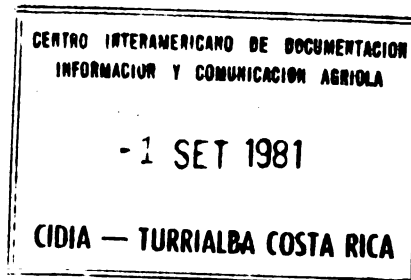


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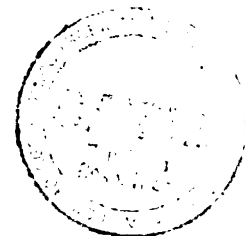


AGRICULTURAL TRAINING IN THE CENTRAL  
AMERICAN ISTHMUS  
TECHNICAL REPORT  
JULY 1979-JUNE 1981

TROPICAL AGRICULTURE RESEARCH AND TRAINING CENTER

C A T I E

Turrialba, Costa Rica



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## SUMMARY

The activities described below of the Project Agricultural Training in the Central American Isthmus, financed by the W. K. Kellogg Foundation and executed by CATIE, were accomplished within four kinds of events considered as part of its strategy and training methodology: intensive courses, short courses, seminars, workshops and in-service training.

During the past two years, since the beginning of the Project in July 1979, 14 short and intensive courses have been carried out, attended by a total of 327 participants. Of the 14 courses offered at CATIE's headquarters for regional participants, six were short courses and two intensive. The other six for national participants, were held in the countries of the Central American Isthmus.

The regional distribution and nature of the courses correspond to the plans and goals of the Project, which is essentially directed toward the six countries of the Isthmus, in order to strengthen their national institutions and cover subjects selected from the agricultural, animal and forestry sciences. The courses were given at the rate of about one per month, with an average attendance of about sixty participants per country.

Three technical seminars sponsored by the Project were carried out. They were on the subjects of Forestry Research, "Moniliasis" Control of Cacao, and the Role of Perennial Plants in Central America. These seminars attracted 111 technicians from the region, personnel from CATIE, and specialist from other Latin American countries all of whom with the training received would apply their newly acquired knowledge to the process of improving agricultural production in the area.

In-service training is a methodology which permits the application of the principle "learn by doing", by which the participant receives practical training which will help him to confront and find solutions to real problems.

Following this approach, CATIE received during the 24 months of the Project, a total of 71 technicians from the countries, for in-service training programs, with an average of five to six weeks duration, in activities associated with the Center's Projects and with close interaction with the technicians of the Institution. The sum of 238 man/weeks invested in this type of training means an uninterrupted flow of people coming for training, equivalent to the presence of 2 technicians from each country for a period of two years at CATIE, that is to say during the half of the total duration of the Project.

The training has not been the mere physical presence of the student in the classroom, or classical two-way contact between the professor and the student. This interaction has been complemented with the preparation of various educational media, which were specifically designed to be utilized as auxiliary training materials, or as products resulting from the the practical work done by the participants in the following process: conferences and other documents, visual aids for seminars and meetings, scripts for practical exercises, bibliografic abstracts, etc.

With the average of one written material for each event carried out, the Project has prepared 18 diverse documents on topics related to short courses, seminars and meetings that were held. As complementary media, five preliminary audiovisual units have been prepared, made up of a series of slide presentations and five audiovisuals. The utility of these materials, in spite of their limited diffusion, may be expressed in two ways; on the one hand, they make it possible to record and maintain up to date the information and knowledge presented in the training events carried out. On the other hand, they utilize information and knowledge from other invironments, places, and formal and non-formal training activities.

If only the total number of participants in the training activities of this Project is considered during the two first years of its execution, it has certainly contributed to raising the levels of acquired knowledge, skills and abilities of a total number of 509 Central American technicians, which is equivalent to 1,082

man/weeks of work. If you add to this the efforts made by the Institution's technicians, the invited speakers, the support personnel, and that of the coordinator, the magnitude of the contribution being made by the W. K. Kellogg Foundation and CATIE to improving the preparation of human resources in the agricultural sector area can easily be seen.

## I. INTRODUCTION

The Project "Agricultural Training in the Central American Isthmus", was presented by CATIE to the W. K. Kellogg Foundation in the year 1979. In that same year, the Foundation approved it for a period of four years, beginning on July, 1979 until June 1983.

This document reports the activities carried out during the period July, 1979 to June, 1981. To date the Project has completed two years of activities to the benefit of technicians from national institutions in Central America.

It should be mentioned that the Training Project has strengthened the activities of the Center with respect to the preparation of human resources in the Central American Isthmus by 13.3% during the year 1979, 42.3% in 1980, and by an estimate of 68.0 for 1981. More details are described in Appendix N<sup>o</sup> 1, Tables 2A and 3A.

## II. PERSONNEL

The Project's personnel are listed in Table N<sup>o</sup> 1. It should be mentioned that their incorporation into the staff has been done gradually during the 2 years, always with the previous approval from the W. K. Kellogg Foundation before contracting them.

Since the beginning, the Coordination of the Project was in charge of CATIE's Training Unit. The Project consisted of a training officer and a communication specialist, and the support personnel was made up of a secretary, and an audiovisual aids assistant. Subsequently, and according to the Project's development, the services of another secretary, a specialist in production media and an illustrator were requested. Beginning August, 1981, the technician staff will consist of a Coordinator and a specialist in production media. The support personnel will remain the same as indicated in Table N<sup>o</sup> 1.

Table Nº 1

TECHNICAL AND SUPPORT PERSONNEL OF THE PROJECT AGRICULTURAL TRAINING IN THE  
CENTRAL AMERICAN ISTHMUS CATIE - W. K. KELLOGG

<u>NAME</u>	<u>POSITION</u>	<u>OBSERVATIONS</u>
<u>Professional Staff</u>		
Carlos U. León Velarde	Training Coordinator	Assumed the Coordination beginning May 1 <sup>a</sup> , 1981
Jaime Rojas H.	Specialist in the Production of Educational Materials	Assumed the position beginning February, 1981.
Andrés Novoa R.	Communication Specialist	Until August, 1981
Alberto H. Moreno	Training Officer	Until June 30, 1981
<u>Support Personnel</u>		
María E. Fernández	Bilingual Secretary	Beginning March 16, 1981
Hilda Jiménez B.	Typist/Printing Assistant	Beginning June 1 <sup>a</sup> , 1979
Mauricio Argueta	Illustrator/final arts	Beginning June 1 <sup>a</sup> , 1981
Francisco Solano	Audiovisual Assistant	Beginning January 1 <sup>a</sup> , 1981

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### III. CONCEPTUAL FRAMEWORK

The training events are carried out within a conceptual framework which consists of methodological, systematic and disciplinary concepts within the Technical Programs of CATIE: Annual Crops, Perennial Plants, Animal Production and Natural Renewable Resources. In addition, support training events are included according to the countries demands, which are executed considering the existing technical resources at CATIE and that of the national institutions of the Isthmus. Figure Nº 1 represents schematically specific thematic concept of each Program.

The Project considers the execution of the training events under the name of intensive courses (4-6 weeks), short regional courses (2-3 weeks), short national courses (1 week), seminars, and in-service training. Likewise, on each event the topic, the level of knowledge, and its duration is considered. Figure Nº 2 schematically represents the planning of the training activities.

Through these events CATIE develops and transfers general technical concepts generated at the Center, which are needed for the agricultural and forestry development of the Central American Isthmus.



PROGRAM	METHODOLOGY	SYSTEMATIC	DISCIPLINARY
ANNUAL CROPS	<p>Research in Agricultural Systems</p> <p>Design, analysis and evaluation of alternatives in agricultural production systems</p>	<p>Basic grain production</p> <p>Vegetables production</p>	<p>Soils Fertility</p> <p>Control of weeds and insects</p>
PERENNIAL PLANTS	<p>Research in perennial plant crop systems</p>	<p>Cacao production</p>	<p>Aspects: nutrition, forages, genetics, reproduction and economics in the tropical milk production systems</p>
ANIMAL PRODUCTION	<p>Research in animal production systems</p>	<p>Milk production</p>	<p>Agroforestry Technics</p>
NATURAL RENEWABLE RESOURCES	<p>Planning and management of Wildland Areas</p> <p>Planning the use of Natural Renewable Resources</p>	<p>Agroenvironment</p>	<p>Agricultural Communication Process and application</p>
SUPPORT EVENTS	<p>Utilization of nonconventional sources of energy</p> <p>Conservation of genetics resources</p>		<p>Agricultural Research, management methodology and technique</p>

For each year of the Project's execution, specific events will be planned, according to the program.

