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THE GRADUATE PROGRAM OF THE
INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES:
AN EVALUATION OF CERTAIN ASPECTS THROUGH
A FOLLOW-UP OF GRADUATES

by Ricardo E. Marañón J.

I. The purpose

This research proposed to make a follow-up study of the graduates of the Tropical Center for Teaching and Research of the Inter-American Institute of Agricultural Sciences of the Organization of American States during the past nineteen years, in order to measure the accomplishment of the objectives of this institution in the field of graduate training.

The most important specific objectives of the research were:

1. To get experiences of the graduates from the graduate school and their opinions regarding the value and achievement of the school's educational objectives, academic program and related aspects.

2. To study relationships between the graduate's department of study at the school with his job after graduation, job satisfaction, and job expectancy, as well as to register the graduate's urgent problems.

II. Methodology

As to the methodology, the basic data for this research were derived directly from interviews and questionnaires returned by 123 IIAA graduates out of a total of 197 persons who received the instrument and graduated from that institution. Appropriate tests of validity and reliability were applied to

the instrument at the proper time.

2. The collected information was grouped in a total of 153 variables dealing with the different areas mentioned in the objectives above.

3. In the statistical treatment of data, Chi square (χ^2) was selected as the statistical tool to test the significance of collected information and the possible degree of relationship between the graduate's opinions and his department of study.

III. Results, Conclusions or Recommendations

1. The most important finding was the high value awarded by the graduates to the Tropical Center of Graduate Teaching and Research, as a graduate educational institution serving the Latin American country members of the OAS. One hundred and twelve of the 126 respondents declared a highly favorable attitude toward the IICA graduate school.

2. The graduates awarded the highest value to all the educational objectives set by the graduate school and they recognized that the Institute has met those objectives in an appropriate way.

3. The strengths which Turrialba presented as an educational institution at the graduate level were: "an ideal combination of teaching and research" endowed with "very good library facilities," "Faculty with Ph. D.'s and scholarship," "very good environment, facilities, and scientific attitude to carry on research and teaching in tropical agriculture, agricultural extension, and animal husbandry." One hundred and fourteen of the 126 graduates

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recognized a very high level of academic competence in the faculty which forms the center.

4. Most of the graduates following doctoral studies in American universities had received recognition for their "Magister" degree granted by the IICA, and 24 out of 28 pursuing such studies recognized that the training received at Turrisiba was of great value to them in their process of doctoral education.

5. The graduates recommended the suitability of establishing some sort of placement bureau for graduates.

6. Job dissatisfaction as expressed among the IICA graduates was extremely low. Only six out of 128 respondents were dissatisfied with the specialization chosen.

7. The most favorite aspiration of 128 graduates was that of increasing their efficiency by way of expanding their knowledge, skills, abilities, and understandings. It was recommended that studies be made to cover more deeply certain important areas dealing with personality and effectiveness of the graduate school system, the academic program, the research program, and many other areas.

THE GRADUATE PROGRAM IN THE
INTER-AMERICAN INSTITUTE OF CULTURAL SCIENCES;
AN EVALUATION OF THE PROGRAM IN 1965
A POLICEMAN OF GRADUATES

by
Gerardo E. Maranjo

A THESIS

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DOCTOR OF PHILOSOPHY

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PERSONAL HISTORY

The writer wishes to express his sincere appreciation to the members of the committee who have contributed to the development of his career in the field of agriculture. He wishes to mention in particular Dr. J. M. Hyman, the chairman of the committee, who has given him the opportunity to study in the United States and to work with many of the leading experts in the field.

Several names should be mentioned in connection with the writer's career:

- Dr. Harold H. Henshaw,
- Dr. J. M. Hyman, and
- Dr. J. M. Hyman.

He wishes to express his appreciation to the writer's wife, who has followed him in his career and who has made possible his career in the United States. He wishes to mention in particular the Inter-American Institute of Agricultural Sciences, which he attended for the first time in 1950, where he was able to complete his degree in agriculture.

