

I. PROJECT IDENTIFICATION

PD-AAD-065-BT

1. PROJECT TITLE: **Teacher Training**

APPENDIX ATTACHED: YES NO

2. PROJECT NO. (M.O. 1095.2): **367-11-690-228**

3. RECIPIENT (specify):
 COUNTRY: **Nepal**
 REGIONAL INTERREGIONAL

4. LIFE OF PROJECT
 BEGINS FY: **1972**
 ENDS FY: **1976**

5. SUBMISSION: **1/5/72**
 ORIGINAL DATE
 REV. NO. DATE
 CONTR. ~~XXXXXXXX~~ **15P**

II. FUNDING (\$000) AND MAN MONTHS (MM) REQUIREMENTS

A. FUNDING BY FISCAL YEAR	B. TOTAL \$	C. PERSONNEL		D. PARTICIPANTS		E. COMMODITIES \$	F. OTHER COSTS \$	G. CONTR.		H. LOCAL EXCHANGE CURRENCY RATE: \$ US _____ (U.S. OWNED)		
		(1) \$	(2) MM	(1) \$	(2) MM			(1) \$	(2) MM	(1) U.S. GRANT LOAN	(2) COOP COUNTRY	
										(A) JOINT	(B) BUDGET	
1. PRIOR THRU ACTUAL FY												
2. OPEN FY 72								293				
3. BUDGET FY 73	19			47	75	1		270	78			
4. BUDGET FY 74	101			100	158	1		270	72			
5. BUDGET FY 75	52			51	80	1		270	72			
6. BUDGET FY 76	1					1			72			
7. ALL SUBQ. FY												
8. GRAND TOTAL	202			198	213	4		1,103	294			

9. OTHER DONOR CONTRIBUTIONS

(A) NAME OF DONOR	(B) KIND OF GOODS/SERVICES	(C) AMOUNT
UNESCO	Technical Assistance	\$24,000

III. ORIGINATING OFFICE CLEARANCE

1. DRAFTER Ann H. Donidion	<i>Ann H. Donidion</i>	TITLE Acting Chief, Education Div.	DATE 1/6/72
2. CLEARANCE OFFICER William C. Ide	<i>William C. Ide</i>	TITLE Director	DATE 1/6/72

IV. PROJECT AUTHORIZATION

1. CONDITIONS OF APPROVAL

2. CLEARANCES

BUR/OFF.	SIGNATURE	DATE	BUR/OFF.	SIGNATURE	DATE

3. APPROVAL AAs OR OFFICE DIRECTORS

SIGNATURE	DATE
TITLE	

4. APPROVAL A/AID (See M.O. 1025.1 VI C)

SIGNATURE	DATE
ADMINISTRATOR, AGENCY FOR INTERNATIONAL DEVELOPMENT	

TEACHER TRAINING

Government-sponsored education for the general public in Nepal began in 1951 with the return to power of the King and the concomitant decision to move toward a more modern society. Prior to 1951, formal education was restricted to a small elite portion of the population and was largely confined to the efforts of a handful of religious-oriented schools.

Starting from this base, education in Nepal has made remarkable advance. A basic educational structure reaching all populous areas of the country has been created. At present primary and lower secondary schools exist in all districts, and all but the most remote districts have upper secondary schools.

In 1970, approximately 550,000 Nepalese children were enrolled in either primary or secondary schools. While this number represents only about 36% of the school-age population, given the scarcity of resources which characterizes Nepal and given the relatively short period of time HMG has been involved in the attempt to provide mass education, the percentage is respectable.

USAID's major input in the development of Nepal's education system has been in the provision of financing and technical assistance for the construction and development of institutions for teacher training and other supportive educational activities. The College of Education, the National Vocational Training Centre, two of the four Primary School Teacher Training Centres, and the Janak Education Materials Organization were constructed and developed with USAID assistance. USAID-financed participant training has provided Nepal's education sector with a sizeable core of highly qualified and highly motivated individuals who on their own have raised many constructive questions about the optimal system of education for Nepal.

