATE

Increased by 9, Peace Corps workshops.

-- Field 20 child survival fellows--junior and mid-career professionals--to participate in the implementation of child survival programs and projects in FY 1987 and additional 20 in FY 1988.

PROGRESS TO DATE

Fielded 12 child survival fellows to participate in the implementation of child survival programs and projects in Bangladesh, Guatemala, Haiti, Indonesia, Nigeria, Peru, and Washington, D.C. Another 6 will be fielded shortly.

-- Provide 82 person months of short-term primary health care technical assistance in three countries by FY 1988 and long-term assistance in one country.

PROGRESS TO DATE

Provided short-term child survival technical assistance in 40 countries, and long-term assistance in 20 countries for a total of 600 person months.

-- Increase the numbers of children breast-fed by strengthening breast-feeding promotion campaigns in ten countries during FY 1987/1988.

PROGRESS TO DATE

Campaigns underway in Honduras, Thailand, Indonesia, and Chile. Kenya, Egypt, Philippines, Bolivia, Ecuador and Swaziland to be done in FY 88.

-- Extend Vitamin A supplementation in seven countries in FY 1988; expand home gardening outreach in Africa.

PROGRESS TO DATE

Interventions are underway in Philippine, Haiti, Malawi, Indonesia, and Guatemala. Competition for $2-3 million in PVO grants is underway. Location of gardening center is in final stages of negotiation.

New FY 1989 Benchmarks:

-- Training for gardening center to be initiated in FY 88.

-- Initiate field testing of sustained-release iron supplement in one country and field test improved iron fortification system in FY 1987.

PROGRESS TO DATE

Preliminary study with a unique iron fortification system in wheat flour is being conducted in Egypt in conjunction with FDA and leading to a hoped-for national program in subsequent years.

New FY 1989 Benchmarks:

-- Develop external guidance to A.I.D. programs to promote nutritional objectives through primary health services, during FY 1987, 1988, and 1989.

PROGRESS TO DATE

Strategy, manuals, issues papers and technical reviews are continually being developed and disseminated in this area.

-- Begin delivering maternal and perinatal health and nutrition services in at least three countries.

PROGRESS TO DATE

A joint S&T/H and S&T/N applied research project to explore critical programming issues and options in maternal and perinatal health was started.

IV.3.2. Child Survival Systems Support (formerly Technology Transfer):

The effective use of child survival and other health technologies requires the appropriate training of health and allied personnel and the education and motivation of users. The Bureau will support the Agency's efforts to transfer child survival technologies through its investments in training and the application of modern communications strategies. In addition, the Bureau will support the transfer of production capability for ORT to the private sector in selected LDCs. The Bureaus's benchmarks for the support of child survival systems are:

FY 1987/88 Benchmarks:

-- Technical assistance to 15 countries in health financing during FY 1987.

PROGRESS TO DATE

TA was provided to 15 LDCs.

-- Experimental/operations research on community financing and local cost recovery explored during FY 1987.

PROGRESS TO DATE

Research conducted in three LDCs.

-- Increase by 11, country specific programs in health communications in FY 1987 and by 15 in FY 1988.

PROGRESS TO DATE

Eleven country specific programs were started.

-- Increase by two, the numbers of countries in which ORS is locally producted in FY 1987; by four in FY 1988.

PROGRESS TO DATE

Two additional countries now produce ORS locally.

-- Provide training for 120 village and mid-level paramedical health workers and managers in low-cost health delivery systems in FY 1987, and an additional 80 in FY 1988.

PROGRESS TO DATE

Training provided to 120 paramedical workers and 28 foreign nationals trained in public health education.

-- Develop social marketing strategy for vitamin A and iron supplementation in FY 1987 and conduct related workshops in FY 1988.

PROGRESS TO DATE

Social marketing workshop on iron held in FY87. Strategies developed and in process of review. Social marketing field study for Vitamin A being planned for Thailand in FY 1988.

-- Initiate social marketing for maternal nutrition in FY 1987 and FY 1988.

PROGRESS TO DATE

Operational research for social marketing to mothers to improve their nutrition conducted. Cooperative agreement with ICRW to start in FY 1988.

-- Continue distribution of ORT-Help newsletter to 130,000 readers (English and French speaking) in FY 1987 and FY 1988 and translations into two additional languages by FY 1988.

New FY 1989 Benchmarks:

-- Start joint program with WHO in health financing during FY 87 to include one workshop, one conference, and indigenous training in 3 countries in FY 88.

PROGRESS TO DATE

The joint program with WHO was started.

-- Increase the number of countries receiving assistance in health financing to 25.

-- Provide planning and management training in support of child survival in 8 countries.

-- Conduct six workshops and conferences in child survival.

-- Conduct joint donor planning and management review of child survival programs in 10 countries.

-- Establish three intensive nutrition education and social marketing pilot areas in three countries with USAID cost-sharing by FY 1989.

-- Establish core nutrition surveillance system components in three Eastern and Southern African countries by FY 1989.

PROGRESS TO DATE:

-- Workshop planned for Eastern and Southern Africa region in autumn 1987.

-- Develop external evaluation and guidance for Agency programs transferring nutrition technology via health sector programs during FY 1987, 1988, and 1989.

PROGRESS TO DATE:

NAS/CINP plans to review and report on: Maternal/Infant Nutrition; Nutritional Management of Acute Diarrhea; and Vitamin A Field Studies.

-- Promote Vitamin A supplementation technology adoption and implementation in five countries during FY 1987, 1988, and 1989.

PROGRESS TO DATE:

$2-3 million competitive grants program for PVOs are underway.

Projects Contributing to Attainment of Benchmarks:

| Project Number | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 5927 | PHC Technology | 4,101 | 2,250 | 2,500 |
| 5969 | PHC Technology II | 2,899 | 3,000 | 4,000 |
| 5966 | Perinatal Health | --- | 1,500 | 1,500 |
| 5970 | PHS Details | 1,000 | 500 | 500 |
| 5952 | Applied Diarrheal Disease Research* | 600 | 750 | 750 |
| 5920 | PRICOR | 2,000 | 2,000 | 2,000 |
| 5968 | HEALTH TECH | 1,000 | 1,000 | 1,000 |
| 5939 | ORT-HELP | 968 | 750 | 1,000 |
| 5953 | SUPPORT | 291 | 375 | 500 |
| 5932 | MEDEX | 1,000 | 500 | ----- |
| 0045 | Nutrition: Vitamin A Deficiency Program Support' | 2,350 | ----- | ----- |
| 0227 | Nutrition: Iron Deficiency Program Support' | 54 | 63 | ----- |
| 5115 | Combatting Iron Deficiency' | 342 | 90 | 180 |
| 0262 | Nutrition: Scientific, Technical, and Planning Support | 489 | 300 | 300 |
| 1198 | Nutrition in Health Systems RSSA | 325 | ---- | ----- |
| 5112 | Nutrition in Health Delivery | ----- | 350 | 350 |
| 1064 | Nutrition: Surveys and Surveillance | 100 | ----- | ----- |
| 5111 | Establishing Nutritional Surveillance | ----- | 150 | 150 |

Projects Contributing to Attainment of Benchmarks: (CONT'D)

| | | | | |
|---|---|---|---|---|
| 5113 | Nutrition: Education and Social Marketing Field Support | 250 | ----- | 350 |
| 1010 | Nutrition: Improvement of Maternal and Infant Diet | 3,375 | 2,600 | 2,407 |
| 5057 | Joint MOUs/Health | 1,272 | 1,272 | 1,272 |
| 5055 | Technical Advisory Support Services | 530 | 530 | 479 |
| 1406 | Program Development and Support | 60 | 60 | ----- |
| 1421 | A.I.D. Peace Corps | 400 | 400 | ----- |
| 5116 | Vitamin A for Health | ----- | 907 | 3,600 |
| 5055 | Technical Advisory Support Services | 527 | 416 | 416 |
| | TOTAL: | 23,403 | 19,233 | 22,775 |

## IV.4 Benchmarks for Developing New and Improved Technologies for Primary Health Care

A.I.D. will continue to support biomedical research where there are favorable prospects for early application of new cost effective technologies, especially those related to infants and children. Focused research to develop vaccines for malaria, acute respiratory infections, and diarrheal diseases is emphasized. Also, improving the speed and accuracy of disease diagnosis in developing countries is essential for improved disease surveillance at the community level and for effective patient therapy. In FY 85 A.I.D. launched a program to develop diagnostics for those diseases which currently take the largest toll in terms of death and disability: malaria, diarrheal diseases, typhoid, and acute respiratory diseases.

### IV.4.1. VACCINE DEVELOPMENT:

-- Test four malaria candidates using non-human models in FY 1987. Test six additional malaria candidate vaccines using non-human primate models in FY 1988.

PROGRESS TO DATE

-- Four malaria candidate vaccines were tested in non-human primate models.

New FY 1989 Benchmarks:

-- Test additional four malaria candidate vaccines using non-human primate models in FY 89.

-- Initiate four clinical trials of malaria vaccines in FY 1987. Initiate activities to carry out five clinical trials of malaria vaccines in the U.S. and overseas in FY 1988.

PROGRESS TO DATE

Clinical trials, on safety and efficacy, begun at University of Maryland. Site of first malaria field trials identified and preparatory work begun in Papau New Guinea and Thailand.

New FY 1989 Benchmarks:

-- Identify field sites in Africa and Latin America for clinical studies and field trials for candidate malaria vaccines.

-- Accelerate research on vaccines for measles, pertussis, typhoid, rotavirus, hepatitus B, and pneumococcal polysaccaride by FY 1988.

PROGRESS TO DATE

Supported field evaluation of a new rotavirus vaccine as well as much improved measles (efficacy) and pertussis (safety) vaccines.

Provided further evaluation of efficacy of existing pneumococcal vaccine. Developed a new and potentially more effective vaccine for children under two, and identified field sites to test the new vaccine.

Held a technical workshop on heat-stable vaccines, and initiated follow-up on specific recommendations that may make it possible to increase the distribution of potent vaccines to peripheral areas for primary care.

New FY 1989 Benchmarks:

-- Initiate work on group B streptoccal vaccine.

-- Evaluate work on Hemophilus influenza conjugated vaccine and incorporate into on-going efforts to reduce morbidity and mortality in infants.

-- Develop and test new immunization schedules and strategies in four countries.

PROGRESS TO DATE

New immunization schedules and strategies developed Haiti (measles), India (OPV), and Rwanda (HepB).

-- Carry out 10 operations research studies to improve immunization delivery in FY 1987; an additional 20 in FY 1988.

PROGRESS TO DATE

Examined the schedule and dosage of hepatitis B vaccine and its cost effectiveness in mass immunization programs.

-- Complete oral cholera vaccine trials in FY 1988

PROGRESS TO DATE

Continued testing on oral cholera and typhoid vaccines in FY 1987.

-- Field trials of rotavirus and TY21a typhoid in process and new shigella candidate vaccines developed in FY 1987.

PROGRESS TO DATE

New shigella candidate vaccine developed.

-- Vaccine trials listed above assessed and existing diarrheal disease vaccines adapted to epidemiological administration schedule by FY 1988.

IV.4.2. DIARRHEAL DISEASE CONTROL:

-- Begin 15 operations research studies to improve ORT delivery in FY 1987, and an additional 20 in FY 1988.

PROGRESS TO DATE

Selected nine emphasis countries in which to concentrate applied diarrheal research activities; selected three areas of program emphasis; approved 12 research proposals.

Provided technical assistance on diarrheal disease control programs and applied research.

Reached agreement on final year of Chronic Pediatric Diarrheal Disease Research project (Buffalo); supported training in research techniques for a number of LDC pediatricians and developed several research projects.

New FY 1989 Benchmarks:

-- Select and fund 30 competitive grants in applied diarrheal research.

-- Provide technical assistance to diarrheal disease control programs.

-- Carry out research on improved ORS in FY 1988.

-- Data on reduction of diarrhea in the newborn collected and analyzed from hospitals in three countries practicing "rooming-in" of infants and mothers and early breast-feeding gathered during FY 1987 and FY 1988.

PROGRESS TO DATE

Data has been collected in Honduras and Indonesia and is being gathered in Thailand. Peer review journal on Indonesia has been circulated.

-- Carry out field research on the dietary management of diarrhea in Peru and Nigeria, using diets based on indigenous foods in FY 1987 and 1988.

PROGRESS TO DATE

Full field operations currently in progress at both sites.

IV.4.3. DIAGNOSTICS (new benchmark):

PROGRESS TO DATE

Workshop on Acute Respiratory Infections (ARI) in Children held.

Small grants programs under way to develop rapid diagnostics for malaria, diarrheal diseases, and ARI.

Identification of need for rapid, inexpensive diagnostics for HIV infection to prevent AIDS transmission through the blood supply (a major source of transmission to children). Tests already commercially available are being evaluated and usefulness demonstrated in high risk populations in Africa in cooperation with WHO and the Red Cross.

New FY 1989 Benchmarks:

-- Identify suitable diagnostics for active malaria, selective agents causing diarrheal disease and typhoid fever in children, and initiate demonstration projects in field settings.

-- Work on ARI diagnostics to be further developed and carefully coordinated with vaccine development efforts.

IV.4.4. NUTRITION:

-- Replicate studies to confirm linkage of Vitamin A and morbidity and mortality in two countries.

PROGRESS TO DATE

Mortality and morbidity studies underway in Sudan, Bangladesh, and the Philippines.

-- Field test fortification of salt with vitamin A, in FY 1987.

PROGRESS TO DATE

Study developed. Discussions are underway for field test site and implementation.

-- Test and evaluate social marketing activities to improve feeding and weaning aged children in at least two countries in FY 1988.

PROGRESS TO DATE

Completed in Indonesia and Cameroon.

-- Initiate two LDC-based centers for lactation management during FY 1988.

PROGRESS TO DATE

- Commitment buy-in from ANE. Kickoff workshop in September 1987 for Indonesia. Discussions with Kenyans and USAID. Reconnaissance is planned for Fall 1987. Request from Honduras for regional center under consideration.

New FY 1989 Benchmarks:

-- Carry out R&D on slow-released dietary iron capsules, in cooperation with private pharmaceutical companies, in two countries during FT 1988 and FY 1989.

PROGRESS TO DATE

Jamaica, India, Tanzania identified and probable sites for slow-release studies. Hoffmann-LaRoche to provide slow-release capsules. KUMC has designed protocols.

IV 4.5. OTHER HEALTH TECHNOLOGIES (new benchmark):

New FY 1989 Benchmarks:

-- Support control of blindness by testing of candidate drugs for controlling onchorcerciasis in two field trials.

-- Testing of disposable, non-reuseable syringes and needles completed and results disseminated to other donors and potential buyers by FY 1989.

PROGRESS TO DATE

Initiated a new project to develop and test disposable, non-reuseable syringes and needles.