Finally, the writer is deeply indebted to his wife, Rosalva Guadalupe de Noriega, for her inspiration, her ordinary and extraordinary understanding during the writer's stay at Michigan State University. This appreciation is also extended to his four children: Magdalena, Alvaro, Javier, and Maria de Noriega Guadalupe.

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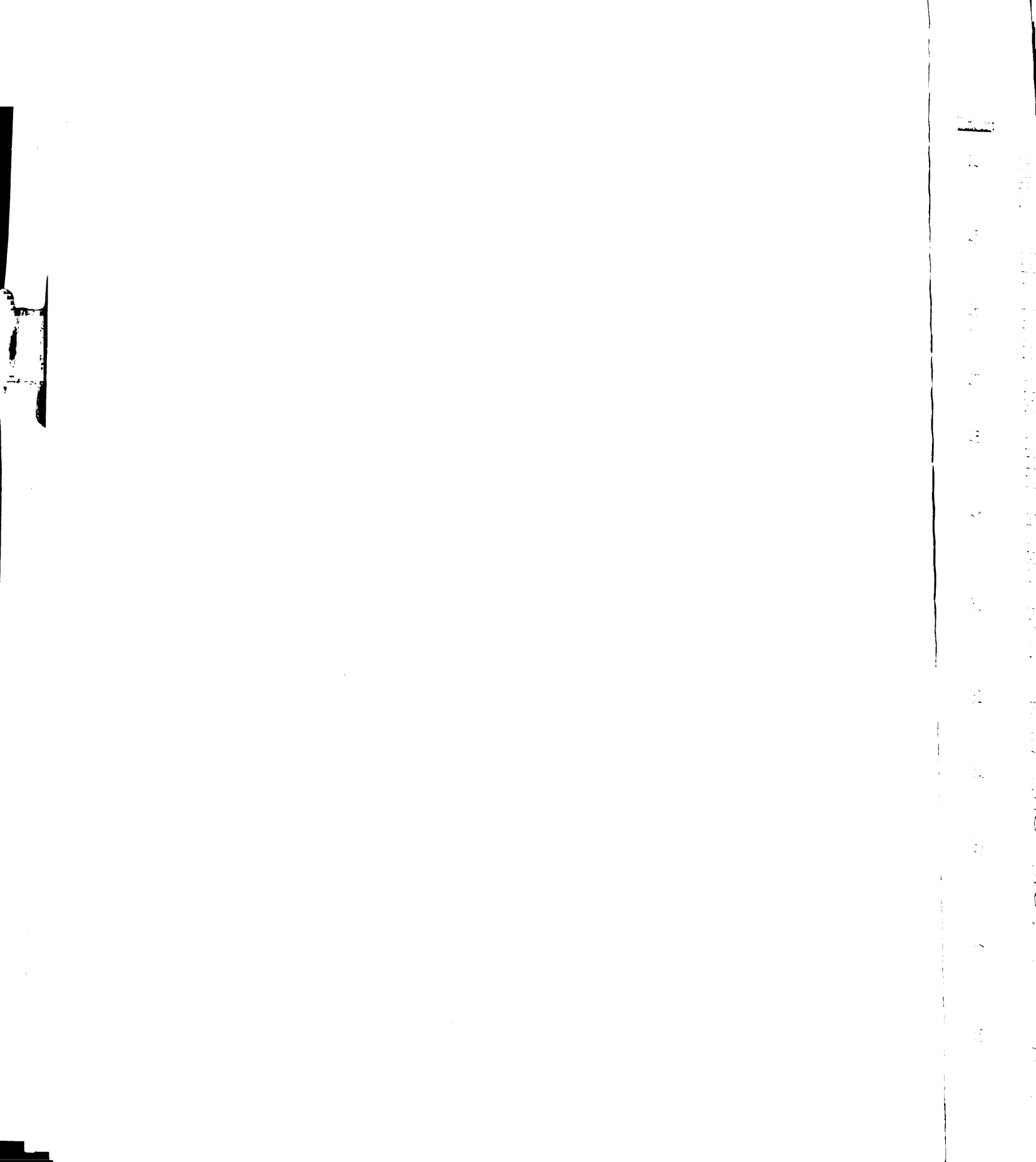
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CHAPTER I

INTRODUCTION

The Inter-American Institute of Agricultural Sciences (IICA)* was founded thanks to a proposition made by the Honduran Ing. Ernesto Molestina Ordeñana. The resolution passed was taken by the Eighth American Scientific Congress and carried out by the representatives of the twenty-one American Republics. This Congress was held in Washington, in May, 1940.

