

INTERNATIONAL ECONOMIC ASSISTANCE (IEA)
(or BUREAU OF ECONOMIC AFFAIRS PROGRAM (BEA), as appropriate)

Country Interregional - TAB

Project No. 931-11-690-896

Submittal Date 6/16/70 Original

Revision No. _____

Project Title: _____

A.I.

U.S. Obligation Span: FY 70 through FY 71

Typical Implementation Span: FY 71 through FY 72

Gross life-of-project financial requirements:

U.S. Dollars (FY 1970 - FY 1971) \$590,000
(for food projects show CCC value including estimated ocean freight)

U.S.-owned local currency.....

Cooperating country cash contributions.....
(in \$ equivalent, current exch. rate)

Other funds.....
(for food projects, including voluntary agency contributions) \$590,000

Totals

For food projects show total tonnage.....

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NONCAPITAL PROJECT FUNDING (OBLIGATIONS IN \$000)

PROP. DATE _____
 Original _____
 Rev. No. _____
 Project No. _____

Table 1
 Page 1 of 2
 COUNTRY: _____

Project Title: _____

Fiscal Years	Ap	L/G	Total	Cont ^{1/}	Personnel Serv.			Participants		Commodities		Other Costs	
					ATD	PASA	CONT	U. S. Agencies	CONT	Dir U. S. Ag	CONT	Dir & U. S. Ag	CONT
Prior through Act. FY _____													
Oper. FY <u>70</u>	TC	G	460	460			460						
Endg. FY <u>71</u>	TC	G	130	130			130						
B + 1 FY _____													
B + 2 FY _____													
B + 3 FY _____													
All Subs.													
Total Life	TC	G	590	590			590						

^{1/} Memorandum (nonadd) column

Note that format of this page is same as E-1a.

If a second page of table is used, space year-line entries on second page at same location as on first page.

ANALYTICAL SERVICES IN RELATING COMMUNICATIONS TECHNOLOGY TO DEVELOPMENT

Summary Description

In testimony on Section 220, "Programs for Peaceful Communications," to a House Subcommittee in April, 1970, A.I.D.'s posture was presented as recognizing both that communications technologies hold great potential and that many problems must be overcome in order to tap such potential. A.I.D. activity for the immediate future was cast, therefore, as an attempt to learn, through a coherent problem-solving process, how to apply these technologies to produce breakthroughs in development problem areas.

Much of the problem-solving in this area will arise from, and/or be associated with, operational projects and field research in the developing countries over the next several years. However, there is also an urgent need for analyses which will provide a basis for the further development of policies, programs, and projects. The need for these is particularly great if current initiatives in these areas are to be fundamentally innovative - that is, if they are to represent a fulcrum for new approaches to development programs, rather than merely an application of current approaches to the use of communications.

Ultimately, much of this sort of analytic policy planning support will come from the U. S. Centers in Educational Technology and Development Communications for the LDCs which A.I.D. is planning to establish. There is a need, however, for analyses to begin at once in support of policy planning and initial implementation steps that will be carried out in the coming year. An integrated series of analyses will be required, but there are several discrete problem areas which will be major focuses of activity. Other such areas will be defined as the policy development process proceeds.

The basic framework will be a contract for assisting A.I.D. in defining its policies and implementation strategies for the entire program envisaged by Section 220. It should be noted that our fairly intensive efforts to date have centered mainly on educational technology in formal school settings and on applications of communications media to population programs.

Activities in these areas will be strengthened and strategies will undoubtedly be modified. However, the broader use of mass communications for non-formal education, community development, agriculture, literacy, etc., will require a major innovative effort to develop new strategies.

The areas of concentration for the studies can be classified in brief as follows: 1) definition of research and development priorities; 2) a fuller analysis of requirements for the most effective use of satellites and other communications technologies in development; and 3) a broad array of other analyses and policy studies relevant to the development of strategies for the implementation of Section 220.