-- Tests for new technologies for leprosy control completed and evaluated by FY 1989.

PROGRESS TO DATE

Tests well under way for new technologies for leprosy control.

Projects Contributing to Attainment of Benchmark

| Project Number: | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 0453 | Malaria Vaccine | 9,869 | 8,000 | 7,000 |
| 5967 | Malaria Field Trials | 2,000 | 3,000 | 5,000 |
| 5947 | Vaccine Development | 725 | 1,000 | 1,000 |
| 5952 | Acute Diarrheal Disease Research | 600 | 750 | 750 |
| 1126 | Tropical Disease Research | 1,250 | 1,250 | 1,250 |
| 5935 | DIATECH | 950 | 1,000 | 750 |
| 5928.1 | DDR:ICDDR,B/DDR:WHOP/CCD | 3,400 | 3,500 | 3,500 |
| 5940 | Buffalo | 466 | -- | -- |
| 0045 | Vitamin A Deficiency Program Support | 1,175 | -- | -- |
| 0227 | Nutrition: Iron Deficiency | 58 | 63 | -- |
| 5052 | External Project Review | 100 | 167 | 167 |
| 5053 | HBCU Research Grants/Health | 1,101 | 1,145 | 1,145 |
| 5115 | | 171 | 46 | 85 |
| | TOTAL: | 23,217 | 21,067 | 21,147 |

## IV.5 Benchmarks for Improving Environmental Conditions Directly Affecting Child Health [New Benchmark]

Since A.I.D. also supports other health interventions in developing countries where they are required, A.I.D. also funds projects which deal with water and sanitation and vector biology and control. Of primary importance are the efforts to assist LDCs to identify economical means of financing water supply and sanitation projects. Under vector biology and control, A.I.D. provides technical assistance in the design, management, implementation, and evaluation of vector control programs. Most of the VBC effort concerns malaria, but activities in river blindness (onchorcerciasis), snail fever (schistosomiasis), guinea worm disease (dracunculiasis), and dengue fever are being supported.

### IV.5.1. Water and Sanitation

**FY 1987/88 Benchmarks:**

-- Provide technical assistance in water supply and sanitation (WASH) in 20 countries in FY 1987, 1988, 1989.

**PROGRESS TO DATE**

Provided TA in WASH to 20 countries.

Provided water supply and sanitation technology transfer in 7 countries.

-- Strengthen the capability of 5 institutions to design, implement, and evaluate water and sanitation projects (PVOs, NGOs, Peace Corps, HCG) in FY 1987, 1988, and 1989.

**PROGRESS TO DATE**

Five institutions were strengthened in FY 1987.

-- In 35 countries, establish 15 training courses to train 475 people on the means of acquiring safe water and sanitation facilities.

**PROGRESS TO DATE**

Three in-service training workshops for Peace Corps volunteers and their counter-parts for water supply and sanitation conducted.

**New FY 1989 Benchmarks:**

-- Support privatization in the water and sanitation sector.

-- Continue "willingness to pay" studies.

-- Promote community participation in the WSS sector.

-- Promote institutional development and HRD.

-- Promote improved operations and maintenance of WSS systems.

- Promote improved financial management for WSS systems.

IV.5.2. Vector Biology and Control:

-- Provide assistance in vector control to 20 countries in FY 1988.

-- Provide training in advanced vector biology control in FY 1987 and an additional 60 in FY 1988.

PROGRESS TO DATE

Trained 25 mid-level professionals in vector biology and control.

-- Applied field research on vector biology and control in 10 countries.

PROGRESS TO DATE

Applied field research conducted in 10 countries.

-- Proactive information transfer on vector control in 20 countries.

PROGRESS TO DATE

Information transfer on vector control in 20 countries.

IV.5.3. Guinea Worm Disease (new benchmark):

-- WASH/VBC activities with CDC and others to support guinea worm disease control, national plans, and specific add-on activities in West Africa, Pakistan, and India.

PROGRESS TO DATE

Design and implementation of a pilot GWD control project in one country.

Projects Contributing to Attainment of Benchmarks

| Project Number | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 5942 | WASH II | 2,400 | 3,000 | 3,000 |
| New | WASH III | -- | -- | 3,000 |
| 1126 | Tropical Disease Research* | 1,250 | 1,250 | 1,250 |
| 5948 | Vector Biology Control | 1,600 | 1,500 | 1,500 |
| 5113 | Nutrition Education | 250 | 250 | 350 |
| 0227 | Nutrition Iron Deficiency | 105 | 613 | ----- |
| 1064 | Nutrition Surveys | 175 | ----- | ----- |
| 5115 | Combatting Iron Deficiency | 170 | 45 | 85 |
| | TOTAL: | 5,950 | 6,088 | 6,185 |

IV.6 Benchmarks for Reducing the transmission of AIDS by Working With and Through WHO (New Benchmark):

The major focus of the Agency's AIDS program is to support the WHO AIDS surveillance, prevention, and control program which WHO is expanding greatly. A.I.D. has chosen to play a strong supportive role in the development of the WHO AIDS program. WHO plays a central, neutral, coordinating role in all countries affected by the epidemic.

A.I.D. has also established a technical support project in AIDS which focuses on technical assistance in two areas:

-- providing technical assistance in public health communications to those countries requesting it. Since there is currently no effective vaccine or medical treatment for fully developed AIDS, one of the few effective tools for preventing AIDS lies in the area of educating the public using modern communications methods.

-- providing technical assistance to those countries requesting assistance in such matters as screening blood supplies, testing for AIDS, and setting up medical systems to deal with AIDS.

Since AIDS is also transmitted through the use and reuse of needles and syringes which are unsterilized or inadequately sterilized, A.I.D. is funding an activity which will develop a one-dose disposable needle and syringe which is inexpensive and cannot be used again.

IV.6.1.

PROGRESS TO DATE

Cosponsored an international conference on AIDS (Washington, D.C., June 1987) and an international conference on African AIDS (Brazzaville, November, 1986.

Recruited an Agency coordinator for AIDS.

Initiated a new project to develop and test disposable, non-reuseable syringes and needles.

New FY 1989 Benchmarks:

-- Collaboration with and assistance to WHO's global AIDS prevention and control program will be well established.

PROGRESS TO DATE

A new grant has been awarded to WHO.

-- Technical assistance in AIDS identification and control provided to 30 countries.

PROGRESS TO DATE

A new technical assistance and program support project component on AIDS has been established.

-- Public health information program on AIDS designed in 20 countries.

PROGRESS TO DATE

A new public health communications project component has been initiated directed at AIDS in developing countries.

Projects Contributing to Attainment of Benchmarks

| Project Number | Title | Obligations ($000) FY 87 | FY 88 | FY89 |
|---|---|---|---|---|
| 5965 | Global AIDS Prevention and Control: WHO | 5,000 | 1,000 | 1,000 |
| 5972 | AIDS: Technical Support | 3,000 | 1,500 | 1,500 |
| 5935 | DIATECH | 950 | 1,000 | 750 |
| | TOTAL: | 8,950 | 3,500 | 3,250 |

IV.7 Benchmarks for Expanding and Improving the Information Base for Design, Management, and Evaluation of Health Programs (formerly Collaboration on Child Survival Goals):

4.7.1 A.I.D. has pledged to collaborate in an international effort to provide sustained access to ORT and immunizations against the major diseases of childhood. Goals for each are defined at the country level. Multi-donor collaboration at the country and sub-regional level is an important part of the international child survival effort as is the collection and analysis of accurate data on progress towards these goals. The Bureau's benchmarks in this area are:

FY 1987/88 Benchmarks:

-- Conduct health surveys in eight countries and analyze data from five countries in FY 1987. Conduct ten health surveys and analyze data from eight in FY 1988.

PROGRESS TO DATE

Ten new countries identified for DHS surveys. In FY88, an depth health survey will be conducted in Senegal.

Fieldwork for DHS completed in 19 countries. DHS will out surveys in 15--20 countries in FY 88.

Preliminary analysis of data from 7 countries undertaken. In FY 88, preliminary data from 15-20 countries will be analyzed and final data from 2 countries will be assessed.

-- Establish a regional nutritional surveillance system in Asia and complete national nutrition surveys in two countries in FY 1987.

PROGRESS TO DATE

Establishment of surveillance systems under development in Asia. Surveys completed in Peru and Ecuador.

-- Provide technical support to missions in emphasis countries on evaluation of child survival projects in FY 1987 and FY 1988.

PROGRESS TO DATE

TA provided to missions in emphasis countries on evaluation of child survival projects. A Child Survival Fellow was recruited to assist in coordinating child survival activities.

Identified the need for a new program to integrate the utilization and application of epidemologic methods/principles into health programs in emphasis countries . Some key elements included will be training, data collection, and analysis and program planning.

-- Maintain a health statistics data base on child survival indicators and programs.

PROGRESS TO DATE

In FY 1987, an Agency-wide system for tracking all child survival and health activities was established by which A.I.D. can track central funding levels, trends, and activities for all relevant accounts by region, country, and intervention. Also, the health and child survival statistics data base of country and project level data was expanded and links with WHO and UNICEF for data collection, analysis, and reporting were formalized.

Strengthened and expanded health statistics data base on child survival indicators and programs.

New FY 1989 Benchmarks:

-- Epidemiology support program will be providing assistance in at least 10 emphasis countries by FY 1989.

Projects Contributing to Attainment of Benchmarks

| Project Number: | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 5951 | CSAP Support* | 1,063 | 752 | ----- |
| 5935 | DIATECH* | 400 | 400 | 400 |
| 5929 | HHS RSSA | 420 | 200 | 500 |
| 3023 | DHS | 450 | 500 | 30 |
| 5111 | Establishing Nutritional Surveillance | -- | 134 | 134 |
| 3033 | | 50 | ----- | ----- |
| | TOTAL: | 2,383 | 1,986 | 1,064 |

## NEW PROJECTS

### 936-5111 - Establishing Nutritional Surveillance

Policy makers and program managers in developing countries do not have any reliable sources of day-to-day information on changes in nutritional status or the factors that affect nutritional status. They lack the community-level data collection apparatus, local data assembly and first-echelon analysis capability as well as the higher-level support systems necessary to keep field operations viable and to prepare aggregate information for policy makers.

This project will provide the organizational and technical designs for core surveillance data gathering, analysis and reporting operations in selected countries. Other donors, and host countries will support the development of peripheral activities using local personnel and administrative systems to link core activities with localities, as well as with policy makers. Sub-regional training will be carried out, and technical assistance with multilateral donors (UNICEF, FAO, WHO) is anticipated due to a widening world interest in obtaining quantitative food status information from increasingly reliable sources.

### 936-5112 - Nutrition in Health Delivery

A major problem in developing countries is that the field of "nutrition" is poorly developed and is often left, by default, to other health and service personnel who lack special training or even guidance in this field.

This project will promote and support the implementation of A.I.D.'s nutrition objectives through health sector projects, managed by other Agency units, PVOs, and host country private and public institutions. The focus will be on utilizing primary health care (PHC) service systems to promote nutrition support activities such as infant and young child growth monitoring, improved feeding practices, and the dietary management of diarrheal disease. In addition, the project will promote nutrition planning within the context of national health policies. Implementation will be through technical assistance, supplemented by workshops and operations research geared to the adaptation of nutrition technology to public health service systems, and the improvement of these systems. Cost-sharing will be a feature in country-specific assistance.

### 936-5113 - Education and Social Marketing Field Support

Education and public communication systems in developing countries are poorly developed because of low investment priorities among host countries, and poorly developed concepts for the promotion of beneficial economic, health, and other practices among poor people. Governments are usually bogged down in out-moded educational systems driven by tradition rather than by strategies of development and other desirable social change. This is especially true with regard to traditional feeding practices in developing countries, wherein mothers and young children are often fed last from limited household food supplies; and in which children suffering from various diseases often have food withheld during acute attacks.

Project emphasis will be on technical assistance in carrying out needs assessments, developing and testing nutrition and food consumption promotion messages for various media, developing syllabic and curricula in diverse subject matters to which nutrition information is appropriate. Growth monitoring for infants and young children will be a central technique for gaining the attention of mothers regarding the welfare of their children. Nutrition education would then follow for the mothers. Up to six A.I.D. emphasis countries will become sites for intensive operational research using resident technical advisors. These intensive projects will design and test operating formal and informal education procedures, and will be largely funded by buy-ins.

936-5114 - Food Technology for Development

Most developing countries lack low-cost methods for processing nutritious foods into palatable products available year-round to poor people. Most processed foods are prohibitively expensive, and are really only available to middle and upper economic class consumers. Similarly, staple cereal and other energy foods are mostly made up of starches, with only modest micro-nutrient content.

This project will develop flavorful, inexpensive, nutritious foods for people who are at risk of malnutrition. It will promote home and village food processing techniques as well as low-cost commercial processing methods. Technical assistance will be made available on product development, food processing, food fortification, quality control, food safety and marketing. This assistance will be backed by Research and Development. Exploratory Research and Development will also be undertaken in the identification and development of food components that will assist in combatting or ameliorating diarrheal disease, and other dangerous ailments common among vulnerable groups in developing countries. A notable feature of this project is a component specifically oriented to LDC small-scale food processors in the private sector, utilizing the technical expertise of American food manufacturers as a U.S. private sector contribution.

936-5115 - Combatting Iron Deficiency

Iron deficiency anemia is the most widespread form of micro-nutrient malnutrition in the world. It is an insidious ailment whose victims can still get up and around without obvious external signs. The impact, however, is pervasive as individuals, especially mothers, are robbed of their capacities to function vigorously and effectively in performing various kinds of work, including the feeding and care of infants and children. Low-cost, easy to use methods are lacking for the diagnosis of iron-deficiency anemia in the field; as are methods for the rapid appraisal of its extent among different population groups. Also lacking are sufficient numbers of technicians in developing countries who would be available to apply such methods, or to staff hemotology laboratories at hospitals and similar institutions.

This project will undertake applied research, develop needs assessment and other methodologies and conduct training programs for field technicians and scientists working in this specialized field. This project will concentrate on supporting technical development of a U.S.-based center of excellence at Kansas University Medical Center to function as a laboratory and training center. This institution will develop low-cost diagnostic and prevalence assessment methods, and conduct training for developing country research and public health technicians. Field applications will also be promoted through the development and testing of an A.I.D. guideline strategy on combatting nutritional anemia in collaboration with field missions.

936-5116 - Vitamin A for Health

Vitamin A deficiency has long been known to cause the drying and hardening of eye tissue associated with nutritional blindness. Approximately 500,000 new cases of partial or complete blindness due to vitamin A deficiency occur among children under five years of age each year. Additional evidence is accumulating which indicates that, in addition to blindness, vitamin A deficiency makes its victims among infants and young children more susceptible to other diseases, such as respiratory infections and diarrhea.