The IICA was officially dedicated on March 19, 1943. At the present time the IICA is a specialized agency of the Organization of American States devoted to solving agricultural and rural life problems.

Although the IICA initiated its activities in the field of research applied to tropical agriculture, it was originally established to provide the social and economic advancement of the American Republics through teaching, research, consultation, and communication of theory and practice in the fields of agriculture and rural life.

The IICA activities of teaching were officially inaugurated the eighth of January, 1946. From then on, and due to its limited economic resources, the IICA has maintained a graduate school, in Turrialba, Costa Rica, made up of four departments of study.

Between January 8, 1946 and December 31, 1964, the IICA Graduate school had awarded to 185 students the degree of "Magister Agriculturae" or "Magister Scientiae." The present study is a follow-up of these IICA graduates.

* IICA = Instituto Interamericano de Ciencias Agrícolas

General Objectives

General Objectives

The purpose of this survey, primary reason, was to make a field work study of the graduates of the Tropical Center for Training and Research of the Inter-American Institute of Agriculture and Sciences of the Organization of American States, within the past fifteen years, in order to measure the accomplishment of the objectives of this institution in the field of graduate training.

Specific Objectives

The following specific objectives, arranged mainly in ascending order of importance to the study, were considered appropriate:

1. To get explanations of the graduates from the graduate school and their opinions regarding the value of the academic program;
2. To record the opinion given by these graduates in regard to the graduate school's educational objectives, the degree to which these objectives are believed by them to have been achieved, changes that they would like to see adopted, areas which they think the institution should reinforce, and related opinions;

- d. To survey selected underprivileged segments in accordance with any of the following conditions: (1) and (2) for their educational, occupational, and/or vocational training;
- e. To register the product of computer problems in their professional work prior to a conclusion, and if so, when they did not receive more precise training, knowledge, skills, abilities, and/or understandings;
- f. To inquire to whom the product is reported their existing problems at the time and what types of problems they expect next; and
- g. To ascertain the IITA graduate committee's geographic distribution of influence and degree of service to higher education in agriculture and rural life.

Background of the Study

Following procedures are employed by various organizations and individuals to acquire information regarding the results of the endeavor in which they are engaged. For example, managers in business and industry may want to know what the public thinks of the goods they have produced and of the services they have performed. Some Latin American Extension Services have been interested in knowing the commitment of objectives that they were engaged in the Extension and were concerned related to knowledge, skills, and understandings of their participants and in some cases to the well-being of the farmer and his family. Moreover, Extension

evaluation and experimentation at the local level regarding educational, economic, and human relations problems (which can all be related to the impact of progress) are some of the major characteristics of the new systems of responsible training and modernization of the sciences in a process of development.

Hispano-American institutions are permanently interested through planning and evaluation in determining the extent to which the tasks of their programs have been carried out and the possible degrees of success with which they can claim after a certain period of operation and functioning.

In the case of the Inter-American Institute of Agricultural Sciences Graduate Center for Training and Research this study was an outgrowth of the government's contact with and interest in the educational program of the institution, in which many changes have taken place since its establishment in January 8, 1961. Moreover, it was considered important for a study like this to be made because there had never been a follow-up study of Tegucigalpa graduates and graduates carried out during its nineteen years of functioning.