An overall contract will be arranged with an educational policy organization. It will conduct its work in large part through subcontracts and consultant arrangements with expert groups from a variety of U. S. and developing country institutions representing a wide range of disciplines.

As policy development and analyses proceed with the aid of this project, it is critically important that the thinking of developing country leaders be integrated into the process. The project will explicitly concentrate on creating devices to make such inputs possible and will put some of them into practice very early in the life of the project.

In summary, the current project is aimed at providing A.I.D. with analytical support for its policy making in the areas of peaceful communications in response to the Congressional mandate and our own definition of priorities. In selected critical areas these analyses will be conducted in considerable depth.

Setting and Environment

A.I.D. is under a Congressional mandate to make greater use of educational technology and mass communications for development (Section 220 of the FY 1970 Foreign Assistance Act, "Programs for Peaceful Communications.") The legislation and House Foreign Affairs Committee report on this section are attached as Annex A. Independently, TAB has identified educational technology as one of the three areas in education in which the Bureau's analytic efforts will be concentrated.

Both of these priority-setting decisions reflect a burgeoning worldwide interest in utilizing these learning technologies. Several countries, including nations as diverse as India, the Ivory Coast, Singapore and El Salvador, are well advanced in national planning in this field. In some of these countries major projects have already started. Ambitious projects are also under serious early consideration by Brazil, Korea, and Indonesia. Multilateral agencies, including the World Bank and UNDP, are for the first time funding such activities on a substantial scale.

This increased interest seems to be based on two somewhat independent ideas. The first is that formal education systems as presently organized, with their total reliance on individual classroom teachers as the purveyors of virtually all instruction, are inadequate to future LDC requirements. They cannot, it is believed by many, continue to meet the growing quantitative demands for education from a cost standpoint. If existing patterns of educational organization persist, increases in the school-age population of children already born will require that a country enrolling 50% of its children in 1965 double its education expenditures by 1980 in order to avoid an increase in the absolute numbers not in school. Expenditure increases of this order seem economically unfeasible, so a search for education at lower unit cost has begun. Systems using technology are therefore receiving much attention. Reinforcing this interest in technology, as well as educational concepts associated with it, is a growing belief that

conventional educational organization cannot produce with sufficient speed the radical improvements in educational quality, relevance, and efficiency that most nations deem necessary to development.

The second idea behind this burgeoning interest is that the mass communications technologies, especially television, present an opportunity, quite apart from any applications to formal school systems, to improve directly the quality of life for those masses of people in LDCs who have participated little in social and economic development to date.

The Congress responded to these ideas by mandating A.I.D. in Section 220 to increase its activities in "programs of peaceful communications which make use of television and related technologies, including satellite transmissions, for educational, health, agricultural, and community development purposes." This Section calls for a wide range of assistance to the LDCs, including research, training, planning assistance, and project support.

The proposed projects will relate to an ongoing program of TAB studies in educational technology. A just-completed project, "Analysis of Instructional Technologies," has analyzed the state of the art of the "programmed instruction" stream of educational technology and included the beginning of a research mapping strategy. That project did not, however, deal extensively with the broadcasting technologies nor did it develop research priorities to the point where the Agency could formulate useful research projects with any precision; both these aspects are to be encompassed in the research component of the current project. The satellite area also was explored in an earlier study, conducted by Stanford Research Institute in 1967. As a first attempt to identify key software problems, it has proved useful both to the Agency and to the Government of India, which is planning a satellite experiment. It was, in effect, a study of potentials and general feasibility rather than a problem-solving analysis, but it will serve as an important base for the current activity.