Various types of interventions to combat vitamin A deficiency are known, such as supplementary capsule distribution, injection, the promotion of the cultivation and consumption of green leafy vegetables and yellow roots and tubers, and food fortification with vitamin A. this follow-on project is planned as a broadly coordinated involvement of host country agencies, PVOs, USAIDs, and central bureau offices in programs of research on epidemiology, public health intervention operations, food fortification R&D, promotion of home gardening, and direct distribution of vitamin A supplements.

## Plan to Redress Unmanageable Population Pressures

### V. Rationale

Unmanageable growth in population impedes the ability to reduce hunger; diminishes efforts to increase growth in income; hurts attempts to lessen health deficiencies; and curtails work performed to abate illiteracy and lack of education. Under conditions of rapid population growth, resources are deflected from investments and the costs and difficulties of economic development are increased.

Rapid population growth exacerbates the choice between consumption now and investments needed to support higher consumption in the future. In countries where populations are dependent on agriculture, rapid population growth threatens the balance between scarce natural resources and people. Rapid increases in population make it hard to manage adjustments necessary to promote economic and social change.

The Population portfolio of the Bureau for Science and Technology seeks new means to ensure the availability of family planning services, allowing couples to voluntarily choose to regulate their fertility. By so doing the portfoliolof the Bureau for Science and Technology contributes to the Agency's long-term development efforts.

### V.2. Long Range Objectives to Redress Unmanageable Population Pressures.

5.3. Provide information on which developing world policy makers can base population policies.

5.4. Institutionalize capability to manage population programs.

5.5. Develop and distribute population technologies:

V.5.1. Contraceptives
V.5.2. Information
V.5.3. Logistics
V.5.4. Automated data processing management

5.6. Engage the private sector in social marketing and other types of family planning programs.

### Benchmarks for Attaining Population Objectives

**FY 1987/88 Benchmarks:**

### V.3. Policy Dialogue

Governments have become increasingly aware of the impact of unmanageable population growth upon development efforts, and attitudes are more accepting of the need to plan a family. This confluence provides a good opportunity to bring about policy reform in the context of family planning. The Bureau's family planning policy reform benchmarks are:

-- Information from policy assessments and analyses conducted in prior years incorporated in specific country policies and programs in years FY 1987 and FY 1988. New data used in planning and implementing population and family planning programs for FY 1989.

PROGRESS TO DATE:

National population censuses were conducted in three African countries (Burkina Faso, Gambia and Sudan). Preliminary reports from recently completed demographic and health surveys in six countries (Brazil, Senegal, Dominican Republic, Liberia, Colombia, and Ecuador) were produced.

Summary reports on fertility determinants research projects in 9 countries (Bangladesh, India, Nepal, Philippines, Thailand, Costa Rica, Mexico, Burkina Faso, and Mali) were produced and widely disseminated.

Booklet on "Family Planning Saves Lives" has been widely distributed to policymakers in over 20 A.I.D. assisted countries and to the donor community. Booklet on the Zimbabwe reproductive health survey was widely disseminated in Zimbabwe. Booklet on family planning service delivery strategies was a key document at the All-Africa Conference on Community-based Distribution. Booklet on population and development in Madagascar was widely distributed at a national conference on population and development in that country. Wall chart of world population data has been distributed to over 50 A.I.D. assisted countries and is used by LDC government policymakers and planners

A special population dissemination program has greatly increased public interest in population issues in Ghana.

-- Population factors integrated into the development plans in selected countries in FY 1987 and FY 1988. Increased awareness and discussion of population issues in the private and public sectors in FY 1989.

PROGRESS TO DATE:

-- Increase in financial allocations in the national budget for population and family planning. Increased LDC resources allocated to family planning in FY 1989.

PROGRESS TO DATE:

Presentation of a cost-benefit model of the Indonesian national family planning program resulted in the Government of Indonesia's maintaining the budget allocation for family planning despite a 30 percent reduction in the national budget.

As a partial result of state-level RAPID presentations in Mexico, private sector resources for family planning have increased.

Over 100 Chief Executive Officers in 8 countries have been introduced to the concept of employer-financed family planning programs.

Corporate policies on family planning have been developed in 12 companies representing 100,000 employees and 500,000 dependents in Peru, Nigeria and Zaire.

Projects Contributing to Attainment of Benchmarks

| Project No. | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 0502 | Population PD&S | 50 | 50 | 50 |
| 3000 | Demographic Data for Dev. | 1,465 | -- | -- |
| 3017 | RAPID II | 1,300 | -- | -- |
| 3023 | Demographic & Health Surveys | 2,480 | 3,100 | 3,352 |
| 3027 | Integ. Pop Develop Planning | 770 | -- | -- |
| 3035 | Population Policy Initiatives | 3,276 | 4,493 | 3,393 |
| 3046 | Demo Data Initiatives | 500 | 2,300 | 3,700 |
| | TOTAL | 9,841 | 9,943 | 10,495 |

V.4. Institution Building

Training to help build an indigenous analytical capacity to conceive, plan, and implement strategies and programs for spacing children and planning families is essential to sustained progress in family planning. The Bureau's benchmarks are:

FY 1987/88 Benchmarks:

-- Management needs assessments completed in two countries in FY 1987.

-- Improve skills of leaders and managers of family planning programs in FY 1987 and FY 1988. In-country, regional, and U.S. based short and long-term training provided in management skills for leaders and managers of family planning from 9 countries in FY 1989.

PROGRESS TO DATE:

In FY 1988 management needs assessment visits to 2 countries and management development plans will be designed. In-country, regional and U.S. short-term training will be provided in management skills for leaders and managers of family planning programs from 7 countries.

Management training needs assessments have been completed in 9 countries worldwide and management development plans were designed. Technical assistance was provided to four regional training institutions. In-country training courses for mid- and senior-level managers were conducted in 8 countries. A Francophone Regional Advisory Committee (FRAC) was established early in FY 1987 for U.S. training and a subsequent study tour to Jamaica and Mexico.

-- Approximately 1000-1500 medical professionals and 3000-5000 medical and nursing students trained in family planning during both FY 1987 and FY 1988 as follows:

40,000 trainee days for paramedicals in family planning in FY 1987/FY 1988; 100,000 trainee days for paramedical personnel in family planning in FY 1989.

30-40 family planning professionals in short-term U.S. training courses; 15-20 family professionals in short-term U. S. training courses in FY 1989.

50 African trainers trained in Billings Ovulation Method in FY 1987.

Short-term U.S. training for 15-20 LDC family planning clinicians and medical administrators completed in FY 1987 and a similar number in FY 1988; 140 family planning clinicians and medical administrators will complete short-term U.S. training in FY 1989.

PROGRESS TO DATE:

All benchmarks for short-term training of paramedical personnel, LDC family planning clinicians, and medical administrators are expected to be exceeded during FY 1987/88. 50 African trainers trained in the Billings Ovulation Method during FY 87.

-- Five baseline surveys of the content of curricula and the caliber of training methods used in reproductive health courses in LDC health professional schools and institutions; six baseline surveys of the content of curriculua and the caliber of training methods used in reproductive health courses in LDC health professional schools and institutions in FY 1989.

PROGRESS TO DATE:

A total of 8 baseline surveys of reproductive health content and training technologies in schools for the health profession will be completed by the end of FY 88.

-- 800 laparoscopes; 1000 medical instrument kits; and 150-200 units of endoscopic equipment provided to LDC training organizations; 150 laparscopic units and 900 medical instrument kits provided to LDC training organizations in FY 1989.

PROGRESS TO DATE:

During FY 1987/88 300 laparoscopic units and 1,800 medical instruments will be provided to LDC training organizations. This shortfall in the number of laparoscopes during this period reflects a redirection in the project to put less emphasis on laparoscopy.

-- Family planning communications activities underway in 20-25 LDCs in FY 1987 and an additional 25-30 in FY 1988; Assistance for family planning communication activities in 30 or more countries will be continued. 3-5 case studies of the successful use of family planning communications activities will be prepared in FY 1989.

PROGRESS TO DATE:

Family Planning communications activities are underway in 26 LDCs and an additioinal 20-25 continuing and 3-5 new countries will be started in FY 88.

PROGRESS TO DATE:

On-the-job training in I.E.C. established in 4-6 countries in FY 1988.

New FY 1989 Benchmark

-- Workshops and related on-the-job training will take place in 8-10 countries.

Projects Contributing to Attainment of Benchmarks

| Project # | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 3004 | FP IEC Field Support | 3,300 | 3,365 | 3,535 |
| 3029 | Natural FP Ed. & Trng. | -- | -- | -- |
| 3031 | FP Trng for Paramedical, Aux. & Comm. Personnel II | 5,077 | 5,880 | 5,735 |
| 3032 | Pop Information Program | 1,505 | 1,825 | 1,600 |
| 3033 | Pop Service Intershp Program | 700 | -- | -- |
| 3039 | FP Management Training | 2,000 | 1,815 | 1,815 |
| 3045 | Trng in Reprod. Health II | 4,500 | 4,500 | 4,600 |
| | TOTAL | 17,082 | 17,385 | 17,285 |

V.5. Provide Technology

It is the Bureau's intent to assure that informed decisions about family planning methods can be made, that knowledge of options, including natural family planning is widespread, and that individuals have access to a full range of safe and effective techniques, supplies, and services. Benchmarks are:

FY 1987/88 Benchmarks:

-- Approximately 31 new family planning service delivery activities in process in FY 1987 and 40 more started in FY 1988.

PROGRESS TO DATE:

Service delivery substantially improved in five countries (Zaire, Peru, Mexico, Kenya and Thailand).

-- Approximately 2850 person days of technical assistance in the design, management and evaluation of family planning service programs provided in FY 87 and 3300 in FY 1988.

PROGRESS TO DATE:

Provision of technical assistance in the design, management and evaluation of family planning service programs will meet or exceed benchmarks for FY 1987 and FY 1988.

-- 35 million cycles of orals; 500 million condoms; 2.5 million I.U.D.'s; 15 million vaginal tablets distributed in 35 countries in FY 1987 and the same amounts in 42 countries in FY 1988. Increase in the number of contraceptives distributed to family planning programs in FY 1989.

PROGRESS TO DATE:

Distribution of contraceptive commodities will meet or exceed benchmarks for FY 1987 and 1988. The number of countries receiving contraceptive shipments will total 70 which exceeds the benchmarks of 35 and 42.

-- Improved logistical systems for monitoring requirements, receipt, distribution and storage of contraceptives initiated in FY 1987 and continued through FY 1988. Forty-two countries have been identified as target countries.

PROGRESS TO DATE:

Provision of technical assistance in the design, management and evaluation of family planning service programs and distribution of contraceptive commodities will meet or exceed benchmarks for FY 1987 and 1988. The number of countries receiving contraceptive shipments will total 70 which exceeds the benchmarks of 35 and 42.

-- Transition to Copper T 380A as the only I.U.D. provided by A.I.D. starting FY 1987.

PROGRESS TO DATE:

Copper T 380A IUD is now the only IUD provided by AID/W unless USAIDs make compelling justification for another U.S.-made IUD. A special panel convened by C.D.C. provided an excellent set of guidelines on how UIDs should best be provided in developing countries.

-- Clinical studies of the application of NORPLANT in 16 countries in FY 1987.

PROGRESS TO DATE:

Clinical studies of NORPLANT begun in 18 countries during FY 87 (exceeds 16 projected), 20 are expected to start in FY 88.

-- Submission of NORPLANT to USDA for approval in FY 1988. Acquire USFDA approval of NORPLANT in FY 1989.

PROGRESS TO DATE:

USFDA approval application for NORPLANT is under preparation in FY 87 for submission in FY 88.

-- Start Phase III clinical studies of microsphere injectable contraceptive in FY 1987. Complete Phase III in FY 1988. Submission to USFDA of 90-day microsphere injectables in FY 1989.

PROGRESS TO DATE:

Phase II clinical trial of 90-day microsphere injectable will be completed in FY 87; Phase III expected to begin in FY 87 and to be completed in FY 89.

-- Initiate Phase I clinical studies for iodine method of nonsurgical contraception in FY 1987. Continue with Phase II in FY 1988.

PROGRESS TO DATE:

Iodine method of nonsurgical contraception device on tract as planned.

-- Initiate Phase I studies of new vaginal contraceptive device in FY 1987. Continue with Phase II in FY 1988.

PROGRESS TO DATE:

New vaginal contraceptive device on tract as planned.

-- Submit application for approval of Filshie Clip to USFDA in FY 1988.

PROGRESS TO DATE:

Filshie Clip animal and clinical studies are underway. Application for approval projected for FY 88 is now expected in FY 89.

-- Scientifically current family planning publications and information distributed to family planning program administrators in 50 LDCs, both years. Distribution made in 75 developing countries in 1989.

PROGRESS TO DATE:

Targets for distribution of scientifically current family planning publications and information to family planning program administrators are expected to be exceeded. Many other books, pamphlets, scientific reprints and other materials are also provided to answer specific requests for technical information from developing countries.

-- Nineteen country studies in family planning service delivery started and delivery systems in five countries substantially improved in FY 1987. Sixteen additional studies started in FY 1988 and five systems substantially improved. Twenty-eight country studies in family planning service delivery started with substantial program improvement in nine countries in FY 1989.

PROGRESS TO DATE:

Twenty-three country studies in family planning service delivery started. This is slightly higher than the 19 projected for FY 87.

Service delivery substantially improved in five countries (Zaire, Peru, Mexico, Kenya and Thailand).

New FY 1989 Benchmarks:

-- Initiation of Phase II study of 30 day microsphere injectable and nonsurgical sterilization.

-- Protocols for family planning and sexually transmsitted diseases in both clinic-based and community-based programs will be completed and in use in PAC training programs and service delivery points staffed by PAC personnel in 10-15 countries.

Projects Contributing to Attainment of Benchmarks

| | | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 0502 | Population PD&S | 1,860 | 1,250 | 1,950 |
| 3004 | Family Planning IEC Field Support | 3,300 | 3,365 | 3,535 |
| 3005 | Population Council Program | 4,500 | 4,100 | 4,100 |
| 3018 | Contraceptive Procurement | 11,500 | 10,000 | 9,800 |
| 3024 | Population Technical Assist | 500 | 700 | 600 |
| 3030 | Strategies for Improving Service Delivery (OR) | 6,995 | 6,000 | 6,000 |
| 3031 | Family Planning Training for Paramedical Auxiliary and Community Personnel (PAC) II | 5,077 | 5,880 | 5,735 |
| 3032 | Population Information Prog | 1,505 | 1,825 | 1,600 |
| 3038 | FP Logistics Management | 1,340 | 1,330 | 1,630 |
| 3040 | Natural Family Planning | 2,000 | 2,000 | 2,300 |
| 3041 | Family Health International | 7,000 | 8,000 | 7,700 |
| 3044 | Contraceptive Research and Development | 3,000 | 3,600 | 3,600 |
| | TOTAL | 48,577 | 48,050 | 48,550 |

## V.6. Inclusion of the Private Sector

To redress unmanageable population problems, the Bureau's portfolio retains the most useful features of past PVO programs and adds a new element -- use of commercial (for profit) entities to participate in providing family planning services. The commercial sector is by nature self-financing. Through use of the commercial sector, we intend to reduce the expense of implementing family planning program currently borne by governments. Our FY 1987/1988 benchmarks for private sector inclusion are:

**FY 1987/88 Benchmarks:**

-- Thirty-one family planning service delivery programs implemented by the (for profit) private sector in FY 1987 and approximately 40 in FY 1988. Fifty family planning service delivery programs implemented by the private-for-profit sector.