This study also was considered important because the institution is becoming stronger under a "New Dimension" program in which the total enrollment rose from 1,000 in 1961 to nearly 2,000 percent during the 1964-65 fiscal year, as compared with 1963-64. Moreover, with a program of Revision during the year 1964-65, the institution adopted a new administrative pattern in which the budget, rather than

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a single "list of recommended" or recommended program with
economic meaning. The different activities of the institu-
tion have been modified and restructured. The new graduate
school was the first of its kind in "The Center of
Research and Training for the Tropical Zone," in the April-
cultural program, Center "Alberto Kuper" in "La Habana, La."
"Angay." At the same time, "The Technical Graduate Center
for Training and Research" in "Havana, La." was
restructured as the main center of the country, with a com-
munity and graduate training activities being looked up by
the IICA in the American University of "La Habana, La." For.
The similar activities of the Institute have been restructured
under six "lines of work," which originated some of "The di-
rect programs," some of them consisting of a different
number of "Work Units." The academic program has been
reinforced by substantial increases in the available number
of faculty members. New physical facilities, equipment and
supplies have been increased as a result of the enlargements
in the spaces contributed by the member countries, (apart
from a grant of more than five million dollars coming from
the United Nations Special Fund). In addition, many other
funds are being raised through agreements established with
other international agencies such as the Agency for Inter-
national Development and the Atomic Energy Commission of the
U.S.A. Technical cooperation programs of the Organization
of American States (OAS) with some different programs in
"Technical Education for the Development of Agriculture and

Rural Life," "Agricultural Credit," and "Land Reform," American Cocoa Research Institute, Colombian Institute for Land Reform, Kellogg and Rockefeller Foundations, and many others.¹

Under these circumstances it was hoped that some of the results of this study would be used to improve programming in the organization of the graduate school to better achieve its purposes and administration.

Limitations of the Study

The subjects in this study included 128 out of 157 graduates. They represented over 50 percent of each of the four main disciplines of work at the graduate school. A limitation results from the possibility that those graduates who tended to think of their training as weak or unsatisfactory, might have been less inclined to respond. The study provides no hundred percent check on this possibility because it was not possible to establish personal contact with all of the non-respondants due to a shortage in time and availability of money for this purpose.

It was assumed that some of those who received degrees were less than completely satisfied with the program and that they would state their honest opinions if they were to reply anonymously; it was felt that honest opinions would be more nearly assured.

First, it was observed that the maximum peak value in the probability distribution (which is a function of the number of trials in the population) was not the same for all distributions. For example, for the binomial distribution, which is a discrete distribution, the maximum value is a function of the number of trials, while for the normal distribution, which is a continuous distribution, the maximum value is a function of the standard deviation.

It was also noted that the required information was being supplied in a timely manner and that the information regarding the investigation was being disseminated in a timely manner.

1. *Journal of the American Medical Association*, 1997; 277: 1033-1036.

The writer is indebted to graduates and those who have been graduate students of the Inter-American Institute of Agriculture and Forestry for the acquisition of American literature. He has examined and translated the "Magazine of Agriculture" and "Magazine of Silviculture" a group which are published by the American Center of Studies in Turin, Italy. "Turinized" is a common idiom used by Americans.

Departmental Study

Under the departmental study, were the main divisions which had been providing formal graduate training in the different fields of agriculture, forestry, animal husbandry, and home and social sciences. As a result, the departments were:

- Department of Plant Industry and Cattle;
- Department of Forestry and Social Forestry;
- Department of Natural Resources; and
- Department of Animal Industry.

Departmental Study

Under the departmental study, the graduates were trained by the departmental study, which culminated in a formal diploma and a certificate of completion in the various departments of work, and, in some cases, a diploma of completion of professional studies and a certificate of completion of the departmental study.

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curriculum for the purpose of fulfilling the gaps in students' undergraduate training.

Graduate Courses

Under this definition were grouped all the other courses included in the graduate school curriculum.

Other Terms Used in this Study

Other words will be used in this study to refer to different aspects dealing with graduates' undergraduate training or their zones or regions of origin. Some of these words will be:

Faculty or school of agriculture

Words referring to a Latin American University where the graduate received his undergraduate courses.

"Ingeniero Agronomo"

Spanish words which do not have the same meaning in English. An "Ingeniero Agronomo" is made up of five or six years of elementary education, five or six of high school and four or five years of university training, plus some minor requirements as written and/or oral examinations, laboratory or field special assignments, and/or, especially, the presentation of some monograph, in familiar usage called "tesis de grado" (degree thesis).