Three other projects in the current analytic program of TAB/EHR address related aspects of the array of problems in applying educational technology to the LDCs. A contract with the National Association of Educational Broadcasters provides for country pre-feasibility studies and is being restructured to provide analyses of the economics of educational broadcasting and the effects of new broadcasting technologies on educational applications in the LDCs. Another project is evaluating in detail the educational effects, implementation problems, and costs associated with the most important operational application of the educational technologies to date, i.e., the project of educational reform in El Salvador. Finally, the information being generated from these and other projects, major field experiences, and our own policy explorations is being packaged for dissemination to LDC educational decision makers and to A.I.D. advisors through a contract which will make available a film, manuals, and expert teams to missions around the world, and which will provide a continuing follow-up information reference service.

Targets

The responsibility for the definition of strategies and programs will be fundamentally A.I.D.'s, with the contractor playing a supportive role through providing the professional analyses and other inputs that will be required by A.I.D. Thus, the ultimate target of effective program development is not the responsibility of the contractor. However, intermediate targets can be defined within the scope of the project. First, in general terms, there are the following targets for the overall project:

- (1) Preparation of analyses which provide a logical, informed, and if possible quantitative basis for policy and program decisions.
- (2) Development of innovative and alternative approaches to problems in making use of the educational and communications technologies.
- (3) Suggestion of strategies and techniques for more effective involvement of developing country experts in A.I.D. planning and activities relating to this initiative.
- (4) Engagement of a broad array of experts and institutions from the U. S. and developing countries in the project's problem-solving activities.
- (5) Assistance in engaging other aid-giving institutions, both national and international, at the professional level as well as at the policy level.

Second, more explicit targets can be defined for some of the key problems which this project will address in depth. (For others, a further definition of the problems will be required, arising out of the contractor's work with A.I.D. as the project proceeds.) The following discussion relates to those key problem areas already identified explicitly enough to warrant a fairly precise definition of targets.

Problem Area A - Research and Development Priorities

The goal of this activity is to provide a basis for designing and initiating research programs on the use of the communications and educational technologies in LDC applications. Problems of hardware, software, and systems management will be encompassed. The project should result in the formulation of both research strategies and specific research projects in sufficient detail to serve as a basis for soliciting and funding research proposals from the scientific community. It is anticipated that these guidelines will be usable not only by A.I.D., but also by other development agencies and by private research institutions throughout the world.

Problem Area B - Effective Social Development Use of National Communications Systems

Work on this problem will be aimed at providing a sounder base for decisions to be made by A.I.D. and by some developing countries on the

establishment of extensive national systems of mass communications, aimed at social development goals. While educational television via communications satellites will be examined, the project will equally encompass various other kinds of transmission systems (such as ground-based microwave systems) and alternative uses of transmission systems, such as radio, picture-by-wire, etc. At least three kinds of questions will be examined in detail: first, in terms of probable educational and social development effectiveness, as well as cost, what are the implications of alternative uses of communications systems (illustratively, what are the comparative benefits of using a frequency band for transmitting multiple channels of programmed instruction by radio vs. its use for transmitting one channel of television); second, for countries planning the deployment of satellites or other expensive mass communications systems for educational or social development purposes, what are useful activities which can be undertaken prior to such deployment - steps which would optimize the effectiveness, feasibility, and economy of such systems; third, what are the key policy decision points for the U. S. and international organizations, 1970-1975, which will have significant impact on the use of satellites and other communications technologies by the LDCs.

Problem Area C - Policy Studies on Implementation
Strategies, Programs for Peaceful Communications

This broad problem area will be supporting the search for new strategies and new kinds of programs in applying communications and educational technology to development, encompassing A.I.D. activities in research, institution building, policy development training, operational project assistance, and administration. These policy studies will be conducted in tandem with studies in the problem areas detailed immediately above. They will include some analyses of equal magnitude and other briefer analyses. While specific studies will be defined as the project proceeds, a few illustrative sub-problems are listed in "Courses of Action," below.

For these studies, as for all others, the contractor will be responsible for integrating findings into a form most useful for A.I.D. use in policy making and planning.

Course of Action

The project will be conducted under a single management contract with an educational policy studies organization. That organization will subcontract and utilize consultants with the aim of engaging in the effort a broad spectrum of competing professional approaches to LDC communications applications from institutions around the nation and in other countries.