FIG Nº 1

THEMATIC CONCEPT OF THE TRAINING EVENTS OF SHORT COURSES AND SPECIALIZATION

WITHIN THE CENTRAL AMERICAN Isthmus Agricultural Training Program\*

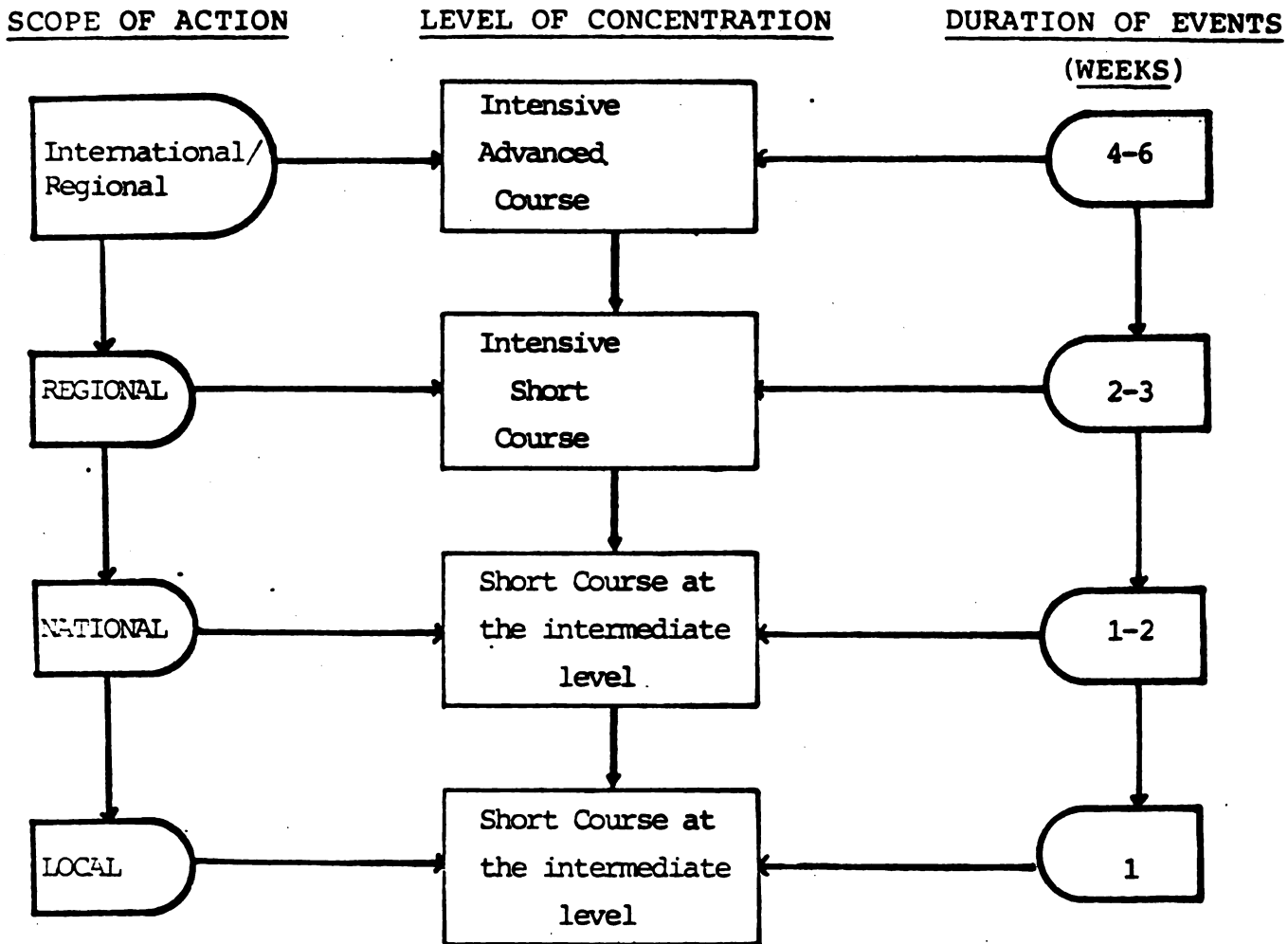


FIG N<sup>o</sup> 2

GRAPHICAL ILLUSTRATION OF PLANNED TRAINING

ACTIVITIES

#### IV. TRAINING ACTIVITIES CARRIED OUT FROM JULY 1979 TO JUNE 1981

During the first two years of execution of the Project, a total of 14 courses were given: 2 intensive, 6 regional and 6 national with a total number of 327 participants. With respect to seminars, three were held attended by 111 participants. With regards to in-service training, 14 activities have been carried out with the participation of 71 technicians from different national agricultural research institutions, which are listed in Table Nº 1 A of Appendix Nº 1.

Tables Nº 2, 3 and 4 summarize the events of the Agricultural Training Project in the Central American Isthmus.

The Project, during the two first years, contemplated the realization of an intensive course (6 weeks), 6 short courses of 4 weeks, 8 courses of 2 weeks and 2 seminars with the participation of 550 technicians. With respect to these courses, it is not convenient to make a comparison between the courses that were given with those that are being scheduled. The comparison would not be valid, because when the activities are scheduled, we have the problem that the intensive courses must have a duration of 6 or 4 weeks, the short courses at a regional level, 2 to 3 weeks, and the national or local courses only one week. This situation was not evident when the program was made up, but it was discussed with Dr. Robert C. Kramer, during his supervisory visit on June 12, 1981. On that occasion, an operational adjustment was made in a quantitative way. We had 100% success in the execution of intensive and regional courses, but only 50% for national courses. This was due to social political problems in the countries, which had made it impossible to carry out all of the planned courses. At present we are reprogramming the national courses in order to obtain the scheduled objectives.

In relation to the number of participants, considering the 20 scheduled courses as a whole, there was only 54.5% attendance. However by excluding the six national courses that were not carried out 70% participation was obtained according to the total numbers of events carried out.

TABLE Nº 2

INTENSIVE AND SHORT COURSES IMPLEMENTED UNDER THEPROJECT: AGRICULTURAL TRAINING IN THE CENTRAL AMERICAN ISTMUS

-July, 1979 - June, 1981-

TITLE OF EVENT	COURSE	DATE		WEEKS	Nº PARTI- CIPANTS	PLACE
		BEGINNING	ENDING			
Vegetable Production	Intensive	1/10/79	9/11/79	6	30	El Salvador
Cocoa Production	Regional	22/11/79	31/11/79	2	12	CATIE
Cocoa Production	Regional	18/2/80	29/2/80	2	21	CATIE
Forage Production and Utili- zation	National	23/9/80	27/9/80	1	33	Honduras
Forage Production and Utili- zation	National	27/10/80	31/10/80	1	28	Guatemala
Experimental Design for Animal Production	National	1/9/80	6/9/80	1	18	Panama
Use and Management of Tropical Soils	Regional	18/8/80	12/9/80	3	18	CATIE
Wildlands and National Parks Management	Regional	21/8/80	6/9/80	2	30	Nicaragua Costa Rica
Communication Techniques	National	22/9/80	26/9/80	1	12	CATIE
Library	Intensive	1/9/80	11/10/80	6	20	CATIE
Experimental Techniques in Cropping Systems	Regional	6/10/80	17/10/80	2	32	Panama
Basic Grains Cropping Systems	Regional	16/2/81	28/2/81	2	30	Nicaragua
Cocoa Production	National	12/1/81	16/1/81	1	25	CATIE
Economic Evaluation of Animal Production Systems	National	24/2/81	28/2/81	1	18	Panama

TABLE N° 3

SEMINARS AND WORKSHOPS IMPLEMENTED UNDER THE PROJECT:

AGRICULTURAL TRAINING IN THE CENTRAL AMERICAN ISTHMUS

July, 1979 - May, 1981

TITLE OF EVENT	DATE		WEEKS	N° PARTI- CIPANTS
	BEGINNING	ENDING		
Forestry Research and Training in Costa Rica	11/8/80	25/8/80	1	10
Control of Monilia ( <i>Monilia rozeri</i> )	27/8/80	30/8/80	1	89
The Role of Perennial Plants in Central America	16/2/81	20/2/81	1	12
	TOTAL		3	111

ALL THE EVENTS WERE CARRIED OUT AT CATIE

TABLE Nº 4

IN-SERVICE TRAINING EVENTS IMPLEMENTED UNDER THE PROJECT AGRICULTURAL TRAINING  
IN THE CENTRAL AMERICAN ISTHMUS

TITLE OF EVENT	DATE		WEEKS	Nº PARTICIPANTS
	BEGINNING	ENDING		
Soil and Plant Analysis	19/11/79	15/12/79	4	4
Systems Characterization	17/1/80	23/1/80	1	15
Agroecosystems	1/6/80	22/8/80	12	1
Weed Control	3/3/80	23/5/80	12	1
Soil and Plant Analysis	1/7/80	31/7/80	4	4
Agricultural Systems	2/6/80	22/8/80	12	3
Cocoa Production	24/11/80	28/11/80	1	5
Cocoa Production	2/6/80	22/8/80	12	1
Systems Characterization	18/8/80	22/8/80	1	28
Wildlands Management	8/12/80	27/2/81	12	5
Weed Control	2/2/81	7/2/81	1	1
Weed Control	2/2/81	24/4/81	12	1
Library	2/3/81	6/3/81	1	1
Agricultural Systems	2/2/81	24/4/81	12	1

\* The names of the participants are indicated in Table Nº 1-A of Appendix Nº 1

With respect to the two programmed seminars there was 150% and 158.5% attendance respectively. In addition to them, a technical meeting with the Deans of the Agricultural Faculties of the Central American Isthmus was held in 1979 with the purpose of becoming acquainted with the academic situation of the educational institutions in the Isthmus.