PROGRESS TO DATE:

Although initial progress toward meeting the benchmark for implementation of family planning service delivery programs by the private-for-profit sector has been slower than anticipated for 1987--20 subprojects are underway--catch up growth is expected to occur in FY88, bringing the achieved number of projects to over 40.

-- Approximately 353 PVO sponsored family planning programs operating on a profit basis in FY 1987 and 387 in FY 1988. Approximately 425 PVO-sponsored family planning programs developed and operating in FY 1989.

PROGRESS TO DATE:

The target for PVO-sponsored family planning programs developed and operating in 1987 will be achieved. The number may exceed the 387 stated for FY 88.

**New FY 1989 Benchmarks:**

-- Design and initiation of a new family planning service delivery project (936-3048, Community Based FP Service Delivery).

Projects Contributing to Attainment of Benchmarks

| Project No. | Title | Obligations ($000) FY 87 | FY 88 | FY 89 |
|---|---|---|---|---|
| 932-0955 | FP International Assistance | 6,400 | 7,450 | -- |
| 932-0968 | Program for Voluntary Surgical Sterilization | 10,000 | 9,775 | 9,000 |
| 936-3028 | Contracept Social Marketing | 4,174 | 4,174 | 4,175 |
| 936-3034 | Family Planning Enterprise | 5,000 | 5,000 | 5,000 |
| 936-3037 | Extending FP Services thru Women Managers | 700 | 560 | 560 |
| 936-3042 | FP Services - Pathfinder | 7,597 | 7,350 | 7,150 |
| 936-3043 | Expans/Improv of FP Services | 3,600 | 3,350 | 3,350 |
| 936-3047 | FPIA - II | -- | -- | 7,250 |
| 936-3048 | Community Based FP Service Delivery | -- | -- | 1,375 |
| | TOTAL | 37,471 | 37,659 | 37,860 |

New Project

936-3048 Community Based Family Planning Service Delivery

The Community Based Family Planning Services Project builds on A.I.D.'s experience of providing cost effective, community based voluntary family planning services through a variety of host country institutions. In spite of A.I.D.'s efforts, there remain a number of important countries which do not receive adequate assistance to support the growing demand for family planning services. This project will supplement other A.I.D. family planning service projects and will also provide a flexible funding and program mechanism to enable A.I.D. to support countries which are not adequately assisted by current centrally-funded or bilateral projects.

This project will provide assistance for family planning services in a selective number of high priority countries not currently receiving adequate assistance. Technologies of delivering voluntary family planning services, which have been found to be effective in other countries, such as commercial retail sales, family planning in the work place, and community-based-distribution, will be used to support the expansion of family planning services. In each country projects will be developed in close collaboration with governments and the private sector to ensure continued support after limited A.I.D. assistance.

## FY 1987/88 Evaluations*

| PROJECT NO. | PROJECT TITLE | FY 87 QTR. | FY 88 QTR. |
|---|---|---|---|
| | **AGRICULTURE** | | |
| 931-0054 | Int Fert Development | | 3 |
| 931-0610 | Biotechnology, Limiting Factors | 4 | |
| 931-1229 | Soil Management Support Service | 2 | |
| 936-4021 | Technology for Soil Moisture Management | 3 | |
| 931-1311 | CRSP - Soil Management | | 1 |
| 936-4137 | Biotechnology Tissue Culture | | 2 |
| 936-4023 | Aquaculture Pond Dynamics | | 1 |
| 936-4127 | Water Management Synthesis | | 3 |
| 936-4161 | Reproductive Studies on Milkfish | | 3 |
| 936-4177 | Improved Biological Nitrogen Fixation | | 2 |
| 931-0203 | Seed Prog & Indus Dev | | 3 |
| 936-4143 | Imp. Seed Prod Utilization | | 3 |
| 931-0621 | Spring/Winter Wheat | | 4 |
| 936-4136 | Special Constraints | | 3 |
| 936-4144 | Post Harvest Grain Systems | | 3 |
| 936-4048 | CRSP - Peanut | | 3 |
| 936-4132 | Soybean Util & Research | | 4 |
| 931-1328 | Small Ruminant | | 4 |
| 936-4083 | Host Resistance Integ. Tick Control | | 4 |
| 936-4178 | Improved Animal Vaccine Thru Biotech | | 4 |
| 936-4142 | IPM and Environmental Protection | 2 | 3 |
| 936-4149 | Crop Nematode & Res and Control | 4 | 2 |
| 936-4173 | Vertebrate Pest Management | 4 | |
| 931-1254 | SM-CRSP | 2 | 1 |
| 931-1310 | B/C CRSP | 2 | 1 |
| 931-1323 | Storage Processing/Fruits Vegs | | 3 |
| 931-0060 | Agriculture Planning Support | | 1 |
| 936-4084 | Agriculture Policy Analysis | | 4 |
| 936-4099 | Farming Systems Research | 4 | |
| | **EDUCATION** | | |
| 931-1018 | Mass Media/Health Practices | 4 | -- |
| 931-1109 | Education Technology | -- | 1 |
| 936-5818 | Radio Science | -- | 2 |
| 936-5823 | IEES | 4 | |
| 936-5824 | BRIDGES | | 3 |

| PROJECT NO. | PROJECT TITLE | QTR. | QTR. |
|---|---|---|---|
| | **HEALTH** | | |
| 931-1018 | Communication for Child Survival | 2 | |
| 931-0453 | Malaria Immunization and Vaccination | | |
| .12 | Biomed Res Institute | 2 | |
| .14 | Univ Svs. Univ Hea Sciences | 2 | |
| .35 | Biomed Res Institute - Zolg | 2 | |
| .38 | DHHS/HIH/PAHO | 2 | |
| .39 | Univ Svs Univ Health Sciences | 2 | |
| 931-1126 | Tropical Disease Research | | |
| 936-3023 | Family Health and Demographic Services | 4 | |
| 936-5927 | Technology for Primary Health Care | 3 | |
| -------- | PRITECH | 4 | |
| -------- | PRITECH II | 2 | |
| -------- | CDC | 3 | |
| 936-5928 | Diarrheal Disease Research | | 3 |
| 936-5929 | HHS Resource Support | 1 | |
| 936-5920 | ORT-HELP | | |
| | PRAGMA | | 2 |
| | AHRTAG | 3 | |
| 936-5935 | Diagnostic Technology Development | | 1 |
| 936-5947 | Vaccine Dev/Health Research | 2 | |
| 936-5948 | Vector Biology Control | 4 | |
| 936-5950 | Asia/Pacific Public Health Mgt. | 9 | |
| 936-5051 | CSAP Support | 8 | |
| 936-5952 | Applied Diarrheal Disease Research | 3 | |
| 936-5954 | Morehouse School of Medicine | 2 | |
| 936-5957 | AMERICARES | 4 | |
| 936-5958 | Milwaukee | 3 | |
| 936-5965 | Global AIDS Research | 3 | |
| 936-5942 | Water and Sanitation for Health | 4 | |
| | **NUTRITION** | | |
| 931-1198 | Nutrition Health Systems | 4 | |
| 931-1171 | Ec. Analysis of Ag. Policies | 3 | |
| 931-1274 | Consumption Analysis of Ag. Policies | 3 | |
| 931-1275 | Subsidized Consumption | 3 | |
| 931-1064 | Nutrition:Surveys and Surveillance | 4 | |
| 931-0831 | Nutrition and Technical Services | 4 | |
| 931-0262 | Nutrition:Scientific, Technical and Planning Support | | 2 |
| 931-0045 | Nutrition:Vitamin A Deficiency Program Support | | |
| 931-0227 | Nutrition:Iron Deficiency Program Support | | 3 |

| PROJECT NO. | PROJECT TITLE | QTR. | QTR. |
|---|---|---|---|
| | **POPULATION** | | |
| 936-3000 | Demographic Data for Develop (Bu Cen) | | 1 |
| 936-3023 | Demographic and Health Surveys MR | | 1 |
| 936-3035.1 | TIPPS | | 1 |
| 936-3056.02 | IMPACT | | 2 |
| 936-3030 | Strategies for Improving Services Del. Operations | | |
| | Res. Columbia University | 4 | |
| | POP Council | 4 | |
| 936-3005 | POP Council | | 4 |
| 936-3040 | Natural Family Planning | | 4 |
| 936-3042 | FP Services Pathfinder | | 2 |
| 936-3028 | Contraceptive Social Marketing | 4 | |
| 932-0968 | Program for Voluntary Sterilization | | 2 |
| 936-3034 | Enterprises | | 2 |
| 936-3031 | FP Training for Paramedical Auxiliary Comm. Personnel | 3 | |
| | Dev. Associates | 3 | |
| | INTRA | 3 | |
| | Ronco Consulting Corp | 3 | |
| 936-3032 | Population Information Program | | |
| 936-3039 | Family Planning Management Training | | 1 |
| 936-3004 | Population Communication Services | | 4 |
| 936-3033 | Population Services Internship Program (PSIP) | | 2 |
| | **Rural Development** | | |
| 936-5315 | Experimental Approaches to Rural Savings | 3 | |
| 931-1135 | Human Settlements and Resource Systems Analysis | - | - |
| 936-5426 | Employment and Enterprise Policy Analysis | | 2 |
| 931-1090 | Small Enterprise Approches to Employment | | 4 |
| 936-4053 | Market and Technology Access | | 4 |
| 936-5301 | Research on Access to Land, Water & Natural Resources | 1 | |
| 936-5317 | Performance Management | 4 | |
| 936-5303 | Local Revenue General and Administration | | 3 |
| | **ENERGY** | | |
| 936-5701 | Low-Cost Energy Technology | | 2 |
| 936-5702 | Energy Technology Service Support | | 3 |
| 936-5715 | Small Decentralized Hydropower | | 4 |
| | **FENR** | | |
| 936-5547 | Forestry/Fuelwood Research & Dev | | 2 |

| PROJECT NO. | PROJECT TITLE | QTR. | QTR. |
|---|---|---|---|
| | RESEARCH AND UNIVERSITY RELATIONS | | |
| 936-5055 | AID/NAFEO Agreement | 3 | |
| 936-5053 | HBCU Research | 4 | |
| 936-1282 | Strengthening Grants | 4 | |

*Preliminary schedule subject to financial and staff availability

FY 1989 BUREAU BUDGET SUBMISSION TO PPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
021 - AGRICULTURE

| APPROPRIATION ACCOUNT PROJECT NO. | AND TITLE | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|---|
| AGRICULTURE, RURAL DEV. AND NUTRITION | | | | | | |
| 9310054 | INTL FERTILIZER DEVELOPMENT CENTER | G | 3,450 | 3,450 | 3,450 | 3,450 |
| 9310242 | FISHERIES-AQUACULTURE TECH. ASST. | G | 240 | 240 | 240 | 240 |
| 9310610 | BIO-TECHNOLOGY LIMITING FACTORS | G | 250 | 250 | 252 | 252 |
| 9310521 | SPRING & WINTER WHEAT | G | 300 | 300 | 300 | --- |
| 9311229 | SOIL MANAGEMENT SUPPORT SERVICE | G | 515 | 550 | 562 | 580 |
| 9311254 | CRSP: SORGHUM/MILLET | G | 2,136 | 2,700 | 2,700 | 2,700 |
| 9311310 | CRSP: BEANS AND COWPEAS | G | 3,035 | 2,670 | 2,500 | 2,500 |
| 9311311 | CRSP-PROGRAM: SOILS MANAGEMENT | G | 2,013 | 2,100 | 2,100 | 2,100 |
| 9311314 | AQUACULTURE TECHNOLOGY DEVELOPMENT | G | 250 | 255 | 255 | 255 |
| 9311323 | STORAGE AND PROCSSG OF FRUITS AND VEGS | G | 285 | 300 | 300 | 340 |
| 9311329 | CRSP-PROGRAM: SMALL RUMINANTS | G | 1,997 | 2,970 | 2,800 | 2,[illegible] |
| 9354021 | TECHNOLOGY OF SOIL MOISTURE MANAGEMENT | G | 250 | 510 | 510 | [illegible] |
| 9364023 | CRSP - POND DYNAMICS | G | 973 | 920 | 922 | 922 |
| 9354024 | FISHERIES DEVELOPMENT SUPPORT SERVICES | G | 245 | 255 | 255 | [illegible] |
| 9354043 | CRSP - PEANUTS | G | 1,500 | 1,700 | 1,700 | 1,[illegible] |
| 9354054 | INTERNATIONAL BENCHMARK SITES NETWORK | G | 890 | 1,050 | 1,080 | 1,[illegible] |
| 9364083 | HOST RESISTANCE INTEGRATED TICK CONT. | G | 260 | 250 | 250 | [illegible] |
| 9354084 | AGRICULTURAL POLICY ANALYSIS | G | 940 | 847 | 847 | 847 |
| 9354099 | FARMING SYSTEMS SUPPORT | G | 300 | --- | --- | --- |
| 9364109 | AGRICULTURAL TECHNOLOGY RES + DEVELOPMEN | G | 1,544 | 1,430 | 1,432 | 1,[illegible] |
| 9354111 | INT AGRICULTURAL RESEARCH CENTERS | G | 3,030 | 1,530 | 1,532 | 1,[illegible] |
| 9354127 | WATER MGT SYNTHESIS II | G | 785 | --- | --- | -- |
| 9354132 | SOYBEAN UTILIZATION AND RESEARCH | G | 550 | 500 | 500 | [illegible] |
| 9354135 | SPECIAL CONSTRAINT RESEARCH | G | 550 | 520 | 522 | [illegible] |
| 9354137 | BIOTECHNOLOGY TISSUE CULTURE | G | 535 | 750 | 752 | [illegible] |
| 9354142 | IPM AND ENVIRONMENT PROTECTION | G | 475 | 520 | 522 | [illegible] |
| 9354143 | R+D OF IMP SEED PROD/UTILIZATION IN LDCS | G | 130 | 255 | 255 | [illegible] |
| 9354144 | POSTHARVEST GRAIN SYSTEMS RSD | G | 372 | 425 | 425 | [illegible] |
| 9354145 | CRSP: FISHERIES/STOCK ASSESSMENT RSCH | G | 895 | 700 | 700 | [illegible] |
| 9354161 | REPRODUCTIVE STUDIES ON MILKFISH | G | 1,200 | 1,202 | 1,202 | -- |
| 9364173 | VERTEBRATE PEST MANAGEMENT SYSTEMS | G | 300 | --- | --- | -- |
| 9354177 | IMPROVED BNF THRU BIO-TECHNOLOGY | G | 750 | 790 | 790 | 842 |
| 9354178 | IMPROVED ANIMAL VACCINE THRU BIO-TECH. | G | 350 | 430 | 430 | [illegible] |
| 9364179 | IRRIGATION MGT SUPPORT AND RESEARCH | G | --- | 520 | 520 | 1,[illegible] |
| | APPROPRIATION TOTALS: | | 31,456 | 31,000 | 31,000 | 31,000 |
| | GRANTS: | | 31,456 | 31,000 | 31,000 | 31,000 |
| | LOANS: | | --- | --- | --- | --- |
| | FUNCTIONAL ACCOUNT TOTALS: | | 31,456 | 31,000 | 31,000 | 31,000 |
| | GRANTS: | | 31,456 | 31,000 | 31,000 | 31,000 |
| | LOANS: | | --- | --- | -- | |