The device of single contract management is to be used because of two advantages over independent contracts for the several subprojects which could be defined. First, the management organization will have available detailed inputs from a range of analytic activities for use in the overall strategy development process. Second, a range of expertise can be engaged on the

professional and policy questions that is not limited to a particular university and its inevitable biases in this field, based on its involvement with certain of the communications technologies or with the plans of particular LDCs.

The detailed courses of action will vary for each problem area:

a. Research and Development Priorities
(Approximately \$120,000 total; 12 months) (FY 1970 \$90,000)

The ultimate target is to make educational and social development systems using these technologies more useful to the LDCs, through research and development. That R&D will be directed at increased educational effectiveness, simplified requirements for complex and skilled administration, improved technical reliability and ease of maintenance, reduced costs, and increased capability to reach broad populations effectively. The present project will produce guidelines for the R&D most urgently required. It will produce both an analytic map and project descriptions in sufficient detail to formulate research proposals. Users will be AID/W, other research-funding institutions, and the R&D community including private enterprise.

It will deal with three key aspects of the problem: educational "software" - program content and techniques, utilization, feedback, application to appropriate objectives, individualization, systems planning, combinations with other educational techniques, etc.; crucial "hardware" problems such as the reliability of receivers and power sources, the costs thereof, and ease of repair; and systems planning and management. In dealing with these areas, researchable problems on the interface of software, hardware, and management systems will of course also be addressed.

The project will proceed by a simultaneous analysis of the state-of-the-art, promising new research directions, and conditions of educational/social development applications in the LDCs. It will be integrated with the findings of the U. S. Commission on Instructional Technology.

b. Effective Use of Alternative Communication Technologies
(Approximately \$200,000 total, 15 months) (FY 1970 \$180,000)

To this point, planning in both the U. S. and the relevant LDCs has not dealt adequately with many aspects of using modern technologies, like satellites, for development-related communications. Much evidence suggests that the importance of the administrative and social infrastructure, the interface between that infrastructure and hardware systems, and program content should be given particular attention. Our earlier study on satellites, conducted by Stanford Research Institute, began the exploration of such problems, but resulted in very general conclusions. This study would first examine alternative applications of communications capabilities from the standpoint,

until now almost entirely neglected, of their utility in efficiently achieving human resource development objectives.

Second, it would center concretely on the steps that might be taken by specific countries in preparation for large-scale use of modern technologies for educational and social development programs, including satellites. Anticipated products might include the definition of experiments on alternative media uses, design of pilot projects simulating large operational systems, initiation of various kinds of software development, etc.

Third, it would assist A.I.D. in fixing on those decision points during the next five years that may determine the utility of satellites and alternative communications systems for development.

Together, these three activities should provide A.I.D. (as well as other financing and technical assistance institutions) with a somewhat better basis for judging the adequacy and utility of proposals for aid in social development applications of modern communications systems, including satellites, proposals which may be of very large magnitude. It is expected also that they will point to the kinds of expertise and institutional development that countries must have in order to make productive use of these various communications technologies.

c. Policy Studies on Implementation Strategies, Programs for Peaceful Communications
(Approximately \$270,000 total, 18 months) (FY 1970 \$190,000)

For this sub-project, a close staff relationship will be maintained between the contractor and A.I.D. The definition of specific tasks will be made during the course of the contract by A.I.D. While applications to formal education will be one focus, it is anticipated that much work will proceed on applications to informal education, uses in programs of agricultural, population, and nutritional development, etc., and attempts to stimulate general social development through mass communications. Thus, a range of experts, both from substantive areas and from communications, will be required, together with opportunities for such experts to engage in serious innovative thinking.