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Zones or regions

The Inter-American Institute of Agricultural Sciences has classified the countries pertaining to IICA in three main zones or regions:

1. Northern Zone or Region is made up of the United States, Puerto Rico, Mexico, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Panama, Dominican Republic, Cuba (temporarily outside the IICA system), and Haiti.
2. Andean Zone includes: Bolivia, Colombia, Ecuador, Peru and Venezuela; and
3. Southern Zone or Region includes: Argentina, Brazil, Chile, Paraguay and Uruguay.

Organization of the Report

The remainder of this report involves seven chapters. Chapter II is devoted to a review of literature dealing with follow-up studies; Chapter III contains a brief historical study of the Inter-American Institute of Agricultural Sciences as a specialized organization of the IICA; Chapter IV attempts to describe Turrialba as the Tropical Center for Graduate Teaching and Research established by IICA. Chapter V contains the research materials and methods; Chapter VI has the presentation and discussion of findings of the investigation; and Chapter VII deals with the summary, conclusions and recommendations.

¹W. H. A. "The Instrument of Power," *Foreign Affairs*,
Monthly Review, 1957, Nov. 7, p. 126; *ibid.*, 1958, pp. 18-9.

1. George G. Brown, The Constitution, New York, Harper and Brothers, Inc., 1901, p. 647.

CHAPTER II

REVIEW OF LITERATURE DEALING WITH FOLLOW-UP STUDIES

Introduction

The follow-up study is one useful method for securing the opinions of graduates regarding their higher education. It provides an opportunity for former students to respond to specific questions and statements concerning their former training institution. On the other hand, data secured through these studies may be used: (1) to provide data that will be used to evaluate the training program in terms of preparation for adult life, as the world of work in general; (2) to evaluate programs designed to aid graduates in adjustment to adult life after they leave the educational institution, such as the university or the graduate center, as in the present case; and (3) to construct a profile that can be studied as typical of college graduates in general, by dealing with some aspects of their training and the possible degree of relationship with their world of work, such as job satisfaction, job expectations, and more acute problems.

Follow-up Studies in Higher Education in Agriculture in Latin America

Formal education in agriculture at the undergraduate level has been studied at least by two thorough studies:

was provided by my former student in 1965 as a part of a cooperative program between IICA and FAO, Institute of Latin American Studies; the second study deals particularly with agricultural education in Columbia. It was completed in 1967 by a special commission headed by Michigan State University played a major role in its development.

Under the auspices of the "Alliance for Progress" the Inter-American Committee for Agriculture (IICA) is working actively in a number of the Latin American countries in the collection of extensive information related to education, extension and extension in agriculture.

In the preliminary field of education in agriculture at the undergraduate and graduate levels, taking into account the student's plan as an extensive basis of evaluation of the quality of work relating to the review of literature, literature, a study was made.

In order to have a more complete study of the subject of education and the extension in Columbia, it was a detailed analysis to include the following summary:

Subject 1. Field information about the factors affecting agricultural education in agriculture in Latin America. The first part of the summary of that information in the following order: 1) historical development of higher education in agriculture at the undergraduate level; 2) growth of agronomy faculties in that part of the world; 3) subjects of study in curriculum; 4) specialization in higher education in agriculture in the Latin America; 5) teaching methods



and g) (c) family number; (f) residence; and f) some general information.

As of mid. 1964, the total population of the colony was 250-300. The colony was located in a rural area: 10 km from the town of San Juan de los Rios, Mexico, and the distance to the nearest town was 10 km. The colony was established in 1961. The colony was "founded" by a group of agriculturalists, many known as "hacienda" in Mexico. The colony was founded by a group of agriculturalists who were found after 1961.

He discovered that the colony was small and the population was small in number. Twenty-five families were growing at a rate of 27 percent of their capacity.