The present system is heavily based on the Indian model. It places heavy emphasis on rote memorization and on preparation for examinations. Subjects of doubtful utility such as regional and foreign languages are emphasized to the neglect of math and science. Vocational training is almost totally ignored.

A basic requirement for the educational system of a country seriously embarked upon an attempt to accelerate economic and social development is that it produce graduates and citizens with skills and attitudes which can contribute to the development process. HMG (through a Royal Task Force on Education) has recently conducted a far-reaching study of Nepal's education system and has concluded that the system is not making its maximum contribution to the development effort. The study culminated in the National Education System Plan (NESP) which pointed out three critical areas in which improvements must be made if Nepal's education system is to be relevant to the country's needs: (1) education must be "vocalionalized" if it is to be relevant to the country's overwhelmingly rural population; (2) curricula have to be modernized, modified and standardized nation-wide; and (3) the country's teachers have to be upgraded to make them more effective implementors of the new curricula.

what would indicate be of this being happened?

HMG's plans are to move immediately toward bringing about the improvements called for in the NESP. The task is a tremendous one since a completely new direction in the country's education system is called for.

At present, and importantly as a result of past U. S. assistance and extensive participant training, the MOE believes it can muster the manpower and talent to devise a reformed standard curriculum for Nepal's schools independent of external assistance. The very real political pressure to have a national curriculum designed and developed entirely by Nepalis precludes any but the most indirect and limited foreign assistance in this area.

"Vocationalization" of the education system will be much more difficult to accomplish, especially in view of the lack of motivation due to scant employment opportunities outside of agriculture. USAID's interest in developing the Institute of Agriculture should be a major contribution in the most significant of the vocational subjects.

In the third area, the upgrading of the nation's teachers to enable them to use the new curricula effectively, HMG also faces serious problems. Nepal does not have the human resources to accomplish the task. Achievement of success in curriculum development and vocationalization cannot move far ahead of teacher capabilities. Recognizing this situation, HMG has requested USAID assistance in improving the capacity of the country's teacher training institutes. The fields of mathematics, science and agriculture are viewed as keys to modernization, both for the skills they teach and the attitudes of mind which they entail. HMG believes that the U. S. has established its preeminence in those subjects.

USAID is encouraged by the boldness and the ambition evidenced in the National Education System Plan and, though we have no doubt that many frustrations and temporary failures will accompany its implementation, we view its emergence as a critical step in the development process and believe that we should respond favorably to HMG's request.

The Mission considers that, by providing a few, highly capable education professionals to catalyze Nepalese efforts to improve the country's teacher training programs, we can contribute substantially to the successful implementation of the NESP and at the same time protect our earlier large investments in the development of teacher training institutes.

GOAL

The goal of this project is to make Nepal's education system more relevant to the country's needs.

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Measures of Goal Achievement

The Mission realizes that measurement of the relevancy of a country's education system is an exceedingly complex task that can be properly accomplished only

over an extended period of time. We do consider, however, that some indication can be garnered through a critical survey of the new curriculum and teachers' attitudes toward the curriculum and propose to conduct such a survey during the final year of project activity.

Purpose

The purpose of this project is to develop within Nepal's pre-service and in-service teacher training institutions the capacity to prepare teachers to implement effectively the new curricula proposed in the NESP.

Conditions Expected at End of Project

- 1. The Institute of Education (IOE), the Normal Schools, and the Vocational Institute have incorporated more modern methods of teaching mathematics, science and agriculture into their courses and programs of instruction.
- 2. Graduates from the IOE, the Normal Schools and the Vocational Institute are trained both on campus and through practice-teaching programs in more modern methods of teaching their respective subjects.
- 3. The Extension Division of the IOE has trained a majority of in-service teachers in more modern methods of teaching, and a continuing training program is operational.
- 4. The Curriculum Development Center (CDC) is continually reviewing teaching materials and incorporating improved materials into Nepal's schools.
- 5. Students in schools in which trained teachers are functioning perform 10-15% better on mathematics and science examination.
- 6. Fifteen percent of students in schools in which teachers trained in new curricula are functioning complete 7th grade as opposed to 8% at present.