BEST AVAILABLE

FY 1989 BUREAU BUDGET SUBMISSION TO PPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
041 - EDUCATION

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|---|
| AGRICULTURE, RURAL DEV. AND NUTRITION | | | | | | |
| 9365325 | COMMUNICATION FOR TECH TRANSFER IN AGR. | G | 150 | 175 | 225 | 225 |
| | APPROPRIATION TOTALS: | | 150 | 175 | 225 | 225 |
| | GRANTS: | | 150 | 175 | 225 | 225 |
| | LOANS: | | --- | --- | --- | --- |
| EDUCATION AND HUMAN RESOURCES | | | | | | |
| 9311109 | EDUC TECH: STUDIES + APPLICATIONS | G | 126 | 100 | 100 | 275 |
| 9311231 | DEVELOPMENT COMMUNICATIONS CLEARINGHOUSE | G | 248 | 200 | 200 | 200 |
| 9365445 | DECENTRALIZATION: FINANCE AND MANAGEMENT | G | --- | 250 | --- | --- |
| 9365319 | RADIO SCIENCE | G | 1,225 | 1,025 | 975 | 1,750 |
| 9365323 | IMPROVING EFFICIENCY OF ED. SYSTEMS II | G | 2,300 | 2,000 | 2,250 | 1,500 |
| 9365324 | BASIC RES IN DEVELOPING SYSTEMS | G | 850 | 1,000 | 1,000 | 1,500 |
| 9365325 | COMMUNICATION FOR TECH TRANSFER IN AGR. | G | 240 | --- | --- | --- |
| | APPROPRIATION TOTALS: | | 4,989 | 4,575 | 4,525 | 4,525 |
| | GRANTS: | | 4,989 | 4,575 | 4,525 | 4,525 |
| | LOANS: | | --- | --- | --- | --- |
| | FUNCTIONAL ACCOUNT TOTALS: | | 5,139 | 4,750 | 4,750 | 4,750 |
| | GRANTS: | | 5,139 | 4,750 | 4,750 | 4,750 |
| | LOANS: | | --- | --- | --- | --- |

FY 1989 BUREAU BUDGET SUBMISSION TO PPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
855 - ENERGY

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|---|
| AGRICULTURE, RURAL DEV. AND NUTRITION | | | | | | |
| 9355709 | BIOENERGY SYSTEMS AND TECHNOLOGY | G | 731 | 1,050 | 1,060 | 896 |
| 9355723 | ENERGY POLICY DEV AND CONSERVATION | G | 920 | 1,125 | 1,125 | 2,352 |
| 9355730 | RENEWABLE ENERGY APPLICATION/TRAINING | G | 410 | 625 | 505 | 408 |
| 9355734 | ENERGY TRAINING | G | 830 | 1,230 | 1,230 | 2,364 |
| | APPROPRIATION TOTALS: | | 2,891 | 4,000 | 4,000 | 5,520 |
| | GRANTS: | | 2,891 | 4,000 | 4,000 | 5,520 |
| | LOANS: | | --- | --- | --- | --- |
| SELECTED DEVELOPMENT ACTIVITIES | | | | | | |
| 9355709 | BIOENERGY SYSTEMS AND TECHNOLOGY | G | 565 | 1,000 | 1,000 | 1,217 |
| 9355724 | CONVENTIONAL ENERGY TECHNICAL ASST | G | 272 | 350 | 350 | 978 |
| 9355723 | ENERGY POLICY DEV AND CONSERVATION | G | 5,275 | 305 | 305 | 315 |
| 9355734 | ENERGY TRAINING | G | 445 | 345 | 345 | 245 |
| 9355735 | ENERGY RESEARCH AND ENTERPRISE | G | --- | 3,775 | --- | --- |
| 9369997 | MANPOWER AND ENERGY TRAINING | G | 354 | --- | --- | --- |
| | APPROPRIATION TOTALS: | | 5,912 | 5,775 | 2,000 | 3,255 |
| | GRANTS: | | 5,912 | 5,775 | 2,000 | 3,255 |
| | LOANS: | | --- | --- | --- | --- |
| | FUNCTIONAL ACCOUNT TOTALS: | | 9,803 | 9,775 | 6,000 | 9,775 |
| | GRANTS: | | 9,803 | 9,775 | 6,000 | 9,775 |
| | LOANS: | | --- | --- | --- | --- |
| ECONOMIC SUPPORT FUND | | | | | | |
| 9355724 | CONVENTIONAL ENERGY TECHNICAL ASST | G | 1,000 | --- | --- | --- |
| | APPROPRIATION TOTALS: | | 1,000 | --- | --- | --- |
| | GRANTS: | | 1,000 | --- | --- | --- |
| | LOANS: | | --- | --- | --- | --- |
| | DA AND ESF ACCOUNT TOTALS: | | 10,803 | 9,775 | 6,000 | 9,775 |
| | GRANTS: | | 10,803 | 9,775 | 6,000 | 9,775 |
| | LOANS: | | --- | --- | --- | --- |

FY 1989 BUREAU BUDGET SUBMISSION TO PPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
032 - FORESTRY AND ENVR NAT RES

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|---|
| AGRICULTURE, RURAL DEV. AND NUTRITION | | | | | | |
| 9355517 | ENVIRONMENTAL PLANNING AND MANAGEMENT | G | 625 | 167 | 167 | 167 |
| 9355518 | COASTAL RESOURCES MANAGEMENT | G | 746 | 746 | 746 | 746 |
| 9355519 | FOREST RESOURCES MANAGEMENT | G | 2,207 | 1,017 | 1,017 | 1,017 |
| 9365547 | FORESTRY FUELWOOD RES. AND DEVEL. | G | 2,317 | 1,570 | 1,570 | 1,570 |
| 9365550 | BIOLOGICAL CONSERVATION IN DEVELOPMENT | G | --- | 800 | 800 | 800 |
| | APPROPRIATION TOTALS: | | 5,875 | 4,300 | 4,300 | 4,300 |
| | GRANTS: | | 5,875 | 4,300 | 4,300 | 4,300 |
| | LOANS: | | --- | --- | --- | --- |
| SELECTED DEVELOPMENT ACTIVITIES | | | | | | |
| 9355517 | ENVIRONMENTAL PLANNING AND MANAGEMENT | G | 532 | 700 | 700 | 700 |
| | APPROPRIATION TOTALS: | | 532 | 700 | 700 | 700 |
| | GRANTS: | | 532 | 700 | 700 | 700 |
| | LOANS: | | --- | --- | --- | --- |
| | FUNCTIONAL ACCOUNT TOTALS: | | 6,407 | 5,000 | 5,000 | 5,000 |
| | GRANTS: | | 6,407 | 5,000 | 5,000 | 5,000 |
| | LOANS: | | --- | --- | --- | --- |

FY 1989 ANNUAL BUDGET SUBMISSION
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
042 - HEALTH

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|---|
| AGRICULTURE, RURAL DEV. AND NUTRITION | | | | | | |
| 9355951 | CHILD SURVIVAL ACTION PROGRAM SUPPORT | G | 300 | --- | --- | -- |
| | APPROPRIATION TOTALS: | | 300 | --- | --- | --- |
| | GRANTS: | | 300 | --- | --- | --- |
| | LOANS: | | --- | --- | --- | --- |
| HEALTH | | | | | | |
| 9310453 | MALARIA IMMUNITY & VACCINATION RESEARCH | G | 9,359 | 9,000 | 8,000 | 7,000 |
| 9311126 | TROPICAL DISEASE RESEARCH | G | 2,500 | 2,500 | 2,500 | 2,500 |
| 9353023 | DEMOGRAPHIC AND FAMILY HEALTH SURVEYS | G | 450 | 500 | 500 | 300 |
| 9353033 | UNIVERSITY OVERSEAS SERVICE PROGRAM | G | 50 | --- | --- | --- |
| 9355920 | PRIMARY HEALTH CARE-OPERATIONS RESEARCH | G | 2,000 | 2,000 | 2,000 | 2,000 |
| 9365927 | TECHNOLOGY FOR PHC | G | 100 | 274 | --- | --- |
| 9355923 | DIARRHEAL DISEASE RESEARCH | G | 3,400 | 3,500 | 3,500 | 3,500 |
| 9355929 | HHS RESOURCE SUPPORT | G | 420 | 200 | 200 | 500 |
| 9355932 | MEDEX SUPPORT | G | 1,000 | 500 | 500 | --- |
| 9355935 | DIAGNOSTIC TECHNOLOGY DEVELOPMENT | G | 1,900 | 2,000 | 2,000 | 1,500 |
| 9365939 | ORT-HELP | G | 968 | --- | --- | --- |
| 9355940 | PEDIATRIC CHRONIC DIARRHEAL DISEASE | G | 466 | --- | --- | --- |
| 9355942 | WATER AND SANITATION FOR HEALTH II | G | 2,400 | 3,000 | 3,000 | 3,000 |
| 9355947 | VACCINE DEVELOPMENT AND HEALTH RESEARCH | G | 725 | 1,000 | 1,000 | 1,000 |
| 9355948 | VECTOR BIOLOGY AND CONTROL | G | 1,600 | 1,500 | 1,500 | 1,500 |
| 9355951 | CHILD SURVIVAL ACTION PROGRAM SUPPORT | G | 1,235 | 995 | 699 | --- |
| 9355952 | APPLIED DIARRHEAL DISEASE RESEARCH | G | 1,200 | 1,500 | 1,500 | 1,500 |
| 9355953 | SUPPLY PROMOTION AND PRODUCTION OF ORT | G | 32 | --- | --- | --- |
| 9365965 | GLOBAL AIDS PROGRAM-WHO..... | G | 5,000 | 1,000 | 1,000 | 1,000 |
| 9355957 | MALARIA FIELD TRIALS | G | 2,000 | 3,000 | 3,000 | 5,000 |
| 9355958 | HEALTHTECH | G | 1,000 | --- | --- | --- |
| 9355972 | AIDS TECHNICAL SUPPORT | G | 3,000 | --- | 1,500 | 1,500 |
| | APPROPRIATION TOTALS: | | 41,415 | 32,399 | 32,399 | 31,300 |
| | GRANTS: | | 41,415 | 32,399 | 32,399 | 31,300 |
| | LOANS: | | --- | --- | --- | -- |
| CHILD SURVIVAL FUND | | | | | | |
| 9311018 | COMMUNICATION FOR CHILD SURVIVAL | G | 2,000 | 1,515 | 1,395 | 2,000 |
| 9355927 | TECHNOLOGY FOR PHC | G | 4,021 | 2,500 | 2,250 | 2,500 |
| 9355939 | ORT-HELP | G | --- | 750 | 750 | 1,000 |
| 9355951 | CHILD SURVIVAL ACTION PROGRAM SUPPORT | G | 1,500 | 1,255 | 1,255 | 2,000 |
| 9355953 | SUPPLY PROMOTION AND PRODUCTION OF ORT | G | 500 | 750 | 750 | 1,000 |
| 9365966 | PERINATAL HEALTH | G | --- | 1,500 | 1,500 | 1,500 |
| 9355958 | HEALTHTECH | G | --- | 1,000 | 1,000 | 1,000 |
| 9355961 | TECHNOLOGY FOR PHC II | G | [illegible] | [illegible] | [illegible] | |

FY 1989 ANNUAL BUDGET SUBMISSION
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
042 - HEALTH

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|
| 9355970 PHS DETAILS | G | --- | 500 | 500 | 500 |
| APPROPRIATION TOTALS: | | 11,000 | 12,921 | 12,901 | 15,500 |
| GRANTS: | | 11,000 | 12,921 | 12,901 | 15,500 |
| LOANS: | | --- | --- | --- | --- |
| FUNCTIONAL ACCOUNT TOTALS: | | 52,715 | 45,320 | 45,300 | 47,320 |
| GRANTS: | | 52,715 | 45,320 | 45,300 | 47,320 |
| LOANS: | | --- | --- | --- | --- |

FY 1989 BUREAU BUDGET SUBMISSION TO FPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
044 - INTL TRAINING

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|
| EDUCATION AND HUMAN RESOURCES | | | | | |
| 9250071.01 TRAINING EVAL AND SUPPORT SERVICES | G | 1,433 | 900 | 1,300 | 1,300 |
| 9352005 ENGLISH LANGUAGE TRAINING PROJECT | G | --- | 600 | --- | --- |
| 9330501 LABOR ORGANIZATION DEVELOPMENT | G | 650 | 300 | 500 | 500 |
| APPROPRIATION TOTALS: | | 2,083 | 1,800 | 1,800 | 1,800 |
| GRANTS: | | 2,083 | 1,800 | 1,800 | 1,800 |
| LOANS: | | --- | --- | --- | --- |
| FUNCTIONAL ACCOUNT TOTALS: | | 2,083 | 1,800 | 1,800 | 1,800 |
| GRANTS: | | 2,083 | 1,800 | 1,800 | 1,800 |
| LOANS: | | --- | --- | --- | --- |