The contractor will also focus on ways of involving LDC leaders and key technical and professional personnel in both policy planning and research and development activities. It is hoped that, in addition to traditional patterns such as study grants and conferences, innovative plans will be devised for early and continuing participation of interested LDC personnel in planning, research, and experimentation for both the hardware and software aspects of programs using the newer communications technologies.

In addition to planning such LDC involvement, the contractor will take initial steps to implement it. Among the devices which may be used will be creation of an international advisory board of experts from the LDCs and from international and national assistance organizations, subcontracting with developing country institutions for some analyses, and reviews of policy plans in selected developing countries.

The scope of the problem analyses in this activity will be broad, reaching over the whole range of problems, potentials, and obstacles to the effective use of communications as an instrument of development. A systems approach will be used to organize the studies.

The first phase of this subproject (3-4 months) will define the initial study framework more fully, through close work with A.I.D. staff from several TAB offices, Regional Bureau offices, developing country experts, and consultants.

While the definition of the kinds of analyses and their number should not be firmly formulated at this point, they will all support the creation of policies and programs aimed at major breakthroughs in priority education and human resource development problems through use of the communications and learning technologies. In doing the studies, realistic LDC constraints of cost, management capability, and willingness to innovate will be fully considered. Illustrative general study areas are as follows:

1. Development of new strategies for non-formal education, community development, etc. which take advantage of communications technologies but also accommodate their limitations as instruments used in isolation.
2. Analysis of basic innovations in a broad range of educational and human resource development practices which may be associated with systems using technologies; e.g., architecture, different allocations of time, different teacher-student ratios, etc. Methods for introducing such innovations with the introduction of educational technologies, when feasible, will be a major interest of these studies.
3. Strategies for promoting increased LDC capacities to plan and manage educational technology/communications media systems.

Specific analyses supporting these general study objectives might include the following:

1. Implications of mass communications for the management and organization of programs aimed at producing social and behavior changes.
2. New roles for extension workers in programs utilizing mass communications.
3. Local "gatekeepers" and the implementation of mass communications programs.
4. Limitations of mass communications in producing behavior change.

5. LDC institution building for ed. technology; implications of support/non-support of existing small-scale educational TV stations.
6. Low cost alternatives to educational television.
7. Training needs, from planners to technicians, in the LDCs.
8. U. S. training vs. on-the-job training.
9. Requirements for external technical assistance specialities for LDC s using the technologies.
10. Methods for cooperative use of mass communications technologies by government and non-government users.
11. Varying institutional arrangements for administering innovative programs: the "experimental" vs. the "operational" technique.
12. Key reforms in human resource development practices and concepts associated with, by necessity or choice, introduction of mass communications for development.

Sec. 220. Programs for Peaceful Communication

- (a) The President is authorized to use funds made available under section 212 to carry out programs of peaceful communications which make use of television and related technologies, including satellite transmissions, for educational, health, agricultural, and community development purposes in the less developed countries.
- (b) In carrying out programs in the fields of education, health, agriculture, and community development, the agency primarily responsible for part I shall, to the extent possible, assist the developing countries with research, training, planning assistance, and project support in the use of television and related technologies, including satellite transmissions. The agency shall make maximum use of existing satellite capabilities, including the facilities of the International Telecommunications Satellite Consortium.
- (c) In implementing activities under this section, the agency primarily responsible for part I shall coordinate closely with Federal, State, and local agencies and with nongovernmental educational, health, and agricultural institutions and associations within the United States.

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[Excerpt From HFAC Committee Report on FY 1970 FAA, Nov. 6, 1969]

Section 220--Programs for peaceful communication

Section 220 adds a new section to the act relating to programs for peaceful communication. The objective of the new section is to emphasize specifically in the legislation the importance of assisting the less developed countries in the use of modern communication technologies, including television, for educational, health, agricultural, and community development purposes, and to encourage the establishment, within A.I.D., of a focal point for such activities. No additional funds would be required; rather, the President would be authorized to use technical assistance moneys under section 202.