Outputs

In attempting to achieve project purpose; i.e., to prepare Nepal's teachers to assume the additional responsibilities inherent in the National Education System Plan, USAID proposes a two-pronged attack. The USAID technician will be working at both (1) revising and improving instruction at Nepal's teacher training institutions; and (2) improving in-service training for the country's present teachers. We anticipate that, if outputs are produced as expected, the bulk of Nepal's primary and secondary school teachers will have received some training in more modern teaching methods and that a continuing capacity to train both in-service and pre-service teachers in more modern methods of teaching will have been created.

Specific outputs to be produced during the life of the project are as follows:

1. Improved pre-service teacher training programs for the three levels of teachers required by Nepal's education system (primary teachers, lower secondary teachers, and upper secondary teachers) will have been developed. These programs will place heavy emphasis on modern methods of teaching mathematics, science, and vocational agriculture. The programs will be designed and installation will have begun in relevant teacher training institutions (present and projected) by the end of FY 74.

2. Working with the CDC, the technicians will assist in the preparation of methods manuals, teachers' guides and other teaching materials for in-service and pre-service teachers in conducting courses in mathematics, science, and vocational agriculture. It is anticipated that mathematics and science guides and manuals will be completed and in use by the end of FY 75.

3. Guidelines for agriculture education at the lower and upper secondary levels will be completed by the end of FY 74.

4. A practice teaching program geared to more modern methods will be designed and implementation begun by the end of FY 74. A minimum of 1,000 teachers will participate annually; and as other normal schools are established, more trainees will benefit.

5. Plans for a revised and expanded extension program to train in-service teachers primarily in methods of teaching mathematics, science, and agriculture will be developed, and implementation of the training will commence by the end of FY 73. It is estimated that approximately 1,000 teachers per year will be trained in workshops conducted by the extension program.

6. USAID will be heavily involved in the training of both the teachers who will be the actual implementors of the new curricula and of the staffs of the several teacher training institutes who will be assisting with the training of teachers during project life and who will have the continuing responsibility for producing effective teachers in the future. The following chart shows the numbers of teachers and teaching institutes' staffs who will be receiving training during the life of this project.

	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>
Pre-service math and science teachers	1000	1200	1200	1600
	(This number represents the present and proposed expanded capacity of Nepal's teacher training institutes.)			
Pre-service vo-ag teachers	75	75	75	75
	(This number represents the present capacity of the V.I. in agriculture)			

	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>
In-service math and science teachers	1000	1000	1000	1000
	(This majority of secondary school teachers and those primary school teachers with responsibility for teaching math will be included.)			
In-service vo-ag teachers	100	100	100	100
	(This number represents the present capacity of the V.I. in agriculture.)			
Staff of IOE (24 persons)	All math and science staff will be trained.			
Staff of V.I.	All agriculture staff will be trained.			
Supervisors trained	50	50	50	50
	(This number will represent 50% of all supervisors charged with overseeing math, science and vo-ag education.)			

In addition to the in-country training to be conducted, the participant training element of this project will turn out highly trained personnel to staff key posts in Nepal's educational structure. Forty-eight individuals from the IOE, the V.I. and the MOE will have received either long- or short-term training during the project, and it is anticipated that these individuals will form a critical base of excellence in the fields of math, science, and vo-ag education upon their return.

7. To help the Janak Education Materials Center (the organization responsible for publication of educational texts, etc.) plan for the next five years, a Utilization Plan will have been devised by the end of FY 73. Organization and functional policies and procedures for JEMC will be revised.

8. An evaluation of the effectiveness of teachers trained in and using more modern methods will be determined from technicians' reports and a survey of documents. By the end of FY 76, cumulative records will be surveyed for end-of-project evaluation.