The in-service training scheduled with a number of 12 participants during three months, gives a total of 288 training/weeks/technician. The activity is presented in this way since the training events are of variable duration depending on the technical content of the Program to be developed. Therefore, 82.6% of the activities scheduled were completed measuring it quantitatively.

It should be mentioned that although it is difficult to measure the technical impact and quality of the teaching imparted in the events held, one can be sure that they were of good quality, and the effect of their results can be observed by the continuous requests from institutions for the training of their personnel.

In order to complete the above mentioned information, Table Nº 5 has been included to briefly indicate quantitatively the different activities carried out during the two years of the Project's operation.

TABLE Nº 5

SUMMARY OF COURSES, SEMINARS AND IN-SERVICE TRAINING IMPLEMENTED  
UNDER THE PROJECT "AGRICULTURAL TRAINING IN THE CENTRAL AMERICAN  
ISTHMUS". FROM JULY 1979 TO JUNE 1981

FORMS OF TRAINING	CATTIE*	PLACE COUNTRIES*	COURSES		TOTAL Nº PARTICIPANTS	
			R	C	R****	C****
<b>1. COURSES:</b>						
Intensive (6-4 weeks)	1 (50)	1 (50)	2	2	50	60
Regional (2-3 weeks)	3 (50)	3 (50)	6	6	143	180
National (1 week)	2 (33)	4 (67)	6	12	134	360
<b>TOTAL</b>	<b>6 (43)</b>	<b>8 (57)</b>	<b>14</b>	<b>20</b>	<b>327</b>	<b>600</b>
<b>PERCENTAGES</b>			<b>70%</b>		<b>54.5% **</b>	
<b>2. SEMINARS (1 week)</b>						
SEMINARS (1 week)	3	-----	3	2	111	70
<b>PERCENTAGES</b>			<b>150%</b>		<b>158.5%</b>	
<b>3. IN-SERVICE TRAINING</b>						
	Nº WEEKS		PARTICIPANTS	TOTAL WEEKS		
				R	C	
In-service Training	12		13	156		
	4		8	32		
	1		50	50	288	
<b>TOTAL</b>			<b>71</b>	<b>238</b>	<b>288</b>	
<b>PERCENTAGE</b>			<b>82.6%</b>			

\* Number in parentheses indicates %.

\*\* If the six events not carried out are excluded, this percentage will be 70%.

\*\*\* Scheduled events

\*\*\*\* Events carried out



## V. PRODUCTION OF EDUCATIONAL MATERIAL

The educational material produced within the Training Project is a desired consequence of the realization of each training event, because of its lasting effect and diffusion of knowledge.

During the two first years it was decided to prepare the necessary basic information which is developed during each event. In this way, there is written material prepared as the primary publication to be distributed only to the participants who attend the events. However, due to the existent demand, the analysis and preparation of the more important materials, were considered for the purpose of extending their diffusion. This situation will be carried out considering the limited budget of the Project for training materials

### 5.1. WRITTEN MATERIAL

A list of written materials produced during the two years of the Project appears in Table N<sup>o</sup> 6 as well as the source of this material. In some cases it was necessary to reproduce some of these publications because of their technical content in order to meet the present demand for this type of information.

In addition to the materials described in Table N<sup>o</sup> 6 the documents handed out to the participants in the following events are being revised: In-Service Training in "Analysis of Soils and Tissues"; Courses in "Forage Production", "Alternatives in Crop Production", and "Basic Grains Production". The revision is being done with the purpose of considering the production of training materials for other courses and for a better diffusion of this technical knowledge.

PRINTED MATERIALS PRODUCED DURING THE EXECUTION OF THE AGRICULTURAL  
TRAINING IN THE CENTRAL AMERICAN ISTHMUS PROJECT

TITLE	ORIGEN OF THE TRAINING EVENTS	PRINTING TYPE	CONSIDERATION FOR ITS DIFFUSION	OBSERVATION
1. Agroecosystems	Agricultural Systems	Typewritten 211 pages	Second Edition	Being rewritten to improve its presentation. The third edition will be in offset.
2. Technical Articles	Agroecosystems and In-service training	Fotocopias	None, because it is used within the classroom by the professor and the students	The documents of this item are important working fotocopias for the Training Production Systems.
2.1. Technical Support				
2.2. Lectures and Commentaries				
2.3. Activities guide				
3. Technology Transfer Bibliography	Communication Course	Mimeograph 39 pages	Reprinting	_____
4. Basic Communication Concept	Communication Course	Mimeograph 28 pages	Reprinting	_____
5. Cacao Crop	Cacao Production Courses	Mimeograph 126 pages	Second Edition	Being rewritten to do the third edition in offset.
6. Energetic Analysis System	Agricultural Systems/ In-service Training	Mimeograph 83 pages	_____	A limited second edition is being considered (60 copies)
7. Perennial Plants Importance	Seminar: List of Perennial Plants	Mimeograph 35 pages	First Edition 250 copies	Being reprinted
8. Moniliasis Control	Seminar: <u>Monilia roxeri</u> Control	Mimeograph 180 pages	First Edition 250 copies	Being reprinted
9. Six Units of Audiovisual Instructions	Communication Course	Offset 98 pages	First Edition 500 copies	Being reprinted
10. Milk Production in the Tropics	Training materials to help the Animal Production Courses	Offset 40 pages	First Edition 1000 copies	Being reprinted
11. The Cacao Shade	Cacao Production- In Service Training	Mimeograph 183 pages	First Edition 1000 copies	Being reprinted
12. Diagnostic to analyze and evaluate the Systems	In-Service Training System Characterizations	Mimeograph 36 pages	First Edition	It was the result of the Training in the Southern Zone of Costa Rica
13. Perennial Plant Production Systems	Seminar: List of Perennial Plants	Mimeograph 183 pages	First Edition 1000 copies	Being distributed
14. Training Methodology Guide	Support material in the scheduling of Courses	Mimeograph 37 pages	Only one Edition 200 copies	Being distributed
15. Deans' Meeting Report	Technicians meeting with the Deans of Agronomy Faculties	Mimeograph 61 pages	First Edition 60 copies	Out of print
16. Characterization of the Agroecosystem "La Esperanza, Honduras	In-service training Characterization of Honduras Systems	Mimeograph 81 pages	First Edition 250 copies	Being printed
17. Analysis of Dairy Farm Planning and Evaluation	Aid Material in the Production Courses	Mimeograph 62 pages	First Edition 50 copies	Being printed
18. Utilization and Production of Tropical Forages	Aid material in the Forages Production Course (Guatemala and Honduras	173 pages	First Edition 100 copies	Being rewritten to use it in the Forage Course at the Dominican Republic, October, 1981.

## 5.2. AUDIOVISUALS

Audiovisuals constitute a training material of great value, especially when they project an idea or a definite technical message, which can be utilized in an almost permanent way.

Therefore, an audiovisual presentation was initiated for the Cacao Production, Agrosystems, and Milk Production Courses. Table Nº 7 summarizes the present state of each one of them. It should be mentioned that their distribution has been limited to the event as it is carried out, for which reason CATIE is considering producing edited copies to offer to national institutions that request them.

AUDIOVISUALS PRODUCED WITHIN THE PROJECT AGRICULTURAL TRAINING IN THE CENTRAL AMERICAN Isthmus

CATIE - KELLOGG

ORIGEN OF THE EVENT	AUDIOVISUAL TITLE	CHARACTERISTICS	OBSERVATIONS
Cacao Course/In Service Training	1. Cacao Shade	44 transparencies 18 minutes	It includes script and it is complemented with written material Nº 5 and 11.
Agricultural Systems/ In-Service Training	2. Witches' Broom	38 transparencies 18 minutes	It includes script and it is complemented with written material Nº 5
	3. Farm Diagramming	72 transparencies 28 minutes	It includes script and text.
	4. Integral Diagnostic Systems	42 transparencies 12 minutes	It includes script and text.
Written Material: Analysis of the Planning and Evaluation of Milk Farms	5. Analysis and evaluation of dairy Farms	85 transparencies 22 minutes	It includes script and it is complemented with publication Nº 17

With the written materials already produced and with the audiovisuals duly prepared, it will be possible to offer during the year 1982, 2 technical educational documents: Agricultural Systems and Cacao Production, which will include text and script with stencil and cassettes. The Analysis and Evaluation of Dairy Farms and Integral Diagnostic Systems Audiovisuals will be only used in the Agroecosystem Courses.

VI. SCHEDULED ACTIVITIES UNTIL MARCH, 1982

The scheduling training activities that the Center is to carry out, which is included in the Training Project, is done annually. However, due to circumstances, only a partial schedule for this year was made, for the period from January to March, leaving the months of April to June for the reorganization of all the Center's activities. For this reason, no events were held during the second quarter, transferring them instead to the third and fourth quarter of the year, 1981. Nevertheless, during the adjustments of this rescheduling of events, we worked on the educational materials previously mentioned.

The scheduled events to be held from July, 1981 to March 1982, are summarized in Table Nº 8.