FY 1989 BUREAU BUDGET SUBMISSION TO PPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
023 - NUTRITION

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|---|
| AGRICULTURE, RURAL DEV. AND NUTRITION | | | | | | |
| 9310045 | NUTRITION: VITAMIN A DEFICIENCY PRG SPPT | G | 3,920 | 907 | --- | --- |
| 9310252 | NUTRITION: SCIENTIFIC/TECH/PLNG SUPPORT | G | 977 | 850 | 500 | [illegible] |
| 9310331 | NUTRITION AND FOOD TECHNICAL SERVICES | G | 550 | 550 | --- | --- |
| 9311054 | NUTRITION: SURVEYS AND SURVEILLANCE | G | 150 | --- | --- | --- |
| 9311065 | NUTRITION: EDUCATION FIELD SUPPORT | G | --- | 520 | --- | --- |
| 9311275 | NUTRITION: SUBSIDIZED FOOD CONSUMPTION | G | 541 | --- | --- | --- |
| 9311309 | FUNCTIONAL IMPLICATION-MALNUTRITION CRSP | G | 273 | --- | --- | --- |
| 9365110 | CONSUMPTN ANALYSIS OF FOOD & AG POLICIES | G | --- | 720 | 700 | 700 |
| 9365113 | NUTR,EDUC AND SOC MKTG FLD SUPPORT | G | --- | --- | 500 | --- |
| 9365114 | FOOD TECHNOLOGY FOR DEVELOPMENT | G | --- | --- | 300 | 300 |
| 9365115 | OVERCOMING VITAMIN A DEFICIENCY | G | --- | --- | 900 | 3,500 |
| | APPROPRIATION TOTALS: | | 5,391 | 3,527 | 3,500 | 5,700 |
| | GRANTS: | | 5,391 | 3,507 | 3,500 | 5,700 |
| | LOANS: | | --- | --- | --- | --- |
| HEALTH | | | | | | |
| 9310227 | NUTRITION: IRON DEFICIENCY PRG SUPPORT | G | 100 | --- | --- | -- |
| 9311010 | NUTRITION: IMPRV OF MATERNAL/INFANT DIET | G | 1,575 | 1,950 | 1,950 | 1,7[illegible] |
| 9311054 | NUTRITION: SURVEYS AND SURVEILLANCE | G | 175 | 400 | --- | |
| 9311198 | NUTRITION: HEALTH SYSTEMS RSSA | G | 325 | 350 | --- | --- |
| 9365111 | ESTABLISHING NUTRITIONAL SURVEILLANCE | G | --- | --- | 100 | 1[illegible] |
| 9365112 | NUTRITION IN HEALTH DELIVERY | G | --- | --- | 350 | 3[illegible] |
| 9365113 | NUTR,EDUC AND SOC MKTG FLD SUPPORT | G | 500 | --- | --- | 7[illegible] |
| | APPROPRIATION TOTALS: | | 2,575 | 2,700 | 2,700 | 3,[illegible] |
| | GRANTS: | | 2,575 | 2,700 | 2,700 | 3,[illegible] |
| | LOANS: | | --- | --- | --- | --- |
| CHILD SURVIVAL FUND | | | | | | |
| 9310227 | NUTRITION: IRON DEFICIENCY PRG SUPPORT | G | 17 | 350 | --- | --- |
| 9311010 | NUTRITION: IMPRV OF MATERNAL/INFANT DIET | G | 1,800 | 650 | 650 | 650 |
| 9365115 | COMBATTING IRON DEFICIENCY | G | 683 | --- | 350 | 350 |
| | APPROPRIATION TOTALS: | | 2,500 | 1,000 | 1,000 | 1,000 |
| | GRANTS: | | 2,500 | 1,000 | 1,000 | 1,000 |
| | LOANS: | | --- | --- | --- | --- |
| | FUNCTIONAL ACCOUNT TOTALS: | | 11,566 | 7,207 | 7,207 | 9,[illegible] |
| | GRANTS: | | 11,566 | 7,207 | 7,207 | 9,[illegible] |

FY 1989 BUREAU BUDGET SUBMISSION TO PPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
043 - POPULATION

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|---|
| POPULATION PLANNING | | | | | | |
| 9320502 | POPULATION PROGRAM DEVELOPMENT/SUPPORT | G | 1,910 | 2,320 | 2,300 | 2,000 |
| 9320955 | FP INTERNATIONAL ASSISTANCE PROGRAM | G | 5,400 | 7,450 | --- | --- |
| 9320958 | PROGRAM FOR VOLUNTARY STERILIZATION-AVS | G | 10,000 | 9,775 | 9,775 | 9,200 |
| 9353000 | DEMOGRAPHIC DATA FOR DEVELOPMENT | G | 1,455 | --- | --- | --- |
| 9353004 | POPULATION COMMUNICATIONS SERVICES | G | 3,300 | 3,500 | 3,500 | [illegible] |
| 9353005 | POPULATION COUNCIL PROGRAM | G | 4,500 | 4,170 | 4,100 | [illegible] |
| 9353017 | AWARENESS OF POP IMPACT ON DEV (II) | G | 1,300 | --- | --- | - |
| 9353013 | CONTRACEPTIVES PROCUREMENT | G | 11,500 | 10,000 | 12,000 | 9,900 |
| 9353023 | DEMOGRAPHIC AND FAMILY HEALTH SURVEYS | G | 2,490 | 3,100 | 3,120 | [illegible] |
| 9353024 | POPULATION TECHNICAL ASSISTANCE | G | 500 | 700 | 700 | [illegible] |
| 9353027 | INTEGRATED POP DEV PLANNING II | G | 770 | --- | --- | --- |
| 9353028 | CONTRACEPTIVE SOCIAL MARKETING | G | 4,174 | 4,175 | 4,175 | 4,175 |
| 9353030 | STRATEGIES FOR IMPROVING SERVICE DELIVER | G | 5,995 | 5,000 | 5,000 | 5,000 |
| 9353031 | FP TRNG FOR PARAMEDICAL AUX.COMMUNIT-II | G | 5,077 | 5,645 | 5,645 | [illegible] |
| 9353032 | POPULATION INFORMATION PROGRAM III | G | 1,505 | 1,825 | 1,825 | 1,500 |
| 9353033 | UNIVERSITY OVERSEAS SERVICE PROGRAM | G | 700 | --- | --- | --- |
| 9353034 | FP ENTERPRISE | G | 5,000 | 5,000 | 5,000 | 5,000 |
| 9353035 | POPULATION POLICY INITIATIVES | G | 3,276 | 4,493 | 4,493 | [illegible] |
| 9353037 | EXTENDING FP SRVCS THRU WOMEN MANAGERS | G | 700 | 560 | 560 | [illegible] |
| 9353038 | FP LOGISTICS AND MANAGEMENT | G | 1,340 | 1,330 | 1,330 | [illegible] |
| 9353039 | MANAGEMENT TRAINING | G | 2,000 | 1,915 | 1,315 | [illegible] |
| 9353040 | NATURAL FP | G | 2,000 | 2,000 | 2,000 | [illegible] |
| 9353041 | FAMILY HEALTH INTERNATIONAL | G | 7,000 | 8,000 | 9,000 | [illegible] |
| 9353042 | FAMILY PLANNING SERVICES-PATH FINDER | G | 7,597 | 7,350 | 7,350 | [illegible] |
| 9353043 | EXPANSION/IMPROV. FP PROGRAMS | G | 3,500 | 3,350 | 3,350 | [illegible] |
| 9353044 | CONTRACEPTIVE RESEARCH AND DEVELOPMENT | G | 3,000 | 3,600 | 3,500 | [illegible] |
| 9353045 | TRAINING REPRODUCTIVE HEALTH II | G | 4,500 | 4,500 | 4,500 | 4,500 |
| 9353046 | DEMOGRAPHIC DATA INITIATIVE | G | 500 | 2,400 | 2,400 | 3,700 |
| 9353047 | FAMILY PLANNING INT'L ASSISTANT II | G | --- | --- | 7,150 | 7,253 |
| 9353048 | COMMUNITY BASED FP SERVICES | G | --- | --- | --- | 1,375 |
| | APPROPRIATION TOTALS: | | 103,039 | 103,058 | 103,058 | 103,500 |
| | GRANTS: | | 103,039 | 103,058 | 103,058 | 103,[illegible] |
| | LOANS: | | --- | --- | --- | --- |
| CHILD SURVIVAL FUND | | | | | | |
| 9353023 | DEMOGRAPHIC AND FAMILY HEALTH SURVEYS | G | 500 | 432 | 432 | --- |
| | APPROPRIATION TOTALS: | | 500 | 432 | 432 | --- |
| | GRANTS: | | 500 | 432 | 432 | --- |
| | LOANS: | | --- | --- | --- | --- |

FY 1989 BUREAU BUDGET SUBMISSION TO PPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
013 - POPULATION

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|
| FUNCTIONAL ACCOUNT TOTALS: | | 103,539 | 103,500 | 103,500 | 103,500 |
| GRANTS: | | 103,539 | 103,500 | 103,500 | 103,500 |
| LOANS: | | --- | --- | --- | --- |

FY 1989 BUREAU BUDGET SUBMISSION TO PPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
011 - PROGRAM OFFICE

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|---|
| AGRICULTURE, RURAL DEV. AND NUTRITION | | | | | | |
| 9351405 | PROGRAM DEVELOPMENT AND SUPPORT | G | 797 | 1,200 | 1,200 | 1,200 |
| 9351421 | AID/PEACE CORPS SMALL PROJECT ASST | G | 400 | --- | --- | --- |
| 9365054 | INFORMATION TRANSFER | G | 265 | --- | --- | --- |
| | APPROPRIATION TOTALS: | | 1,462 | 1,200 | 1,200 | 1,200 |
| | GRANTS: | | 1,462 | 1,200 | 1,200 | 1,200 |
| | LOANS: | | --- | --- | --- | --- |
| HEALTH | | | | | | |
| 9351405 | PROGRAM DEVELOPMENT AND SUPPORT | G | 50 | --- | --- | --- |
| 9361421 | AID/PEACE CORPS SMALL PROJECT ASST | G | 400 | --- | --- | --- |
| | APPROPRIATION TOTALS: | | 450 | --- | --- | --- |
| | GRANTS: | | 450 | --- | --- | --- |
| | LOANS: | | --- | --- | --- | --- |
| SELECTED DEVELOPMENT ACTIVITIES | | | | | | |
| 9351405 | PROGRAM DEVELOPMENT AND SUPPORT | G | 225 | 800 | 800 | 800 |
| | APPROPRIATION TOTALS: | | 225 | 800 | 800 | 800 |
| | GRANTS: | | 225 | 800 | 800 | 800 |
| | LOANS: | | --- | --- | --- | --- |
| | FUNCTIONAL ACCOUNT TOTALS: | | 2,147 | 2,000 | 2,000 | 2,000 |
| | GRANTS: | | 2,147 | 2,000 | 2,000 | 2,000 |
| | LOANS: | | --- | --- | --- | --- |

FY 1989 BUREAU BUDGET SUBMISSION TO PPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
051 - RESEARCH AND UNIVERSITY RELATIONS

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|---|
| AGRICULTURE, RURAL DEV. AND NUTRITION | | | | | | |
| 9311282 | TITLE XII STRENGTHENING GRANTS | G | 1,179 | 1,178 | 1,290 | 1,091 |
| 9355052 | PROJECT REVIEW | G | 173 | 133 | --- | 133 |
| 9355053 | HBCU RESEARCH GRANTS | G | 800 | 800 | 750 | 758 |
| 9355055 | TECHNICAL ADVISORY SUPPORT SERVICES | G | 530 | 575 | 530 | 479 |
| 9365058 | JOINT MOUS-AGRICULTURE | G | 2,823 | 2,923 | 3,140 | 3,059 |
| 9355060 | MATCHING SUPPORT GRANTS | G | 390 | 390 | 390 | 390 |
| | APPROPRIATION TOTALS: | | 5,894 | 5,900 | 5,900 | 5,900 |
| | GRANTS: | | 5,894 | 5,900 | 5,900 | 5,900 |
| | LOANS: | | --- | --- | --- | --- |
| HEALTH | | | | | | |
| 9355052 | PROJECT REVIEW | G | 120 | 167 | 167 | 167 |
| 9355053 | HBCU RESEARCH GRANTS | G | 1,101 | 1,145 | 1,145 | 1,145 |
| 9355055 | TECHNICAL ADVISORY SUPPORT SERVICES | G | 527 | 416 | 416 | 416 |
| 9355057 | JOINT MOUS-HEALTH | G | 1,272 | 1,272 | 1,272 | 1,272 |
| | APPROPRIATION TOTALS: | | 3,000 | 3,000 | 3,000 | 3,000 |
| | GRANTS: | | 3,000 | 3,000 | 3,000 | 3,000 |
| | LOANS: | | --- | --- | --- | --- |
| | FUNCTIONAL ACCOUNT TOTALS: | | 8,894 | 8,900 | 8,900 | 8,900 |
| | GRANTS: | | 8,894 | 8,900 | 8,900 | 8,900 |
| | LOANS: | | --- | --- | --- | --- |

FY 1989 BUREAU BUDGET SUBMISSION TO PPC
TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION
($000)