INPUTS: USAID Personnel

1. A Senior Math Education Specialist (4 man-years) will serve at the Institute of Education. He will study current teaching materials in math, grades 1-10 both at the IOE and the normal schools, as well as the requirements under the National Education System Plan. He will review, revise, develop, and teach a methods course in math at the Institute of Education. He will develop techniques for the study of the effectiveness and applicability of math materials in the schools. He will work on techniques for improving school math materials, and work on request on CDC committees or projects. He would be expected to help

develop pre-service, in-service, extension, and demonstration work in math education, and assist in devising evaluation techniques in math. The Senior Math Specialist must have had training and experience in curriculum development and in teacher training on primary and secondary levels, grades 1-10. If possible, he should have had prior overseas experience in developing countries.

2. The Math Education Extension Specialist (4 man-years) will work closely with the Senior Math Specialist in carrying out the activities of the programs devised. He will spend the greater part of his time in the field, organizing and conducting workshops, evaluating the materials produced, and demonstrating more modern teaching methods in the classroom. He should have a knowledge of the Nepalese scene and speak the language fairly fluently.

3. The Senior Science Education Specialist should have the same background in curriculum development and teacher training as that of the Senior Math Specialist. However, since science will not be taught in grades 1-3, his work would be on the levels of grades 4-10. His role in science would be similar to that of the Senior Specialist in Mathematics. He would also serve a term of four years.

4. The Science Education Extension Specialist will work closely with the Senior Science Specialist in carrying out activities similar to those of the Math Education Extension Specialist. His qualifications, experience, and knowledge of Nepal and the language should also be similar. It is expected that the greater part of his time will also be spent in the field.

5. The Vocational Agriculture Education Specialist will work with the MOE and the CIC, as requested, in planning agriculture education and in the development of teaching materials for both pre-vocational and vocational agriculture education. Stationed at the Vocational Institute, he will help develop teacher training courses to meet the requirements of schools; help develop extension, in-service, and supervisory courses for agriculture teachers, and, upon request by the MOE, help develop a long-range plan for agriculture education. He will assist the MOE and the V.I. to plan facility improvements, demonstration activities, and personnel needs and to develop a coordinated approach to foreign aid donors.

Previous experience in Nepal, a knowledge of Nepalese agriculture, and the Nepali language are prerequisites in addition to training and experience in agriculture curriculum development and teacher education.

6. The Generalist in Teacher Education and Supervision should have a wide background in primary and secondary curriculum development, teacher training, and the training of supervisors. He will be responsible for the outlining and implementation with his counterparts of a practice-teaching program for pre-service primary and secondary teachers, a special program to train district-level supervisors, an extension program to train primary and secondary in-service teachers, and the development of techniques to study the validity and applicability of teaching methods for Nepalese children. He will also be called upon to help in general teacher education research.

During his four-year tour, he will work very closely with the subject area specialists to integrate their programs in the over-all planning of teacher training and study the progress of program implementation in the field. Stationed at the Institute of Education, he will work closely with the practice-teaching supervisor, the supervisor of the Normal Schools, and the head of the extension division. If possible, he should have had previous experience working in developing countries in the field of teacher education.

7. A Publication/Printing Operations Specialist will serve for six months, beginning in mid-FY 73, at the Janak Education Materials Center, to help devise a Utilization Plan for the next five years. He will project book production requirements, analyze paper and other needs, analyze press utilization and projected utilization, layout a clear method for scheduling, and develop an organizational and administrative plan for meeting new requirements.

He should have a broad background in the book production business with experience in management and production planning. He will work closely with the Chief Administrator at JEMO.

INPUTS: USAID Participant Training

1. Long-term U. S. (degree) programs will be made available to 12 participants, four each in agriculture, math, and science education during the life of the project. Six new starts will be scheduled for FY 73 and again in FY 74.
2. Short-term programs for 36 persons from three to twenty-six weeks in duration in third countries for observation and study have been planned in curriculum and textbook development, teacher supervision, and agriculture education as part of the training of counterparts.

INPUTS: USAID Commodities

To help set up a curriculum library at the CDC and furnish necessary resource materials for agriculture, math, science, and general teacher education programs, a fund of \$1,000 will be set aside for each project year. All audio-visual materials will be purchased from that amount.