TRAINING EVENTS SCHEDULED FROM AUGUST, 1981 TO MARCH, 1982

WITHIN THE PROJECT CATIE - KELLOGG

TITLE OF EVENT	TYPE	MANNER	WEEKS DURATION	DATE	Nº PARTI- CIPANTS	PLACE
Wildland Planning and Management	Regional	Workshop/ Seminar	3	August 3-21/81	35	National Parks of Costa Rica
Use of Statistical Methods in Research Systems	Regional	Course	2	August 3-14/81	15	CATIE/Costa Rica
Systems Characterization	Regional	In-service Training	2	Sept. 1-30/81	20	CATIE/North Zone of Costa Rica
Cacao Production	Intensive	Course	4	Sept. 14-Oct.10/81	25	CATIE
Forages Production	National	Course	1	Oct. 12-16/81	30	Santo Domingo/REP DOM.
Animal Production	Intensive	Course	5	Nov. 2-Dec. 4/81	30	CATIE
Soil and Plant Analysis	Regional	In-service Training	4	Nov. 2-27/81	6	CATIE
Horticulture Production	Intensive	Course	6	Oct. 19-Nov. 27/81	30	Honduras/Zamorano
Horticulture Production	National	Course	1	Nov. 16-20/81	30	Nicaragua
Fertility and Soils Conservation	Intensive	Course	6	Feb. 1, Mar. 13/81	30	CATIE
Analysis and Evaluation Agricultural Systems	National	Course	1	Nov. 8-15/81	25	Panama
Wildland Planning and Management	Regional	In-service Training	12	Dec./81 - Feb./82	6	CATIE
Agroenvironment	Regional	Course	2	Feb. 23- Mar. 1/81	20	CATIE
Inter-estival Agriculture	National	Seminar	1	Nov. 17-20/81	20	El Salvador
Weed Control	National	Course	1	Sept. 21-25/81	20	Nicaragua

In the execution of the scheduled events, it is estimated that 302 technicians will participate, distributed in the following manner: 115 for 4 intensive courses, 35 for 2 regional courses, 35 for a seminar/workshop, 125 for 5 national courses and 32 for 3 in-service events. These figures represent a total of 1046 training/weeks/technician, to which if you add the necessary work of the Institution's technicians, as well as that of the invited speakers, support personnel and the coordinating personnel, it is possible to understand the magnitude of the contribution by the W. K. Kellogg Foundation and CATIE in improving the training of human resources in the agricultural sector of the Central American Isthmus.

VII.

APPENDIX No. 1



TABLE NO. 1-A

## APPENDIX No. 1

## IN-SERVICE TRAINING IMPLEMENTED UNDER THE PROJECT

## "AGRICULTURAL TRAINING IN THE CENTRAL AMERICAN ISTHMUS"

NAME	COUNTRY	AREA	DATE		WEEKS
			BEGINNING	ENDING	
SANDRA E. HERNANDEZ	HONDURAS	SOIL AND PLANT ANALYSIS	19/11/79	15/12/79	4
JOSE D. RAMIREZ	HONDURAS	SOIL AND PLANT ANALYSIS	19/11/79	15/12/79	4
ALLAN O. MINERA	HONDURAS	SOIL AND PLANT ANALYSIS	19/11/79	15/12/79	4
HUMBERTO CANAHUATY	HONDURAS	SOIL AND PLANT ANALYSIS	19/11/79	15/12/79	4
ROBERTO RODRIGUEZ	SALVADOR	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
NICOLAS GUILLEN	SALVADOR	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
HUGO MARTINEZ	COLOMBIA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
IGNACIO JUAREZ	GUATEMALA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
HUGO CASTELLANOS	REP. DOM.	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
LUIS A. CASTAÑEDA	GUATEMALA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
MURITO TERNES	BRASIL	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
ARTURO VILLAVICENCIO	ECUADOR	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
WALTER CANESSA	COSTA RICA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
MERCEDES MARCANO	VENEZUELA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
DANILO GOMEZ	NICARAGUA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
REYNALDO TREMINIO	NICARAGUA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
SERARDO JIMENEZ	COSTA RICA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
JULIO MEDAL MEDAL	NICARAGUA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
CESAR RODRIGUEZ M.	VENEZUELA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
EDMUNDO DE LEON	PANAMA	AGROECOSYSTEMS	2/6/80	22/8/80	12
ERIC MOLIERY	NICARAGUA	WEED CONTROL	3/3/80	23/5/80	12
RUDY SIERRA	GUATEMALA	SOILS AND PLANT ANALYSIS	1/7/80	31/7/80	4
ELBA OSORIO	HONDURAS	SOILS AND PLANT ANALYSIS	1/7/80	31/7/80	4
OMAR MELENDEZ	HONDURAS	SOILS AND PLANT ANALYSIS	1/7/80	31/7/80	4
ALFONSO SINGH	PANAMA	SOILS AND PLANT ANALYSIS	1/7/80	31/7/80	4
ROBERTO SERPA	VENEZUELA	AGRICULTURAL SYSTEMS	2/6/80	22/8/80	12
TITO JIMENEZ	C. RICA	AGRICULTURAL SYSTEMS	2/6/80	22/8/80	12
OSWALDO ROCKENEACH	BRASIL	AGRICULTURAL SYSTEMS	2/6/80	22/8/80	12
MISAEEL MOLINA	C. RICA	COCOA PRODUCTION	24/11/80	23/11/80	1
ESEQUIEL ROJAS	C. RICA	COCOA PRODUCTION	24/11/80	23/11/80	1
VITALIANA FALLAS	C. RICA	COCOA PRODUCTION	24/11/80	23/11/80	1
RAUL RAMIREZ	C. RICA	COCOA PRODUCTION	24/11/80	23/11/80	1
MARIO MENDEZ	C. RICA	COCOA PRODUCTION	24/11/80	23/11/80	1
ALFONSO MARTINEZ	COLOMBIA	COCOA PRODUCTION	2/6/80	22/8/80	12
MAYRA ALFARO	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
FLORIA BERTSCH	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
MANUEL CARBALLC	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
RAFAEL DIAS	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
MARCIAL ERAZO	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDUARDO ESCALANTE	VENEZUELA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
TOMAS GALOMO	MEXICO	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDMILIA GUZMAN	NICARAGUA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDUARDO LOPEZ	GUATEMALA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDGAR MARTINEZ	GUATEMALA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
RAFAEL MATA	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
TOMAS MONTAS	R. DOMINICANA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
JORGE MORERA	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDUARD MULLER	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
OSCAR PANIAGUA	BOLIVIA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
ANGEL PAUCAR	ECUADOR	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1

NAME	COUNTRY	AREA	DATE		WEEKS
			BEGINNING	ENDING	
FANNY SAAVEDRA	PANAMA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
JESUS SANCHEZ	COLOMBIA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
FREDDY SANCHO	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
ERASMO VALLESTER	PANAMA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
GUILLERMO VELIZ	PERU	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDUARDO ALVARADO	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
ENRIQUE BAKER	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
HERALDO LAVAIRE	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
MARIO NUNEZ	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
MARIO PALMA	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
RODNEY SANTANEO	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EFRAIN TREJO	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
MARIO COREA	NICARAGUA	WEED CONTROL	2/2/81	7/2/81	1
ERASMO SOLIS	NICARAGUA	WEED CONTROL	2/2/81	24/4/81	12
MARIA SANABRIA	C. RICA	LIBRARY	2/3/81	6/3/81	1
EDUARD MULLER	C. RICA	AGRICULTURAL SYSTEMS	2/2/81	24/4/81	12
JUAN GODOY	GUATEMALA	WILDLANDS MANAGEMENT	8/12/80	27/2/81	12
NELSON LOPEZ	NICARAGUA	WILDLANDS MANAGEMENT	8/12/80	27/2/81	12
VILMA VILCHEZ	NICARAGUA	WILDLANDS MANAGEMENT	8/12/80	27/2/81	12
BERNARDO MADRIZ	PANAMA	WILDLANDS MANAGEMENT	8/12/80	27/2/81	12
MANUEL BENITEZ	EL SALVADOR	WILDLANDS MANAGEMENT	8/12/80	27/2/81	12

NOTE: THE IN-SERVICE TRAINING OFFERED TO PARTICIPANTS OUTSIDE THE AREA WILL BE CARRIED OUT WITHIN THE PROJECT'S PROGRAMMED ACTIVITIES.