BUREAU FOR SCIENCE AND TECHNOLOGY
053 - RURAL AND INSTITUTIONAL DEVELOPMENT

| APPROPRIATION ACCOUNT PROJECT NO. AND TITLE | | L/G | FY 1987 ESTIMATE | --FY 1988-- CP | ESTIMATE | FY 1989 PROPOSED |
|---|---|---|---|---|---|---|
| AGRICULTURE, RURAL DEV. AND NUTRITION | | | | | | |
| 9311090 | SMALL ENTERPRISE APPROCHES TO EMPLOYMENT | G | 239 | 347 | 247 | 347 |
| 9311096 | PROGRAM DEVELOPMENT & SUPPORT | G | 53 | --- | --- | --- |
| 9311135 | HUMAN SETTLEMENTS AND NAT RES SYS ANALY | G | 465 | 400 | 400 | 400 |
| 9311190 | FOOD SECURITY IN AFRICA | G | 100 | --- | --- | --- |
| 9354053 | MARKET AND TECHNOLOGY ACCESS | G | 135 | 300 | 569 | 275 |
| 9364143 | TECHNOLOGY TRANS FEEDBACK SYS IN AGRIC | G | 104 | --- | --- | --- |
| 9355301 | RSCH ON ACCESS TO LAND,WATER/NATURAL RES | G | 530 | 530 | 530 | 520 |
| 9355303.01 | LOCAL REVENUE GENERATION & ADMINISTRATIO | G | 100 | --- | --- | --- |
| 9355313 | SMALL FARMER MARKETING ACCESS | G | --- | 350 | --- | --- |
| 9355315 | EXP. APPROACHES TO RURAL SAVINGS | G | 420 | 390 | 390 | 449 |
| 9365317 | PERFORMANCE MANAGEMENT | G | 608 | 639 | 539 | 499 |
| 9355425 | EMPLOYMENT AND ENTERPRISE POLICY ANALYSI | G | 255 | 335 | 75 | 270 |
| 9355428 | APPROPRIATE TECHNOLOGY INTERNATIONAL II | G | 3,000 | 3,000 | 3,000 | 3,000 |
| 9355438 | DEVEL. STRATEGIES FOR FRAGILE LANDS | G | 500 | 500 | 500 | 500 |
| 9365446 | DECENTRALIZATION: FINANCE AND MANAGEMENT | G | 270 | 450 | 457 | 300 |
| 9355447 | AGRICULTURE MKTG IMPROVEMENT STRATEGIES | G | 195 | --- | 250 | 550 |
| 9355547 | FORESTRY FUELWOOD RES. AND DEVEL. | G | 250 | 250 | 250 | 225 |
| 9355826.50 | COMM FOR TECHNOLOGY TRANSFER IN AGRIC | G | 250 | 150 | 250 | 175 |
| | APPROPRIATION TOTALS: | | 7,524 | 7,650 | 7,650 | 7,500 |
| | GRANTS: | | 7,524 | 7,650 | 7,650 | 7,500 |
| | LOANS: | | --- | --- | --- | --- |
| EDUCATION AND HUMAN RESOURCES | | | | | | |
| 9355317 | PERFORMANCE MANAGEMENT | G | 171 | 150 | 150 | 150 |
| 9355446 | DECENTRALIZATION: FINANCE AND MANAGEMENT | G | --- | --- | --- | 150 |
| | APPROPRIATION TOTALS: | | 171 | 150 | 150 | 300 |
| | GRANTS: | | 171 | 150 | 150 | 300 |
| | LOANS: | | --- | --- | --- | --- |
| SELECTED DEVELOPMENT ACTIVITIES | | | | | | |
| 9311090 | SMALL ENTERPRISE APPROCHES TO EMPLOYMENT | G | 158 | 100 | 200 | 100 |
| 9355425 | EMPLOYMENT AND ENTERPRISE POLICY ANALYSI | G | 150 | 100 | --- | 100 |
| | APPROPRIATION TOTALS: | | 308 | 200 | 200 | 200 |
| | GRANTS: | | 308 | 200 | 200 | 200 |
| | LOANS: | | --- | --- | --- | --- |
| | FUNCTIONAL ACCOUNT TOTALS: | | 8,003 | 8,000 | 8,000 | 8,000 |

| RANK | OFFICE BUREAU | PROJECT | APPROP | TITLE | AMOUNT | CUM |
|---|---|---|---|---|---|---|
| 1 | ST/AGR | 9311254 | FN | CRSP: SORGHUM/MILLET | 1890 | 1890 |
| 2 | ST/AGR | 9364111 | FN | INT AGRICULTURAL RESEARCH CENTERS | 600 | 2490 |
| 3 | ST/AGR | 9311311 | FN | CRSP-PROGRAM: SOILS MANAGEMENT | 1100 | 3590 |
| 4 | ST/AGR | 9364179 | FN | IRRIGATION MGT SUPPORT AND RESEARCH | 720 | 4310 |
| 5 | ST/AGR | 9311310 | FN | CRSP: BEANS AND COWPEAS | 1820 | 6130 |
| 6 | ST/AGR | 9311328 | FN | CRSP-PROGRAM: SMALL RUMINANTS | 1400 | 7530 |
| 7 | ST/AGR | 9311229 | FN | SOIL MANAGEMENT SUPPORT SERVICE | 600 | 8130 |
| 8 | ST/RD | 9365426 | FN | EMPLOYMENT AND ENTERPRISE POLICY ANALYSI | 37 | 8167 |
| 9 | ST/RD | 9365438 | FN | DEVEL. STRATEGIES FOR FRAGILE LANDS | 350 | 8517 |
| 10 | ST/N | 9310262 | FN | NUTRITION: SCIENTIFIC/TECH/PLNG SUPPORT | 300 | 8817 |
| 11 | ST/FENR | 9365519 | FN | FOREST RESOURCES MANAGEMENT | 717 | 9534 |
| 12 | ST/EY | 9365728 | SD | ENERGY POLICY DEV AND CONSERVATION | 352 | 9886 |
| 13 | ST/EY | 9365728 | FN | ENERGY POLICY DEV AND CONSERVATION | 815 | 10701 |
| 14 | ST/RUR | 9365058 | FN | JOINT MOUS-AGRICULTURE | 3059 | 13760 |
| 15 | ST/AGR | 9310610 | FN | BIO-TECHNOLOGY LIMITING FACTORS | 160 | 13920 |
| 16 | ST/AGR | 9364137 | FN | BIOTECHNOLOGY TISSUE CULTURE | 485 | 14405 |
| 17 | ST/AGR | 9364084 | FN | AGRICULTURAL POLICY ANALYSIS | 590 | 14995 |
| 18 | ST/AGR | 9364048 | FN | CRSP: PEANUTS | 1200 | 16195 |
| 19 | ST/RD | 9311135 | FN | HUMAN SETTLEMENTS AND NAT RES SYS ANALY | 200 | 16395 |
| 20 | ST/EY | 9365709 | SD | BIOENERGY SYSTEMS AND TECHNOLOGY | 217 | 16612 |
| 21 | ST/EY | 9365709 | FN | BIOENERGY SYSTEMS AND TECHNOLOGY | 896 | 17508 |
| 22 | ST/FENR | 9365547 | FN | FORESTRY FUELWOOD RES. AND DEVEL. | 1000 | 18508 |
| 23 | ST/RUR | 9311282 | FN | TITLE XII STRENGTHENING GRANTS | 1081 | 19589 |
| 24 | ST/N | 9364114 | FN | FUNCTIONAL IMPLICATION-MALNUTRITION CRSP | 800 | 20389 |
| 25 | ST/AGR | 9364178 | FN | IMPROVED ANIMAL VACCINE THRU BIO-TECH | 480 | 20869 |
| 26 | ST/AGR | 9364136 | FN | SPECIAL CONSTRAINT RESEARCH | 500 | 21369 |
| 27 | ST/RD | 9365447 | FN | AGRICULTURE MKTG IMPROVEMENT STRATEGIES | 550 | 21919 |
| 28 | ST/FENR | 9365550 | FN | BIOLOGOCAL CONSERVATION IN DEVELOPMENT | 600 | 22519 |
| 29 | ST/RUR | 9365055 | FN | TECHNICAL ADVISORY SUPPORT SERVICES | 479 | 22998 |
| 30 | ST/N | 9365110 | FN | CONSUMPTN ANALYSIS OF FOOD & AG POLICIES | 350 | 23348 |
| 31 | ST/AGR | 9310054 | FN | INTL FERTILIZER DEVELOPMENT CENTER | 2000 | 25348 |
| 32 | ST/AGR | 9364109 | FN | AGRICULTURAL TECHNOLOGY RES AND DEVEL | 1060 | 26408 |
| 33 | ST/AGR | 9364177 | FN | IMPROVED BNF THRU BIO-TECHNOLOGY | 420 | 26828 |
| 34 | ST/RD | 9365826 | FN | COMM FOR TECH TRANSFER IN AGRIC | 175 | 27003 |
| 35 | ST/N | 9365111 | HE | ESTABLISH NUTRITION SURVEILLANCE | 100 | 27103 |
| 36 | ST/AGR | 9364021 | FN | TECHNOLOGY OF SOIL MOISTURE MANAGEMENT | 450 | 27553 |
| 37 | ST/AGR | 9364054 | FN | INTERNATIONAL BENCHMARK SITES NETWORK | 540 | 28093 |
| 38 | ST/RUR | 9365052 | FN | HBCU RESEARCH GRANTS | 758 | 28851 |
| 39 | ST/PO | 9361406 | FN | PROGRAM DEVELOPMENT AND SUPPORT | 1200 | 30051 |
| 40 | ST/AGR | 9364144 | FN | POSTHARVEST GRAIN SYSTEMS R&D | 340 | 30391 |
| 41 | ST/AGR | 9364143 | FN | R&D OF IMP PROD/UTILIZATION IN LDCS | 255 | 30646 |
| 42 | ST/AGR | 9311323 | FN | STORAGE AND PROCSSG OF FRUITS AND VEGS | 200 | 30846 |
| 43 | ST/RD | 9365547 | FN | FORESTRY/FUELWOOD RES/DEV (F/FRED) | 200 | 31046 |
| 44 | ST/EY | 9365724 | SD | CONVENTIONAL ENERGY TECHNICAL ASST | 478 | 31524 |
| 45 | ST/RUR | 9365052 | SD | PROJECT REVIEW | 133 | 31657 |
| 46 | ST/AGR | 9364142 | FN | IPM AND ENVIRONMENT PROTECTION | 540 | 32197 |
| 47 | ST/AGR | 9364132 | FN | SOYBEAN UTILIZATION AND RESEARCH | 455 | 32652 |
| 48 | ST/AGR | 9311314 | FN | AQUACULTURE TECHNOLOGY DEVELOPMENT | 100 | 32752 |
| 49 | ST/AGR | 9310242 | FN | FISHERIES-AQUACULTURE TECH. ASST. | 100 | 32852 |

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|---|---|---|---|---|---|---|
| 50 | ST/RD | 9365428 | FN | APPROPRIATE TECHNOLOGY INTERNATIONAL II | 1500 | 34352 |
| 51 | ST/AGR | 9364023 | FN | CRSP - POND DYNAMICS | 370 | 34722 |
| 52 | ST/RUR | 9365060 | FN | MATCHING SUPPORT GRANTS | 390 | 35112 |
| 53 | ST/EY | 9365730 | FN | RENEWABLE ENERGY APPLICATION/TRAINING | 208 | 35320 |
| 54 | ST/EY | 9365734 | FN | ENERGY TRAINING | 1100 | 36420 |
| 55 | ST/AGR | 9364146 | FN | CRSP: FISHERIES/STOCK ASSESSMENT RSCH | 280 | 36700 |
| 56 | ST/AGR | 9364024 | FN | FISHERIES DEVELOPMENT SERVICES | 110 | 36810 |

| RANK | OFFICE BUREAU | PROJECT | APPROP | TITLE | AMOUNT | CUM |
|---|---|---|---|---|---|---|
| 1 | ST/RD | 9365426 | FN | EMPLOYMENT AND ENTERPRISE POLICY ANALYSI | 233 | 233 |
| 2 | ST/RD | 9365426 | SD | EMPLOYMENT AND ENTERPRISE POLICY ANALYSI | 100 | 333 |
| 3 | ST/EY | 9365728 | SD | ENERGY POLICY DEV AND CONSERVATION | 2500 | 2833 |
| 4 | ST/ED | 9365826 | EH | COMMUNICATION FOR TECH TRANSFER IN AGR. | 175 | 3008 |
| 5 | ST/AGR | 9364084 | FN | AGRICULTURAL POLICY ANALYSIS | 250 | 3258 |
| 6 | ST/AGR | 9311254 | FN | CRSP: SORGHUM/MILLET | 810 | 4068 |
| 7 | ST/AGR | 9364048 | FN | CRSP: PEANUTS | 500 | 4568 |
| 8 | ST/AGR | 9310054 | FN | INTL FERTILIZER DEVELOPMENT CENTER | 1460 | 6028 |
| 9 | ST/FENR | 9365519 | FN | FOREST RESOURCES MANAGEMENT | 300 | 6328 |
| 10 | ST/AGR | 9364109 | FN | AGRICULTURAL TECHNOLOGY RES AND DEVEL | 450 | 6778 |
| 11 | ST/AGR | 9364177 | FN | IMPROVED BNF THRU BIO-TECHNOLOGY | 420 | 7198 |
| 12 | ST/RD | 9365438 | FN | DEVELOPMENT STRATEGIES FOR FRAGILE LANDS | 150 | 7348 |
| 13 | ST/RD | 9365315 | FN | EXP. APPROACHES TO RURAL SAVINGS | 449 | 7797 |
| 14 | ST/N | 9365110 | FN | CONSUMPTN ANALYSIS OF FOOD & AG POLICIES | 350 | 8147 |
| 15 | ST/AGR | 9364021 | FN | TECHNOLOGY OF SOIL MOISTURE MANAGEMENT | 150 | 8297 |
| 16 | ST/EY | 9365709 | SD | BIOENERGY SYSTEMS AND TECHNOLOGY | 1000 | 9297 |
| 17 | ST/FENR | 9365517 | FN | ENVIRONMENTAL PLANNING AND MANAGEMENT | 167 | 9464 |
| 18 | ST/FENR | 9365517 | SD | ENVIRONMENTAL PLANNING AND MANAGEMENT | 700 | 10164 |
| 19 | ST/AGR | 9364054 | FN | INTERNATIONAL BENCHMARK SITES NETWORK | 540 | 10704 |
| 20 | ST/AGR | 9311311 | FN | CRSP-PROGRAM: SOILS MANAGEMENT | 1000 | 11704 |
| 21 | ST/AGR | 9311328 | FN | CRSP-PROGRAM: SMALL RUMINANTS | 1400 | 13104 |
| 22 | ST/RD | 9365301 | FN | RSCH ON ACCESS TO LAND,WATER/NATURAL RES | 520 | 13624 |
| 23 | ST/EY | 9365724 | SD | CONVENTIONAL ENERGY TECHNICAL ASST | 500 | 14124 |
| 24 | ST/FENR | 9365547 | FN | FORESTRY FUELWOOD RES. AND DEVEL. | 570 | 14694 |
| 25 | ST/AGR | 9311314 | FN | AQUACULTURE TECHNOLOGY DEVELOPMENT | 155 | 14849 |
| 26 | ST/AGR | 9310242 | FN | FISHERIES-AQUACULTURE TECH. ASST. | 140 | 14989 |
| 27 | ST/AGR | 9311323 | FN | STORAGE AND PROCSSG OF FRUITS AND VEGS | 140 | 15129 |
| 28 | ST/RD | 9311090 | FN | SMALL ENTERPRISE APPROCHES TO EMPLOYMENT | 347 | 15476 |
| 29 | ST/RD | 9311090 | SD | SMALL ENTERPRISE APPROCHES TO EMPLOYMENT | 100 | 15576 |
| 30 | ST/RD | 9311125 | FN | HUMAN SETTLEMENTS AND NAT RES SYS ANALY | 200 | 15776 |
| 31 | ST/EY | 9365730 | FN | RENEWABLE ENERGY APPLICATION/TRAINING | 200 | 15976 |
| 32 | ST/AGR | 9311310 | FN | CRSP: BEANS AND COWPEAS | 780 | 16756 |
| 33 | ST/FENR | 9365518 | FN | COASTAL RESOURCES MANAGEMENT | 746 | 17502 |
| 34 | ST/PO | 9361406 | SD | PROGRAM DEVELOPMENT AND SUPPORT | 800 | 18302 |
| 35 | ST/RD | 9365446 | FN | DECENTRALIZATION: FINANCE AND MANAGEMENT | 450 | 18752 |
| 36 | ST/AGR | 9364023 | FN | CRSP - POND DYNAMICS | 550 | 19302 |
| 37 | ST/AGR | 9364146 | FN | CRSP: FISHERIES/STOCK ASSESSMENT RSCH | 420 | 19722 |
| 38 | ST/AGR | 9364132 | FN | SOYBEAN UTILIZATION AND RESEARCH | 195 | 19917 |
| 39 | ST/EY | 9365734 | SD | ENERGY TRAINING | 245 | 20162 |
| 40 | ST/FENR | 9365550 | FN | BIOLOGICAL CONSERVATION IN DEVELOPMENT | 200 | 20362 |
| 41 | ST/AGR | 9364144 | FN | POSTHARVEST GRAIN SYSTEMS R&D | 85 | 20447 |
| 42 | ST/RD | 9365317 | FN | PERFORMANCE MANAGEMENT | 489 | 20936 |
| 43 | ST/RD | 9365317 | EH | PERFORMANCE MANAGEMENT | 150 | 21086 |
| 44 | ST/AGR | 9364142 | FN | IPM AND ENVIRONMENT PROTECTION | 60 | 21146 |
| 45 | ST/AGR | 9364111 | FN | INT AGRICULTURAL RESEARCH CENTERS | 930 | 22076 |
| 46 | ST/AGR | 9364179 | FN | IRRIGATION MGT SUPPORT AND RESEARCH | 480 | 22556 |
| 47 | ST/EY | 9365734 | FN | ENERGY TRAINING | 1264 | 23820 |
| 48 | ST/RD | 9364053 | FN | MARKET AND TECHNOLOGY ACCESS | 275 | 24095 |
| 49 | ST/AGR | 9311229 | FN | SOIL MANAGEMENT SUPPORT SERVICE | 60 | 24155 |