INPUTS: HMG Personnel

1. Four counterparts will be necessary for the Teacher Education Specialist. At the IOE, HMG will assign the supervisor of the Normal Schools, the supervisor of practice teaching, the head of the extension division, and the instructor in supervision to work with the specialist as counterparts.
2. The principal HMG counterpart for the Vo-Ag Education Specialist will be the chairman of the Department of Agriculture at the Vocational Institute. Agriculture writers at the CDC will be secondary counterparts.
3. HMG counterparts for the Senior Science and Math Education Specialists will be the two senior instructors in each subject at the IOE, as well as the five curriculum writers at the CDC in each subject.

4. HMG counterparts for the Science and Math Education Extension Specialists will be the district supervisors in secondary education and the five curriculum writers in each subject at the CDC.

5. The HMG counterpart for the Publication/Printing Operations Specialist will be the Chief Administrator at JEMO.

INPUTS: HMG Reorganization

HMG will reorganize the College of Education into the Institute of Education, with a new principal as its head, by FY 73. During FY 72, NVTC will be reorganized into a teacher training institution and operate as a Vocational Institute under the future IOE.

INPUTS: HMG Logistical Support

HMG will budget funds for counterpart travel in-country and provide office space for specialists and their counterparts at the IOE and the V.I. HMG will arrange for workshop participants as in-service education is programmed.

PROJECT LOGICAL FRAMEWORK

Project Title: Teacher Training (367-11-490-228)