APPENDIX Nº 1

Table Nº 2-A

TRAINING EVENTS IN 1979

<u>TITLE OF THE EVENT</u>	<u>TYPE</u>	<u>FINANCING</u>
Agro-Forestry Workshop	Seminar	UNU
Introduction to Librarianship and Agricultural Documentation	Course	ODM
Animal Production	Seminar	G.T.Z.
Genetic Resources	Seminar	G.T.Z.
Integrated Pest Control	Course	U. California
Potato Production	Seminar	I.P.C.
Consultation Meeting in the Localization of Production Systems in Central America	Meeting	ROCAP/AID
Horticulture Course	Course	KELLOGG/U. Florida
Crop Production Systems	Seminar	ROCAP/AID
Weed Control	Course	OSU
Cacao Production	Course	KELLOGG
Coto Brus Producers Meeting	Meeting	MAG/CATIE
CIID Producers Meeting	Meeting	CIID
Crop Production Systems	Meeting	CATIE/IOWA/IICA
Genetic Improvement	Course	OEA

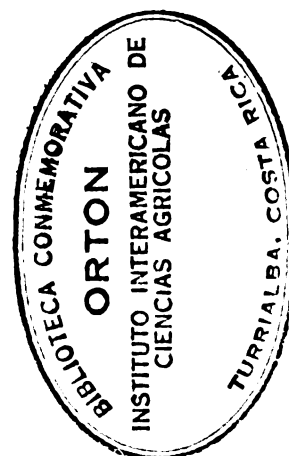
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Total events of CATIE .....15

Events financed by KELLOGG ..... 2 which represents 13.3%

TRAINING EVENTS ACCOMPLISHED DURING 1960

PROGRAM	TITLE OF EVENTS	Nº of P.	PLACE	OBSERVATION AND OR FINANCING
ANNUAL CROPS	* Focusing Research	28	Honduras	Secretary of Natural Resources
	* Methods of Research in the Agricultural Systems	32	Panama	KELLOGG
	** Soil and Vegetable Tissue Analysis	5	CATIE	KELLOGG
	*** Pest Management within the Crop System	17	CATIE	California U.
PERENNIAL PLANTS				
	* Cacao Production	24	La Lola	UPCA
	* Cacao Production	12	La Lola	National Bank of Costa Rica
	* Cacao Production	25	CATIE	KELLOGG
	*** International Meeting on Montalasis	64	CATIE	KELLOGG
	* Coffee Production	9	CATIE	PROMECAFE
	*** International Meeting on phytophthora	28	CATIE	California U.
ANIMAL PRODUCTION				
	* Methodology Research in Milk Production Systems	18	CATIE	BID
	* Methodology Research in Milk Production Systems	21	CATIE	BID
	* Production and Utilization of Forages	33	HONDURAS	KELLOGG
	* Production and Utilization of Forages	41	GUATEMALA	KELLOGG
	* Experimental Design in Cattle	18	PANAMA	KELLOGG
	* Use of Crop Residues in Animal Feeding	8	CATIE	CIID
NATURAL RENEWABLE RESOURCES				
	* Agroforestry Techniques	31	CATIE	D.S.E.
	* Research and Forestry Teaching in Costa Rica	12	CATIE	KELLOGG
	* Use and Managements of Tropical Soils	18	CATIE	KELLOGG
	* Management of Wildland Areas and National Parks	30	---	KELLOGG/National Parks. USA
GENETIC RESOURCES UNIT				
	* Genetic Resources	21	CATIE	G.T.Z.
	*** International Meeting on "Pejivalle"	8	CATIE	G.T.Z.
	*** International Meeting on <u>Capsicum</u> ("Aji")	8	CATIE	G.T.Z./FAO
COMMUNICATION UNIT				
	* Communication Techniques and Technology Transfer	12	CATIE	KELLOGG
LIBRARY				
	* Agricultural Librarianship, Introduction	20	CATIE	KELLOGG



TOTAL EVENTS: 26

KELLOGG FINANCING: 11, which represents 42.3%

- \* Seminars/Courses
- \*\* In-service Training
- \*\*\* International Meetings

APPENDIX No. 2

TROPICAL AGRICULTURAL RESEARCH AND TRAINING CENTER

ADJUSTED OPERATIONAL

PROJECT

OF

AGRICULTURAL TRAINING

IN THE CENTRAL AMERICAN ISTHMUS

WITH THE COOPERATION

OF

THE W.K. KELLOGG FOUNDATION

Turrialba, June, 1981

## AGRICULTURAL TRAINING IN THE CENTRAL AMERICAN ISTHMUS

### I. THE PROBLEM

A high proportion of the food consumed in the Latin American tropics is produced by small to medium-sized farmers. In Central America, about 75 percent of the staple food (mainly corn and beans) is grown by farmers with holdings less than 35 hectares in size. Most of these farmers still continue using their traditional farming systems, and so far progress toward achieving better living conditions has been extremely low or negligible.

The following are the main factors which are limiting the development of the rural poor in these countries:

1. The new technologies available are in most cases grossly inadequate. Most agricultural technologies have been developed for farmers with capabilities for high use of inputs, and they generally are of restricted applicability to small farmers under tropical conditions.
2. The shortage of properly trained personnel is one of the main constraints for attaining the design, testing and application of appropriate technologies for the small farmer in Central America. Education at the undergraduate level is usually deficient for several reasons: There are not sufficient technicians with adequate training, and the education of the few there are has been oriented toward specific subject matters or crops, and was based on the idea that the problems can be solved by using the same methodology that was successfully applied in developed, temperate zone countries, where socio-economic conditions are totally different.
3. There is a substantial gap between developing or adapting appropriate technology for the small farmer, and the adoption of it. Usually the extension services lack resources and they are isolated from the sources of adequate technology.

It is evident that there exists a need for improving the capacity and capability of the national research organizations and their staff, so that they are able, with the resources available to them, to define or develop more appropriate technological packages for small farmers and develop models to accelerate the transfer of this technology at the level of the small farmer with his socio-economic framework.

CATIE, the Tropical Agricultural Research and Training Center, is a unique Institution. It was constituted in 1973 as an autonomous, non-profit regional agricultural research and educational Institution. CATIE's origin dates back to 1942, and during its existence, it went through several organizational and structural metamorphoses, finally emerging in its present form as a civil society.

CATIE, as a special association, was initially constituted by a corporative entity, IICA, and by a country, Costa Rica. At present, Panama, Nicaragua, Guatemala and Honduras are members of the Center, and the Dominican Republic and El Salvador are expected to join soon.

CATIE's main efforts are oriented toward developing farming systems involving crop, animal and forestry production. In the execution of this approach, the main emphasis is on research at the farm level on an interdisciplinary basis, to provide alternative methodologies to produce technologies applicable for small farmer situations. The work is being carried out within a network of collaborating individuals and institutions throughout the region.

Although CATIE is presently providing the major leadership, the idea is not to perpetuate the Center as an institution devoted to carrying out its own research, but, instead, to stimulating and guiding technical personnel in each of the countries on how to conduct research according to their needs. Consequently, training is an important new issue within CATIE's activities as a step toward strengthening the national institutions.

#### 1. Training at CATIE

Through individual programs and projects, which include the graduate program with the University of Costa Rica, intensive and short courses,



seminars, workshops and in-service training, CATIE has already provided substantial training to a considerable number of people from different countries. In an attempt to further organize and augment CATIE's training capability, the Coordinator's Office of the Post-graduate Studies Program, and the Coordinator's Office of Short Courses and In-Service Training were created. Under these offices, there is a coordination and execution of an overall educational program following the general approach of CATIE. It will cover different levels of training and hopefully will increase the national capabilities in the near future.

CATIE's present training activities are briefly described below:

- a. Short Courses: The duration and cost of the formal graduate education makes it difficult to train the required personnel in a short period of time. Therefore, to upgrade the capacity of the countries, especially in research and teaching, and to update the knowledge of their nationals, CATIE has a series of intensive courses. They are authorized by the Graduate Program and are taught jointly by local staff and invited scientific lecturers. They are organized to last four or six weeks and to cover a specific subject matter. For those participants that pass the examination and wish to become a regular graduate student of the Program, the number of credits given for the course are recognized. This type of training makes possible the fast updating of a large number of people, in a more economical way. It provides "refresher" training for personnel already involved in production and extension activities, and strengthens the capacity of new staff in national institutions. The updating of knowledge, in a short period of time for local personnel (1-2 weeks), regional (2-3 weeks), at a low cost is of vital importance to benefit national institutions which, for budgetary as well as for functional reasons, can not afford to divert key personnel for a long period of time, as required for regular graduate training. The short courses are oriented primarily to improving the capacity of personnel in the Central American Isthmus and the Caribbean.

- b. Seminars and Workshops: To interest the technician as well as the administrator, in specific activities of CATIE or in new available knowledge, CATIE has a series of one to two-week seminars or workshops designed primarily for personnel within the Central American Isthmus and the Caribbean. Due to the active participation of the personnel involved, there is usually a very fruitful interchange of experiences and a feedback from the participants to CATIE staff. This type of activity is carried out at headquarters, but in the future, research sites in the countries will also be used.
- c. In-Service Training: This presents another alternative by which the national staff of institutions in the Central American Isthmus receive personal attention, working on specific problems, during a time span which is intermediate between short courses and graduate training. Usually, it requires from one to three months working side by side with CATIE staff and with experienced national personnel in a particular area of agriculture, animal husbandry, or forestry production.

Most of the training activities described above take place either at CATIE's headquarters or in the countries of the Isthmus. The idea is to intensify short-term training, as more resources become available.

Due to CATIE's cooperative research and outreach programs in cropping systems, animal husbandry, and forestry production, an interest in the expansion of non-degree training courses has been awakened.

In several meetings, during the second semester of 1977, the Ministers of Agriculture of the Central American countries have expressed the need for further support to the role that the Center should play in this important matter.

## 2. Transfer of Technology

CATIE is conscious of the fact that the process of transferring the appropriate technology is primarily a national responsibility; its aim is to assist national institutions in seeking and developing more appropriate and effective models or strategies in the mass transfer of advantageous new technologies to benefit the small farmer.

The rationale behind this is that appropriate technology, once developed, should not remain on the desk of the researchers, and therefore, the task is to design and diffuse models to accelerate that process, in order to increase the production and productivity of the small farmer. The plan consists in initiating a program with national institutions to study models for the transference of technology.