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|---|---|---|---|---|---|---|
| 50 | ST/AGR | 9364178 | FN | IMPROVED ANIMAL VACCINE THRU BIO-TECH | 480 | 24635 |
| 51 | ST/RD | 9365547 | FN | FORESTRY/FUELWOOD RES/DEV (F/FRED) | 25 | 24660 |
| 52 | ST/AGR | 9310610 | FN | BIO-TECHNOLOGY LIMITING FACTORS | 90 | 24750 |
| 53 | ST/AGR | 9364137 | FN | BIOTECHNOLOGY TISSUE CULTURE | 265 | 25015 |
| 54 | ST/AGR | 9364024 | FN | FISHERIES DEVELOPMENT SERVICES | 165 | 25180 |
| 55 | ST/RD | 9365428 | FN | APPROPRIATE TECHNOLOGY INTERNATIONAL II | 1500 | 26680 |
| 56 | ST/AGR | 9364083 | FN | HOST RESISTANCE INTEGRATED TICK CONTROL | 260 | 26940 |

FY 1989 PROGRAM BY PROBLEM AREA
UNMANAGEABLE POPULATION PRESSURE

| RANK | OFFICE BUREAU | PROJECT | APPROP | TITLE | AMOUNT | CUM |
|---|---|---|---|---|---|---|
| 1 | ST/POP | 9363041 | PN | FAMILY HEALTH INTERNATIONAL | 7700 | 7700 |
| 2 | ST/POP | 9320968 | PN | PROGRAM FOR VOLUNTARY STERILIZATION-AVS | 9000 | 16700 |
| 3 | ST/POP | 9363031 | PN | FP TRNG FOR PARAMEDICAL AUX.COMMUNIT-II | 5735 | 22435 |
| 4 | ST/POP | 9363018 | PN | CONTRACEPTIVES PROCUREMENT | 9800 | 32235 |
| 5 | ST/POP | 9363028 | PN | CONTRACEPTIVE SOCIAL MARKETING | 4175 | 36410 |
| 6 | ST/POP | 9363023 | PN | DEMOGRAPHIC AND FAMILY HEALTH SURVEYS | 3532 | 39942 |
| 7 | ST/POP | 9363030 | PN | STRATEGIES FOR IMPROVING SERVICE DELIVER | 6000 | 45942 |
| 8 | ST/POP | 9363047 | PN | FAMILY PLANNING INT'L ASSISTANT II | 7250 | 53192 |
| 9 | ST/POP | 9363005 | PN | POPULATION COUNCIL PROGRAM | 4100 | 57292 |
| 10 | ST/POP | 9363034 | PN | FP ENTERPRISE | 5000 | 62292 |
| 11 | ST/POP | 9363044 | PN | CONTRACEPTIVE RESEARCH AND DEVELOPMENT | 3600 | 65892 |
| 12 | ST/POP | 9363038 | PN | FP LOGISTICS AND MANAGEMENT | 1630 | 67522 |
| 13 | ST/POP | 9363042 | PN | FAMILY PLANNING SERVICES-PATH FINDER | 7150 | 74672 |
| 14 | ST/POP | 9363046 | PN | DEMOGRAPHIC DATA INITIATIVE | 3700 | 78372 |
| 15 | ST/POP | 9363045 | PN | TRAINING REPRODUCTIVE HEALTH II | 4600 | 82972 |
| 16 | ST/POP | 9363035 | PN | POPULATION POLICY INITIATIVES | 3393 | 86365 |
| 17 | ST/POP | 9363048 | PN | COMMUNITY BASED FP SERVICES | 1375 | 87740 |
| 18 | ST/POP | 9363004 | PN | POPULATION COMMUNICATIONS SERVICES | 3535 | 91275 |
| 19 | ST/POP | 9363043 | PN | EXPANSION/IMPROV. FP PROGRAMS | 3350 | 94625 |
| 20 | ST/POP | 9363039 | PN | MANAGEMENT TRAINING | 1815 | 96440 |
| 21 | ST/POP | 9363032 | PN | POPULATION INFORMATION PROGRAM III | 1600 | 98040 |
| 22 | ST/POP | 9363024 | PN | POPULATION TECHNICAL ASSISTANCE | 600 | 98640 |
| 23 | ST/POP | 9320502 | PN | POPULATION PROGRAM DEVELOPMENT/SUPPORT | 2000 | 100640 |
| 24 | ST/POP | 9363040 | PN | NATURAL FP | 2300 | 102940 |
| 25 | ST/POP | 9363037 | PN | EXTENDING FP SRVCS THRU WOMEN MANAGERS | 560 | 103500 |

FY 1989 PROGRAM BY PROBLEM AREA
HEALTH DEFICIENCIES

| RANK | OFFICE BUREAU | PROJECT | APPROP | TITLE | AMOUNT | CUM |
|---|---|---|---|---|---|---|
| 1 | ST/HEA | 9365965 | HE | GLOBAL AIDS PROGRAM - WHO | 1000 | 1000 |
| 2 | ST/HEA | 9365972 | HE | AIDS TECHNICAL SUPPORT | 1500 | 2500 |
| 3 | ST/HEA | 9310453 | HE | MALARIA IMMUNITY & VACCINATION RESEARCH | 7000 | 9500 |
| 4 | ST/HEA | 9365967 | HE | MALARIA FIELD TRIALS | 5000 | 14500 |
| 5 | ST/N | 9365116 | HE | OVERCOMING VITAMIN A DEFICIENCY | 3600 | 18100 |
| 6 | ST/HEA | 9365927 | CS | TECHNOLOGY FOR PHC | 2500 | 20600 |
| 7 | ST/HEA | 9365969 | CS | TECHNOLOGY FOR PHC II | 4000 | 24600 |
| 8 | ST/N | 9311010 | HE | NUTRITION: IMPRV OF MATERNAL/INFANT DIET | 1757 | 26357 |
| 9 | ST/N | 9311010 | CS | NUTRITION: IMPRV OF MATERNAL/INFANT DIET | 650 | 27007 |
| 10 | ST/HEA | 9365951 | CS | CHILD SURVIVAL ACTION PROGRAM SUPPORT | 2000 | 29007 |
| 11 | ST/HEA | 9311018 | HE | COMMUNICATION FOR CHILD SURVIVAL | 2000 | 31007 |
| 12 | ST/HEA | 9365966 | CS | PERINATAL HEALTH | 1500 | 32507 |
| 13 | ST/N | 9365113 | HE | NUTR,EDUC AND SOC MKTG FLD SUPPORT | 700 | 33207 |
| 14 | ST/N | 9310262 | FN | NUTRITION: SCIENTIFIC/TECH/PLNG SUPPORT | 300 | 33507 |
| 15 | ST/HEA | 9365970 | CS | PHS DETAILS | 500 | 34007 |
| 16 | ST/HEA | 9365947 | HE | VACCINE DEVELOPMENT AND HEALTH RESEARCH | 1000 | 35007 |
| 17 | ST/N | 9365111 | HE | ESTABLISH NUTRITION SURVEILLANCE | 300 | 35307 |
| 18 | ST/RUR | 9365057 | HE | JOINT MOUS-HEALTH | 1272 | 36579 |
| 19 | ST/HEA | 9365942 | HE | WATER AND SANITATION FOR HEALTH II | 3000 | 39579 |
| 20 | ST/HEA | 9311126 | HE | TROPICAL DISEASE RESEARCH | 2500 | 42079 |
| 21 | ST/HEA | 9365935 | HE | DIAGNOSTIC TECHNOLOGY DEVELOPMENT | 1500 | 43579 |
| 22 | ST/N | 9365115 | CS | COMBATTING IRON DEFICIENCY | 350 | 43929 |
| 23 | ST/RUR | 9365055 | HE | TECHNICAL ADVISORY SUPPORT SERVICES | 416 | 44345 |
| 24 | ST/HEA | 9365928 | HE | DIARRHEAL DISEASE RESEARCH | 3500 | 47845 |
| 25 | ST/HEA | 9365952 | HE | APPLIED DIARRHEAL DISEASE RESEARCH | 1500 | 49345 |
| 26 | ST/RUR | 9365053 | HE | HBCU RESEARCH GRANTS | 1145 | 50490 |
| 27 | ST/HEA | 9365920 | HE | PRIMARY HEALTH CARE-OPERATIONS RESEARCH | 2000 | 52490 |
| 28 | ST/HEA | 9365948 | HE | VECTOR BIOLOGY AND CONTROL | 1500 | 53990 |
| 29 | ST/HEA | 9365968 | CS | HEALTHTECH | 1000 | 54990 |
| 30 | ST/HEA | 9365939 | CS | ORT-HELP | 1000 | 55990 |
| 31 | ST/N | 9365112 | HE | NUTRITION IN HEALTH DELIVERY | 350 | 56340 |
| 32 | ST/HEA | 9365929 | HE | HHS RESOURCE SUPPORT | 500 | 56840 |
| 33 | ST/HEA | 9365953 | CS | SUPPLY PROMOTION AND PRODUCTION OF ORT | 1000 | 57840 |
| 34 | ST/HEA | 9363023 | HE | DEMOGRAPHIC AND FAMILY HEALTH SURVEYS | 300 | 58140 |
| 35 | ST/RUR | 9365052 | HE | PROJECT REVIEW | 167 | 58307 |

FY 1989 PROGRAM BY PROBLEM AREA
ILLITERACY - INADEQUATE EDUCATION'

| RANK | OFFICE BUREAU | PROJECT | APPROP | TITLE | AMOUNT | CUM |
|---|---|---|---|---|---|---|
| 1 | ST/ED | 9365823 | EH | IMPROVING EFFICIENCY OF ED. SYSTEMS II | 1500 | 1500 |
| 2 | ST/ED | 9365824 | EH | BASIC RES IN DEVELOPING SYSTEMS | 1500 | 3000 |
| 3 | ST/IT | 9260071 | EH | TRAINING EVALUATION AND SUPPORT SERVICES | 1300 | 4300 |
| 4 | ST/ED | 9365826 | FN | COMMUNICATION FOR TECH TRANSFER IN AGR. | 50 | 4350 |
| 5 | ST/ED | 9365818 | EH | RADIO SCIENCE | 1050 | 5400 |
| 6 | ST/ED | 9311109 | EH | EDUC TECH: STUDIES + APPLICATIONS | 275 | 5675 |
| 7 | ST/ED | 9311231 | EH | DEVELOPMENT COMMUNICATIONS CLEARINGHOUSE | 200 | 5875 |
| 8 | ST/IT | 9380601 | EH | LABOR ORGANIZATION DEVELOPMENT | 500 | 6375 |

| | AMOUNT | CUM |
|---|---|---|
| | 1000 | 1000 |
| | 1500 | 2500 |
| ARCH | 7000 | 9500 |
| | 5000 | 14500 |
| | 3600 | 18100 |
| | 2500 | 20600 |
| | 4000 | 24600 |
| DIET | 1757 | 26357 |
| DIET | 650 | 27007 |
| RT | 2000 | 29007 |
| | 2000 | 31007 |
| | 1500 | 32507 |
| | 700 | 33207 |
| PORT | 300 | 33507 |
| | 500 | 34007 |
| ARCH | 1000 | 35007 |
| | 300 | 35307 |
| | 1272 | 36579 |
| | 3000 | 39579 |
| | 2500 | 42079 |
| | 1500 | 43579 |
| | 350 | 43929 |
| | 416 | 44345 |
| | 3500 | 47845 |
| | 1500 | 49345 |
| | 1145 | 50490 |
| ARCH | 2000 | 52490 |
| | 1500 | 53990 |
| | 1000 | 54990 |
| | 1000 | 55990 |
| | 350 | 56340 |
| | 500 | 56840 |
| ORT | 1000 | 57840 |
| YS | 300 | 58140 |
| | 167 | 58307 |

FY 1989 PROGRAM BY PROBLEM AREA
ILLITERACY - INADEQUATE EDUCATION'

| RANK | OFFICE BUREAU | PROJECT | APPROP | TITLE | AMOUNT | CUM |
|---|---|---|---|---|---|---|
| 1 | ST/ED | 9365823 | EH | IMPROVING EFFICIENCY OF ED. SYSTEMS II | 1500 | 1500 |
| 2 | ST/ED | 9365824 | EH | BASIC RES IN DEVELOPING SYSTEMS | 1500 | 3000 |
| 3 | ST/IT | 9260071 | EH | TRAINING EVALUATION AND SUPPORT SERVICES | 1300 | 4300 |
| 4 | ST/ED | 9365826 | FN | COMMUNICATION FOR TECH TRANSFER IN AGR. | 50 | 4350 |
| 5 | ST/ED | 9365818 | EH | RADIO SCIENCE | 1050 | 5400 |
| 6 | ST/ED | 9311109 | EH | EDUC TECH: STUDIES + APPLICATIONS | 275 | 5675 |
| 7 | ST/ED | 9311231 | EH | DEVELOPMENT COMMUNICATIONS CLEARINGHOUSE | 200 | 5875 |
| 8 | ST/IT | 9380601 | EH | LABOR ORGANIZATION DEVELOPMENT | 500 | 6375 |