PROJECT LOGICAL FRAMEWORK

Evaluation
for Period: FY 1973 to FY 1976

Date Prepared: Jan. 6, 1972

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Objective or Sector Goal:</p> <p>To help make Nepal's education system more relevant to the country's needs.</p>	<p>Measure of Goal Achievement:</p> <p>A critical survey of the new curriculum and teachers' attitudes toward the curriculum.</p>	<p>Special study by the MOE/USAID.</p>	<ol style="list-style-type: none"> 1) Continued high priority accorded education by IMG. 2) No major disruption in the National Education System Plan. 3) Continued concern within the MOE for mathematics, science, and agriculture education improvement. 4) A stable political situation.
<p>Project Outputs:</p> <p>Develop within Nepal's pre-service and in-service teacher training institutions the capacity to prepare teachers to implement effectively the new curricula proposed in the National Education System Plan.</p>	<p>Conditions Expected at End of Project:</p> <ol style="list-style-type: none"> 1) The IOE, the Normal Schools, and the V.I. have incorporated more modern methods of teaching mathematics, science and agriculture into their courses and programs of instruction. 2) All graduates from IOE, Normal Schools and V.I. are trained both on campus and through practice-teaching programs in more modern methods of teaching mathematics, science and agriculture. 3) Extension section of IOE has trained majority of in-service teachers in more modern methods of teaching math, science, and agriculture, and a continuing training program is operational. 4) CDC is continually reviewing teaching materials and incorporating improved materials into Nepal's schools. 5) Students in schools in which trained teachers are functioning perform 10-15% better on math and science examinations. 6) 15% of students in schools in which trained teachers are functioning complete 7th grade as opposed to 8% at present. 	<ol style="list-style-type: none"> 1) Technicians' reports. 2) Technicians' reports. 3) Extension Section records. 4) Technicians' reports. Special study. 5) Special study by USAID Education staff. 6) MOE records 	<ol style="list-style-type: none"> 1) Teacher training institutions continue emphasis on more modern methods and are receptive to methods introduced and/or developed with foreign assistance. 2) Correlation between teacher performance and student performance on exams. 3) Correlation between teacher performance and drop-out rate. 4) Continued willingness to staff and fund the IOE and the CDC.
<p>Outputs:</p> <ol style="list-style-type: none"> 1) Improved pre-service teacher training programs for the IOE, and in turn for all normal and vocational schools, developed. 2) Methods manuals prepared and evaluated. 3) Guidelines for Agriculture Education at lower and upper secondary levels developed. 4) Practice-teaching program geared to Nepal's needs designed and initiated. 5) Revised and expanded extension and in-service teacher training program developed for the IOE. 6) Personnel trained in more modern methods of teaching math, science and agriculture. <ol style="list-style-type: none"> a. Trained personnel for key posts in IOE, V.I., and MOE. b. IOE staff trained. c. V.I. staff trained. d. Supervisors trained. e. Pre-service teachers trained. f. In-service teachers trained. g. Pre-service Vo-Ag. teachers trained. h. In-service Vo-Ag. teachers trained. 7) Organizational and functional policies and procedures for JEMO revised. (Utilization plan for 5 years, production plans and reports etc.) 8) Evaluation of the effectiveness of teachers trained in and using more modern methods. 	<p>Magnitude of Outputs:</p> <ol style="list-style-type: none"> 1) a. Primary-math (beginning of FY 1975) b. Lower secondary-math, science, agriculture (beginning of FY 1975) c. Upper secondary-math, science, agriculture (beginning of FY 1975) 2) Methods of teaching secondary-math by end of FY '74 Methods of teaching secondary-science by end of FY '74. Methods of teaching secondary-agriculture by end of FY '75. 3) By end of FY 1975. 4) Plan developed and implementation begun by end of FY 1974. 5) Plan completed and submitted by end of FY 1973. 6) <ol style="list-style-type: none"> a. Forty-eight participants trained. b. All in science and math. c. All agriculture staff. d. Fifty per year. e. One thousand per year. (1000-1600 per year) f. One thousand per year. g. Seventy-five per year. h. One-hundred per year. 7) Production plans and reports submitted by end of FY 1973. 8) Evaluation of 2 districts (Kaski, Chitwan) by end of FY 1974. 	<ol style="list-style-type: none"> 1) Technicians' reports. Existence of programs. 2) Technicians' reports. Existence of documents. 3) Technicians' reports. Existence of guidelines. 4) Technicians' reports. 5) Technicians' reports. 6) MOE records. Technicians' reports. 7) - 8) MOE records. Technicians' reports. 	<ol style="list-style-type: none"> 1) Method developed during STEP and PRIME programs can be used as basis for secondary-math and science programs. 2) MOE will finance printing in sufficient quantity. 3) In-service teachers can absorb knowledge of how to use modern methods in relatively short-span workshops. 4) Supervisory staff for practice-teaching program will be augmented by the MOE. 5) Desire for extension programs. 6) Practice teaching will be required of all graduates of the IOE, Normal Schools and the V.I. 7) - 8) Qualified counterparts will be made available and will make substantial contributions to the production of the outputs.

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PROJECT LOGICAL FRAMEWORK

PROJECT LOGICAL FRAMEWORK

Evaluation
 For Period: FY 1972 to FY 1976

Project Title: Teacher Training (367-11-690-288)

Date Prepared:

Jan. 6, 1972

NARRATIVE SUMMARY	OBJECTIVELY MEASURABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>PROBLEM OR GOAL STATE</p> <p>To help make Nepal's education system more relevant to the country's needs.</p>	<p>MEASURE OF GOAL ACHIEVEMENT</p> <p>A critical survey of the new curriculum and teachers' attitudes toward the curriculum.</p>	<p>Special study by the MOE/USAID.</p>	<p>1) Continued high priority accorded education by MOE. 2) No major disruption in the National Education System Plan. 3) Continued concern within the MOE for mathematics, science, and agriculture education improvement. 4) A stable political situation.</p>
<p>PROJECT PURPOSE</p> <p>Develop within Nepal's pre-service and in-service teacher training institutions the capacity to prepare teachers to implement effectively the new curricula proposed in the National Education System Plan.</p>	<p>Conditions Expected at End of Project:</p> <ol style="list-style-type: none"> 1) The IOE, the Normal Schools, and the V.I. have incorporated more modern methods of teaching mathematics, science and agriculture into their courses and programs of instruction. 2) All graduates from IOE, Normal Schools and V.I. are trained both on campus and through practice-teaching programs in more modern methods of teaching mathematics, science and agriculture. 3) Extension section of IOE has trained majority of in-service teachers in more modern methods of teaching math, science, and agriculture, and a continuing training program is operational. 4) MOE is continually reviewing teaching materials and incorporating improved materials into Nepal's schools. 5) Students in schools in which trained teachers are functioning perform 10-15% better on math and science examinations. 6) 15% of students in schools in which trained teachers are functioning complete 7th grade as opposed to 8% at present. 	<ol style="list-style-type: none"> 1) Technicians' reports. 2) Technicians' reports. 3) Extension Section records. 4) Technicians' reports. Special study. 5) Special study by USAID Education staff. 6) MOE records. 	<ol style="list-style-type: none"> 1) Teacher training institutions continuing emphasis on more modern methods and are receptive to methods introduced and/or developed with foreign assistance. 2) Correlation between teacher performance and student performance on exams. 3) Correlation between teacher performance and drop-out rate. 4) Continued willingness to staff and fund the IOE and the GOC.
<p>Subtasks:</p> <ol style="list-style-type: none"> 1) Improved pre-service teacher training program for the IOE, and in turn for all normal and vocational schools, developed. 2) Methods manuals prepared and evaluated. 3) Guidelines for Agriculture Education at lower and upper secondary levels developed. 4) Practice-teaching program geared to Nepal's needs designed and initiated. 5) Revised and expanded extension and in-service teacher training program developed for the IOE. 6) Personnel trained in more modern methods of teaching math, science and agriculture. <ol style="list-style-type: none"> a. Trained personnel for key posts in IOE, V.I., and MOE. b. IOE staff trained. c. V.I. staff trained. d. Supervisors trained. e. Pre-service teachers trained. f. In-service teachers trained. g. Pre-service 10-12 teachers trained. h. In-service 10-12 teachers trained. 7) Organizational and functional policies and procedures for JMOH revised. (Utilization plan for 5 years, production plans and reports etc.) 8) Evaluation of the effectiveness of teachers trained in and using more modern methods. 	<p>Measures of Output:</p> <ol style="list-style-type: none"> 1) a. Primary-math (beginning of FY 1975) b. Lower secondary-math, science, agriculture (beginning of FY 1975) c. Upper secondary-math, science, agriculture (beginning of FY 1975) 2) Methods of teaching secondary-math by end of FY '74. Methods of teaching secondary-science by end of FY '74. Methods of teaching secondary-agriculture by end of FY '75. 3) By end of FY 1975. 4) Plan developed and implemented: begun by end of FY 1974. 5) Plan completed and submitted by end of FY 1975. 6) <ol style="list-style-type: none"> a. Forty-eight participants trained. b. All in science and math. c. All agriculture staff. d. Fifty per year. e. One thousand per year. f. One thousand per year. (1000-1200 per year) g. Seventy-five per year. h. One-hundred per year. 7) Production plans and reports submitted by end of FY 1975. 8) Evaluation of 2 districts (Kathu, Chitwan) by end of FY 1974. 	<ol style="list-style-type: none"> 1) Technicians' reports. Existence of programs. 2) Technicians' reports. Existence of documents. 3) Technicians' reports. Existence of guidelines. 4) Technicians' reports. 5) Technicians' reports. 6) MOE records. Technicians' reports. 7) - 8) MOE records. Technicians' reports. 	<ol style="list-style-type: none"> 1) Methods developed during STEP and PAHE program can be used as basis for secondary-math and science programs. 2) MOE will finance printings in sufficient quantity. 3) In-service teachers can absorb knowledge of how to use modern methods in relatively short-span workshops. 4) Supervisory staff for practice-teaching program will be augmented by MOE. 5) Desire for extension program. 6) Practice teaching will be required of all graduates of the IOE, Normal Schools and the V.I. 7) - 8) Qualified counterparts will be made available and will make substantial contributions to the production of the outputs.

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