### III. THE PROJECT

CATIE presented to the W. K. Kellogg Foundation a proposal, which was approved after previous revision and consideration.

The amount assigned is US\$1,114,000 and it is to be distributed as follows: Personnel (25%), Short Courses (45%), Seminars (7%), In-Service Training (16%), Teaching Materials (3%) and equipment (4%), and it will be used to execute the Project " Agricultural Training in the Central American Isthmus", under CATIE's direction.

The Project is being developed for four years, starting July 1, 1979 and ending June 30, 1983.

#### 1. OBJECTIVES

##### A) General Objectives

- a. To strengthen the capacity and capability of the national institutions in the six countries of the Central American Isthmus for developing or adopting appropriate technologies for the small farmer and to accelerate their transfer, in order to improve agricultural production and productivity, and therefore, the living conditions of the small farmer.

##### B) Specific Objectives

- a. To train enough national personnel with sufficient knowledge on crops, forestry, and livestock production to cope with the problems of their individual countries by developing techniques to meet their needs.
- b. To provide "refresher" training and to strengthen the capability of new staff in national institutions through short-term training.
- c. To plan models for accelerating the process of transferring

adequate technology at the small farmer level.

2. GOALS

- a. To provide specific training for 60 persons by means of in-service training.
- b. To provide general information on agricultural problems through seminars and workshops for 210 people to make them aware of production problems.
- c. To train 1020 technicians and professionals on general topics by means of short courses.
- d. To train 120 national research and teaching staff through intensive courses.
- e. To analyze at least one model of communication in the process of accelerating the transfer of technology in each country of the Central American Isthmus.

3. STRATEGY

A) Personnel.

In order to increase the Center's training activities to perform the task desired, there is a need to appoint three specialists, at least at the M.S. level, and some sub-professional and support staff to cover certain activities such as the organization of courses, the production of audiovisual and printed materials and technical communications.

- a. A Training Coordinator will be required to establish and discuss priorities of the subjects to be covered in the short-term training in each country and in the region as a whole. He must evaluate the resources already available to avoid duplication of efforts and to establish the areas of more urgent needs. He will be required to coordinate the training activities and to supervise the arrangements for programs, co-sponsoring institutions, speakers and training sites.
- b. A Communication Specialist whose main initial function will consist of promoting the training activities as well as generating the written and printed materials to be distributed in the different training events. At the same time, he will

analyze the Mass Communication Program in the areas where research is in process, to eventually serve in the models helping to accelerate the transference of the generated technology.

- c. Specialist in the Production of Educational Material. This specialist will join the staff in 1981 and will be in charge of carrying out the study, designing and supervising of the production of educational materials, within the training events to be carried out.

Beginning in the third year of the Project's execution, the Professional Staff will be restructured according to the budget and activities, and it will be composed of: a. a Coordinator, b. a Specialist in the Production of Educational Materials and c. a Technical Editor (who could be one person or several contracted to correct educational texts).

The Support Personnel will be composed of: a. a Secretary, b. Typist and Assistant Editor, c. an Illustrator and d. an Audiovisual Assistant.

The Training Coordinator, the Specialist in the Production of Educational Materials, and the Communication Specialist will help in their own special fields at the Center's level and will collaborate directly in parts of the training courses to be held at both the graduate and other levels.

B) Training activities

- a. Intensive Courses will be taught mostly at CATIE because of the organization and support required to hold them. Participants holding a B.S. degree may apply for obtaining credits from the Graduate Program, if they pass the course and are accepted later by the Postgraduate Studies Program. Courses at this level will be taught in cooperation with several well-known, high level guest speakers. The courses will cover very specific fields, and their duration will be four or six weeks.
- b. Short Courses will comprise general production problems, and will be given in the countries other than Costa Rica. Topics will be covered by CATIE staff as well as guest speakers from the national institutions.

- c. Seminars and Workshops will last one week and deal with both administrative and technical subject matters. They will be mostly oriented to generate added interest in new approaches for the development and transfer of technology.
- d. In-Service Training will be offered to prepare personnel in highly specialized topics for an established period, both at CATIE and in the countries where staff is available.
- e. Transfer of Technology. Since this activity is a new one at CATIE, an attempt will be made initially to analyze the models used by the countries in the transfer of agricultural technology in the Central American Isthmus. Subsequently, modifications will be made, if necessary, in order to improve the communications technology.

The courses and activities indicated in the Calendar of Events and budgeted in the following pages have been designed as part of a general training program; by themselves they are capable of accomplishing the general training objectives.

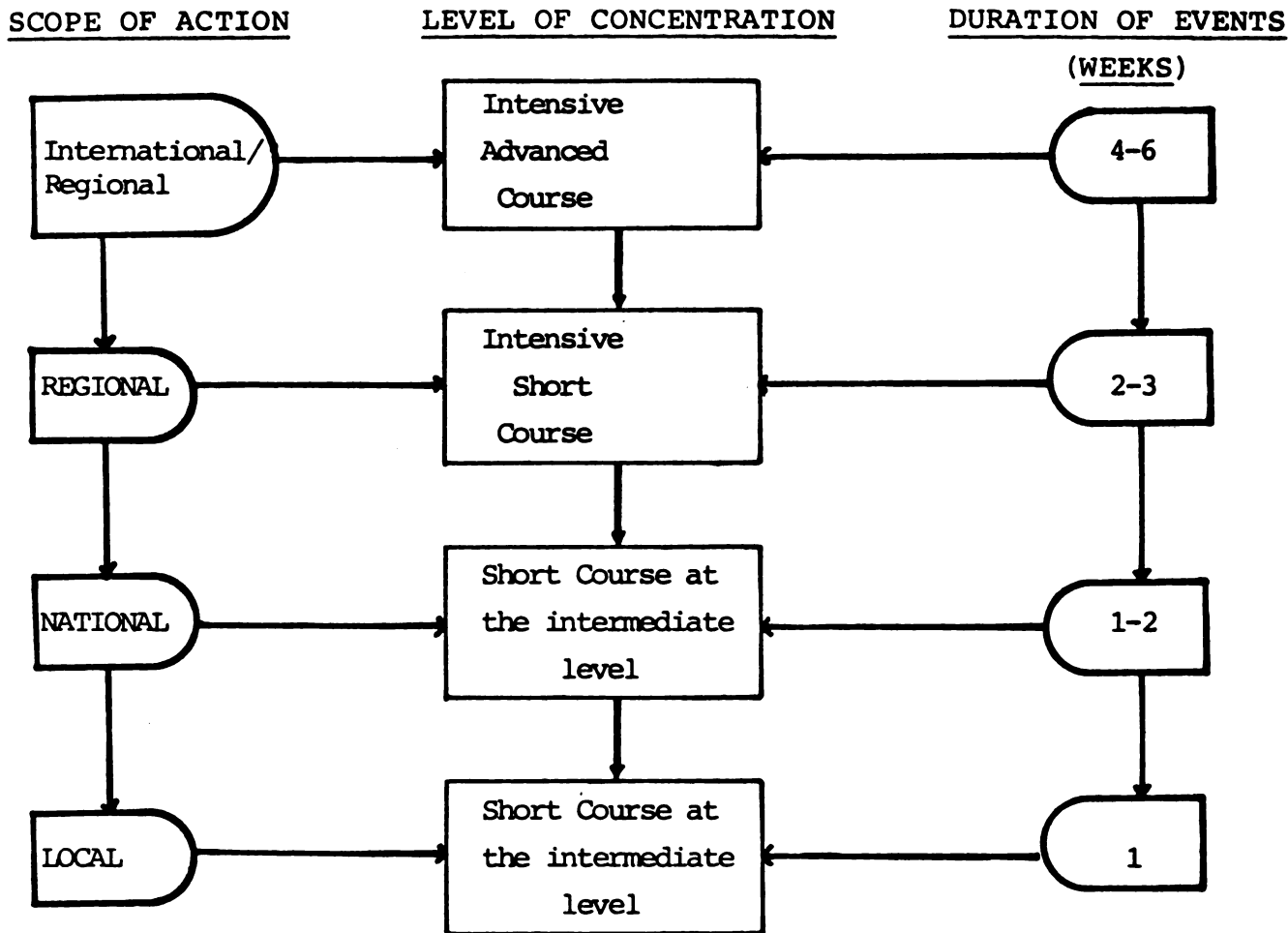
**THEMATIC CONCEPT OF THE TRAINING EVENTS OF SHORT COURSES AND SPECIALIZATION**

**WITHIN THE CENTRAL AMERICAN ISTHMUS AGRICULTURAL TRAINING PROGRAM\***

PROGRAM	METHODOLOGY	SYSTEMATIC	DISCIPLINARY
ANNUAL CROPS	<p>Research in Agricultural Systems</p> <p>Design, analysis and evaluation of alternatives in agricultural production systems</p>	<p>Basic grain production</p> <p>Vegetables production</p>	<p>Soils Fertility</p> <p>Control of weeds and insects</p>
PERENNIAL PLANTS	<p>Research in perennial plant crop systems</p>	<p>Cacao production</p>	<p>Aspects: nutrition, forages, genetics, reproduction and economics in the tropical milk production systems</p>
ANIMAL PRODUCTION	<p>Research in animal production systems</p>	<p>Milk production</p>	<p>Agroforestry Technics</p>
NATURAL RENEWABLE RESOURCES	<p>Planning and management of Wildland Areas</p> <p>Planning the use of Natural Renewable Resources</p>	<p>Agroenvironment</p>	<p>Agricultural Communication Process and application</p>
SUPPORT EVENTS	<p>Utilization of nonconventional sources of energy</p> <p>Conservation of genetics resources</p>		<p>Agricultural Research, management methodology and technique</p>

GRAPHICAL ILLUSTRATION OF PLANNED TRAINING

ACTIVITIES



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The educational materials (printed and audiovisual) produced within this sequence will be utilized according to their content and importance in the subsequent events. When an event is finished and educational materials are determined, they can be converted into a formal publication.