Rapid advances in the technology of communications, including the use of satellites, are making it feasible to bring information and instruction to peoples worldwide. By 1972, for example, the United States will provide India with use of a communications satellite for a system of "community" television which will reach even isolated villages. Other countries and regional groupings of countries are expected to seek similar assistance.

As a paramount force for international development, as historic champion of an "open" world of information and knowledge, and as world leader in communications technology, the United States has a vital interest in the beneficial utilization of electronic and other modern systems of communication--systems which are certain to have profound political, social, economic, and cultural effects globally. While the United States has pioneered in the technology, it has done little in the equally important area of applying the technology to meet human needs.

Section 220 would be a step toward correcting the imbalance by creating within A.I.D. the capability to assist the less developed countries with research, training, planning help and pilot projects in the use of television and related technologies for development purposes. The emphasis would be on the "software" nontechnical aspects of communication systems. The new section, it should be noted, is in conformity with recommendations of the 1967 White House Task Force on Educational Television in Less Developed Countries, the 1967 President's Task Force on Communications Policy, and the House Foreign Affairs Subcommittee on National Security Policy and Scientific Developments which held 4 days of hearings on the subject earlier this year.

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PROJECT AUTHORIZATION

1. PROJECT NUMBER 93-11-690-896	3. COUNTRY WORLDWIDE	4. AUTHORIZATION NUMBER
2. PROJECT TITLE <u>Analytical Services in Relating Communications Technology to Development</u>		5. AUTHORIZATION DATE June 18, 1970 PA #
		6. PROP DATED June 16, 1970

7. LIFE OF PROJECT

a. Number of Years of Funding: 2
Starting FY 19 70; Terminal FY 19 71

b. Estimated Duration of Physical Work
After Last Year of Funding (in Months): 12

FUNDING BY FISCAL YEAR (in U.S. \$ or \$ equivalent)	DOLLARS (000s)		P.L. 480 CCC + FREIGHT	LOCAL CURRENCY Exchange Rate: \$1 =			
	GRANT	LOAN		U.S. OWNED		HOST COUNTRY	
				GRANT	LOAN	JOINTLY PROGRAMMED	OTHER
Prior through Actual FY							
Operational FY 70	460						
Budget FY 71	130						
B + 1 FY							
B + 2 FY							
B + 3 FY							
All Subsequent FY's							
TOTAL	590						

9. DESCRIBE SPECIAL FUNDING CONDITIONS OR RECOMMENDATIONS FOR IMPLEMENTATION, AND LIST KINDS AND QUANTITIES OF ANY P.L. 480 COMMODITIES

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10. CONDITIONS OF APPROVAL OF PROJECT

CLEARANCES	DATE
VN/ND, WShumate (draft)	6/10/70 CB
NESA/TECH, BNewbry (draft)	6/10/70 CB
TA/OST, GSchweitzer (draft)	5/12/70 CB
EA/TECH, KWilliams (draft)	6/10/70 CB
LA/DR, Mcusack (draft)	6/10/70 CB

11. Approved in substance for the life of the project as described in the PROP, subject to the conditions cited in Block 10 above, and the availability of funds. Detailed planning with cooperating country and drafting of implementation documents is authorized.

This authorization is contingent upon timely completion of the self-help and other conditions listed in the PROP or attached thereto.

This authorization will be reviewed at such time as the objectives, scope and nature of the project and/or the magnitudes and scheduling of any inputs or outputs deviate so significantly from the project as originally authorized as to warrant submission of a new or revised PROP.

A.I.D. APPROVAL	CLEARANCES	DATE
<i>Joel Bernstein</i>	AFR/ID, S. Fuhr (phone)	6/11/70 CB
	TA/EHR, WSMcCall (draft)	6/14/70 CB
SIGNATURE	TA/EHR, GBlock	6/17/70
AA/TA, Joel Bernstein	TA/PM, J. O'Keefe/KSLevic	6/18/70
TITLE	A/CONT	
DATE		