INTENSIVE AND SHORT COURSES, SEMINARS, WORKSHOPS AND IN-SERVICE

TRAINING TO BE EXECUTED DURING THE PROJECT

YEAR	INTENSIVE		COURSES				SEMINARS		IN SERVICE TRAINING 3 MONTHS PARTICIPANTS	TOTAL PARTICIPANTS	
	YEAR MONTH JULY-JUNE	COURSES 4-6 WEEKS	PARTICIPANTS	COURSES 2-3 WEEKS REGIONAL**	PARTICIPANTS	SHORT COURSES 1 WEEK LOCAL/NATIONAL	SEMINARS 1 WEEK	PARTICIPANTS			
											YEAR
1*	1979-80	1	30	3	90	6	180	1	35	12	347
2	1980-81	1	30	3	90	6	180	1	35	12	347
3	1981-82	1	30	3	90	5	150	2	70	18	358
4	1982-83	1**	30	3	90	5	150	2	70	18	358
TOTAL		4	120	12	360	22	660	6	210	60	1410

\* The implementation of the Project will begin to consolidate during the early part of the first year.

\*\* The courses could be offered within or outside of CATIE, depending upon the existence and quality of facilities.

## V. BUDGETARY CONSIDERATIONS

The following budget, which includes all activities described previously, has been prepared for a four-year period.

The highest concentration of expenditures occurs in the first three years. Beginning in 1982, the Training Unit of CATIE will coordinate the training events, short courses and specializations to be offered by the Center, particularly, the ones to be developed within the Project, according to what is described in the personnel section. By 1982, CATIE will have created some internal capacity to continue with the more critical thematic areas of training personnel. Of course, external financial support will be essential in order to cover adequately the countries of the Central American Isthmus, and to ensure that Project achievements will be maintained and multiplied in the region.

BUDGET: PERSONNEL, TRAINING MATERIAL, EQUIPMENT, IN-SERVICE

TRAINING AND INFORMATIVE SEMINARS (US\$)

	1979-80 1 <sup>a</sup>	1980-81 2 <sup>a</sup>	1981-82 3 <sup>a</sup>	1982-83 4 <sup>a</sup>	TOTAL	\$
Personnel (Technical-Support)	93,000	93,000	93,000	---	279,000	25.0
Short Courses	150,000	100,00	150,000	100,000	500,000	45.0
Seminars	11,000	16,000	26,000	27,000	80,000	7.2
In-Service Training	36,000	36,000	54,000	54,000	180,000	16.1
Educational Material	20,000	5,000	5,000	---	30,000	2.7
Equipment	35,000	10,000	---	---	45,000	4.0
<b>T O T A L</b>	<b>345,000</b>	<b>260,000</b>	<b>328,000</b>	<b>181,000</b>	<b>1,114,000</b>	<b>100.0</b>

OPERATIONAL BUDGET PER YEAR (US\$)

ITEM	1979-80	1980-81	1981-82	1982-83*	TOTAL
<u>PERSONNEL</u>					
Professional Staff*	67,000	87,000	55,000	---	209,000
Sub-Professional Staff	19,400	25,300	25,300	25,300	95,300
Short Courses (4-6 weeks)	50,000	---	50,000	---	100,000
Short Courses (1-2-3 weeks)	100,000	100,000	100,000	85,000	385,000
In-Service Training	36,000	36,000	54,000	48,200	174,200
Seminars	11,000	16,000	26,000	22,500	75,500
Training material	20,000	5,000	5,000	---	30,000
Equipment	35,000	10,000	---	---	45,000
<b>TOTAL</b>	<b>338,400</b>	<b>279,300</b>	<b>315,300</b>	<b>181,000</b>	<b>1,114,000</b>

\*Beginning 1982, CATIE will appoint the Coordinator of the Project.

OPERATIONAL BUDGET (US\$) PROJECT PERSONNEL

PERSONNEL	1 <sup>a</sup> 1979-80 July-June	2 <sup>a</sup> 1980-81 July-June	3 <sup>a</sup> 1981-82 July-June	4 <sup>a</sup> 1982-83 July-June	TOTAL
<u>PROFESSIONAL STAFF</u>					
Training Coordinator (M.S.)	35,000	35,000	35,000	---	105,000
Communication Specialist.	32,000	32,000	---	---	64,000
Specialist in the Production of Educational Material.	---	20,000	20,000	---	40,000
<u>SUPPORT PERSONNEL</u>					
Audiovisual Assistant, Secretary, Editor Assistant and Illustrator.	19,400	25,300	25,300	25,300	95,300
TOTAL	86,400	112,300	80,300	25,300	304,300

OPERATIONAL BUDGET OF TRAINING MATERIALS AND EQUIPMENT

(US\$)

	1979-80 1 <sup>a</sup>	1980-81 2 <sup>a</sup>	1981-82 3 <sup>a</sup>	TOTAL
<u>EQUIPMENT</u>				
Mimeographs, slide projector Overhead projector, typewriter	35,000	10,000	---	45,000
<u>TRAINING MATERIALS</u>				
Publications, photos, slides, audiovisuals, etc.	20,000	5,000	5,000	30,000
TOTAL US\$	55,000	15,000	5,000	75,000

BUDGET SUMMARY (US\$)

	APPROVED		OPERATIONAL		PERCENTAGE DIFFERENCE
	US\$	%	US\$	%	
Personnel	279,000	25.0	304,300	27.3	+ 2.3
Short Courses	500,000	45.0	485,000	43.6	- 1.4
In-Service Training	180,000	16.1	174,200	15.7	- 0.4
Seminars	80,000	7.2	75,500	6.7	- 0.5
Equipment	45,000	4.0	45,000	4.0	0.0
Training Material	30,000	2.7	30,000	2.7	0.0
<b>T O T A L</b>	<b>1,114,000</b>	<b>100.0</b>	<b>1,114,000</b>	<b>100.0</b>	

APPENDIX No. 3

TROPICAL AGRICULTURAL RESEARCH AND TRAINING CENTER

- SHORT COURSES
- SEMINARS
- WORKSHOPS
- IN-SERVICE TRAINING

IMPLEMENTED UNDER THE PROJECT

"AGRICULTURAL TRAINING IN THE CENTRAL AMERICAN ISTHMUS"

WITH THE COOPERATION

OF

THE W.K. KELLOGG FOUNDATION

C A T I E

TURRIALBA, COSTA RICA

JUNE, 1981



## PRESENTATION

The list of Short Courses, Seminars, Workshops and In-Service Training presented below is the result of the first two years of operation of the Project "Agricultural Training in the Central American Isthmus", financed by the W. K. Kellogg Foundation and implemented by the Tropical Agricultural Research and Training Center.

TABLE Nº 1

INTENSIVE AND SHORT COURSES IMPLEMENTED UNDER THE  
PROJECT: AGRICULTURAL TRAINING IN THE CENTRAL AMERICAN ISTHMUS

-July, 1979 - May, 1981-

TITLE OF EVENT	COURSE	DATE		WEEKS	Nº PARTI- CIPANTS	PLACE
		BEGINNING	ENDING			
Vegetable Production	Intensive	1/10/79	9/11/79	6	30	El Salvador
Cocoa Production	Regional	22/11/79	31/11/79	2	12	CATIE
Cocoa Production	Regional	18/2/80	29/2/80	2	21	CATIE
Forage Production and Utili- zation	National	23/9/80	27/9/80	1	33	Honduras
Forage Production and Utili- zation	National	27/10/80	31/10/80	1	28	Guatemala
Experimental Design for Animal Production	National	1/9/80	6/9/80	1	18	Panama
Use and Management of Tropical Soils	Regional	18/8/80	12/9/80	3	18	CATIE
Wildlands and National Parks Management	Regional	21/8/80	6/9/80	2	30	Nicaragua Costa Rica
Communication Techniques	National	22/9/80	26/9/80	1	12	CATIE
Library	Intensive	1/9/80	11/10/80	6	20	CATIE
Experimental Techniques in Cropping Systems	Regional	6/10/80	17/10/80	2	32	Panama
Basic Grains Cropping Systems	Regional	16/2/81	28/2/81	2	30	Nicaragua
Cocoa Production	National	12/1/81	16/1/81	1	25	CATIE
Economic Evaluation of Animal Production Systems	National	24/2/81	28/2/81	1	18	Panama

Table Nº 2

SEMINARS AND WORKSHOPS IMPLEMENTED UNDER THE PROJECT:

AGRICULTURAL TRAINING IN THE CENTRAL AMERICAN ISTHMUS

July, 1979 - May, 1981

TITLE OF EVENT	DATE		WEEKS	Nº PARTI- CIPANTS	PLACE
	BEGINNING	ENDING			
Forestry Research and Training in Costa Rica	11/8/80	25/8/80	1	10	CATIE
Control of Monilia ( <i>Monilia rozeri</i> )	27/8/80	30/8/80	1	89	CATIE
The Roll of Perennial Plants in Central America	16/2/81	20/2/81	1	12	CATIE

**IN-SERVICE TRAINING IMPLEMENTED UNDER THE PROJECT**  
**"AGRICULTURAL TRAINING IN THE CENTRAL AMERICAN ISTHMUS"**

NAME	COUNTRY	AREA	DATE		WEEKS
			BEGINNING	ENDING	
SANDRA E. HERNANDEZ	HONDURAS	SOIL AND PLANT ANALYSIS	19/11/79	15/12/79	4
JOSE D. RAMIREZ	HONDURAS	SOIL AND PLANT ANALYSIS	19/11/79	15/12/79	4
ALLAN O. MINERA	HONDURAS	SOIL AND PLANT ANALYSIS	19/11/79	15/12/79	4
HUMBERTO CANAHUATY	HONDURAS	SOIL AND PLANT ANALYSIS	19/11/79	15/12/79	4
ROBERTO RODRIGUEZ	SALVADOR	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
NICOLAS GUILLEN	SALVADOR	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
HUGO MARTINEZ	COLOMBIA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
IGNACIO JUAREZ	GUATEMALA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
HUGO CASTELLANOS	REP. DOM.	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
LUIS A. CASTAÑEDA	GUATEMALA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
MURITO TERNES	BRASIL	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
ARTURO VILLAVICENCIO	ECUADOR	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
WALTER CANESSA	COSTA RICA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
MERCEDES MARCANO	VENEZUELA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
DANILO GOMEZ	NICARAGUA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
REYNALDO TREMINIO	NICARAGUA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
GERARDO JIMENEZ	COSTA RICA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
JULIO MEDAL MEDAL	NICARAGUA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
CESAR RODRIGUEZ M.	VENEZUELA	SYSTEMS CHARACTERIZATION	17/1/80	23/1/80	1
EDMUNDO DE LEON	PANAMA	AGROECOSYSTEMS	1/6/80	22/8/80	12
ERIC MOLIERI	NICARAGUA	WEED CONTROL	3/3/80	23/5/80	12
RUDY SIERRA	GUATEMALA	SOILS AND PLANT ANALYSIS	1/7/80	31/7/80	4
ELBA OSORIO	HONDURAS	SOILS AND PLANT ANALYSIS	1/7/80	31/7/80	4
OMAR MELENDEZ	HONDURAS	SOILS AND PLANT ANALYSIS	1/7/80	31/7/80	4
ALFONSO SINGH	PANAMA	SOILS AND PLANT ANALYSIS	1/7/80	31/7/80	4
ROBERTO SERPA	VENEZUELA	AGRICULTURAL SYSTEMS	2/6/80	22/8/80	12
TITO JIMENEZ	C. RICA	AGRICULTURAL SYSTEMS	2/6/80	22/8/80	12
OSWALDO ROCKENBACH	BRASIL	AGRICULTURAL SYSTEMS	2/6/80	22/8/80	12
MISAEAL MOLINA	C. RICA	COCOA PRODUCTION	21/11/80	28/11/80	1
ESEQUIEL ROJAS	C. RICA	COCOA PRODUCTION	24/11/80	28/11/80	1
VITALIANA FALLAS	C. RICA	COCOA PRODUCTION	24/11/80	28/11/80	1
RAUL RAMIREZ	C. RICA	COCOA PRODUCTION	24/11/80	28/11/80	1
MARIO MENDEZ	C. RICA	COCOA PRODUCTION	24/11/80	28/11/80	1
ALFONSO MARTINEZ	COLOMBIA	COCOA PRODUCTION	2/6/80	22/8/80	12
MAYRA ALFARO	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
FLORIA BERTSCH	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
MANUEL CARBALLO	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
RAFAEL DIAS	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
MARCIAL ERAZO	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDUARDO ESCALANTE	VENEZUELA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
TOMAS GALOMO	MEXICO	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDMILIA GUZMAN	NICARAGUA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDUARDO LOPEZ	GUATEMALA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDGAR MARTINEZ	GUATEMALA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
RAFAEL MATA	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
TOMAS MONTAS	R. DOMINICANA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
JORGE MORERA	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDUARD MULLER	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
OSCAR PANIAGUA	BOLIVIA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
ANGEL PAUCAR	ECUADOR	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1

NAME	COUNTRY	AREA	DATE		WEEKS
			BEGINNING	ENDING	
FANNY SAAVEDRA	PANAMA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
JESUS SANCHEZ	COLOMBIA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
FREDDY SANCHO	C. RICA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
ERASMO VALLESTER	PANAMA	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
GUILLERMO VELIZ	PERU	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EDUARDO ALVARADO	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
ENRIQUE BAKER	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
HERALDO LAVAIRE	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
MARIO NUNEZ	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
MARIO PALMA	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
RODNEY SANTANEO	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
EFRAIN TREJO	HONDURAS	SYSTEMS CHARACTERIZATION	18/8/80	22/8/80	1
MARIO COREA	NICARAGUA	WEED CONTROL	2/2/81	7/2/81	1
ERASMO SOLIS	NICARAGUA	WEED CONTROL	2/2/81	24/4/81	12
MARIA SANABRIA	C. RICA	LIBRARY	2/3/81	6/3/81	1
EDUARD MULLER	C. RICA	AGRICULTURAL SYSTEMS	2/2/81	24/4/81	12
JUAN GODOY	GUATEMALA	WILDLANDS MANAGEMENT	8/12/80	27/2/81	12
NELSON LOPEZ	NICARAGUA	WILDLANDS MANAGEMENT	8/12/80	27/2/81	12
VILMA VILCHEZ	NICARAGUA	WILDLANDS MANAGEMENT	8/12/80	27/2/81	12
BERNARDO MADRIZ	PANAMA	WILDLANDS MANAGEMENT	8/12/80	27/2/81	12
MANUEL BENITEZ	EL SALVADOR	WILDLANDS MANAGEMENT	8/12/80	27/2/81	12

NOTE: THE IN-SERVICE TRAINING OFFERED TO PARTICIPANTS OUTSIDE THE AREA WILL BE CARRIED OUT WITHIN THE PROJECT'S PROGRAMMED ACTIVITIES.



SUMMARY OF COURSES

COURSE	CATE*	COUNTRIES*	TOTAL N°	
			COURSES	PARTICIPANTS
Intensive	1 (50)	1 (50)	2	50
Regional	3 (50)	3 (50)	6	143
National	2 (33)	4 (67)	6	134
<b>TOTAL</b>	<b>6 (43)</b>	<b>8 (57)</b>	<b>14</b>	<b>327</b>

\* Number in parentheses indicates %.

SUMMARY OF SEMINARS

	CATE	COUNTRIES	TOTAL	TOTAL N° PARTICIPANTS
SEMINARS	3	—	3	111

SUMMARY OF IN-SERVICE TRAINING

	N° WEEKS	TOTAL	
		PARTICIPANTS	WEEKS
In-service Training	12	13	156
	4	8	32
	1	50	50
<b>TOTAL</b>		<b>71</b>	<b>238</b>

COMMENTARY RELATIVE TO THE DEVELOPMENT OF THE

PROJECT DURING THE FIRST TWO YEARS

July, 1979 - June, 1981

INTENSIVE AND SHORT COURSES

The following courses were programmed by the Project: 2 intensive, 6 regional and 12 national courses; and of these 2 intensive, 6 regional and 6 national courses were actually given, which expressed percentagewise, was 100% for intensive and regional courses and 50% for national short courses.

The total number of estimated participants for the number of programmed courses in each category were 60, 240 and 360 for the intensive regional and national courses respectively. With respect to this estimate and according to the courses that were given, 50, 143 and 134 technicians attended, which in terms of percentages represented 83%, 59% and 74% for each type of course scheduled. It should be mentioned that the realization of events at the national level has been slow due to socio-political reasons existing in the area in relation to the national institutions with which CATIE is working. However, this type of event is the easiest to program, and it is hoped that in the third year the scheduled events can be carried out more successfully.

## SEMINARS

The number of scheduled seminars was two with a total of 70 participants. During the two years, three seminars were held with attendance of 111 technicians; and two Proceedings were published, the subject matters of which were of great importance.

In addition to the three seminars, a work session was held with the Deans of the Agricultural Faculties of the Central American Isthmus Universities, with the purpose of becoming acquainted with the actual situation of agricultural training in the area.

## IN-SERVICE TRAINING

During the first two years, 24 technicians were scheduled for an in-service training period of 12 weeks each, representing 288 weeks/in-service training technician. In the two-year period, 13 technicians received training for 12 weeks each, 8 for 4 weeks and 50 for one week each, making a total of 71 and 238 weeks/technician.

On a percentage basis, 83% of the scheduled training was carried out, the difference to be covered during the third year of execution.