Twenty-seven years of the population, education, and agricultural production were indicated that the colony could be growing at the rate of 27 percent together with plenty of agricultural production. In the average, the colony was growing at the rate of 27 percent (17 percent), agricultural engineering (17.5 percent), animal husbandry (11.1 percent), and applied and elementary (10.5 percent), and the rate of growth (10 percent), elementary (1.5 percent), and other subjects not considered (1.1 percent).

From the limited data available, dealing with the colony, the colony was located in a rural area and Mexico. The colony was founded by a group of "agriculturalists" in Mexico. In 1961, the colony was working in agricultural production and animal husbandry; education and elementary

element was the time of the morning, and other elements were being taken into consideration at different intervals.

This study was carried out frequently with children from low and different schooling methods and in this sense information was obtained about students' needs. For these reasons and students claimed that their difficulties were related to the lack of knowledge in this subject was that literary significance and linguistic significance, therefore, could not have any direct-class influence, curriculum, and journals.

In addition with the same activities, in the same way, the results of the professors always used student participation in various projects as a method of teaching. In the conclusion, as a result of the interviewed students indicated performance of this method.

Another problem mentioned was the lack of national performance properly trained to become qualified teachers. In fact, the teacher reported a significant shortage of professors in almost all secondary and post-secondary, agricultural, commercial, medical, dental, agricultural, extension education, plant science, soil science, technology and biology, horticulture, and others.

For these reasons, it is positive and negative that are related to teaching as a stable career. In the negative side they pointed out: low salaries, political aspects, and partial remuneration because of part-time services. Among the positive factors were: opportunity for personal progress in the society, possibility of continuing education and teaching, and social and professional prestige.

In addition to the non-university students, the number of university students were interviewed eight. Only 18.6 percent of the students interviewed were female students. Forty-five percent of the students were enrolled in a school of commerce, business, scientific or civil engineering.

Regarding rural population, Simpson found that facilities were available at varying numbers of departments. Kariwira, in Kenya, reported a minimum of three, while Johnston, in Mexico, mentioned a maximum of twelve. The most common departments concerned to be: agriculture, animal husbandry, and agricultural engineering. All of the agricultural facilities required a prerequisite for entrance the presentation of a secondary school certificate. Very few schools were accepting students from universities or of agriculture at the secondary school level. Most of the facilities had introduced an entrance examination to a number of selecting students.

The Fulbright study of higher education in agriculture was headed by under the auspices of the W. K. Kellogg Foundation and it was supervised by Dr. Sumner A. Lee, Dean A. Miller, then Vice President of Michigan State University. Among the main problems found were:

1. A lack of integration between the different levels of education; this problem was especially acute in the rural areas.
2. The vocational-educational system in agriculture

identification and efficient, especially in the aspects dealing with scientific method and technical methods.

- g. There was a lack of training and technical facilities, as well as lack of equipment and supplies in most of the universities and technical institutions, with many machines, and laboratory apparatus.
- h. In many instances the equipment at the end of the training period was not a replacement and the equipment at that time was mainly of the obsolete type.
- i. There was a high percentage of drop-outs in the first year of university training.
- j. Because of the uniform status recognized for all the professors at the university level, a lack of motivation was found in that personnel toward the graduate studies.
- k. The Commission reported a high degree of isolation of the Republic and its officials in relation to the official and private institutions dealing with agriculture and rural life, as well as with all the graduates from the non-educational institutions.
- l. The identical pattern was discovered in relation to the research activities which were carried out under the direct responsibility of the Ministry of Agriculture, Department of Agricultural Agencies and some semi-official institutions.

4. In addition, the Ministry of Agriculture is conducting agricultural research in semi-official institutions, but no institution is working with similar international institutions, nor is closely connected with the research activity.

5. In fact, the number of semi-official persons in the different fields of agriculture is not available, but it is estimated that about 100 will participate in the project at that time to work in the field.

Apartment for research is divided in this work, there were a number of law-up study similar to this one, carried out by the Government, based in any of the facilities belonging to the Government, but the work was not done in a systematic way, as it is not an official institution.

Law-up studies in Higher Education in the United States

Under the law-up study, a review of the indication in the project of law-up studies was conducted in summer. The first studies of this type have been conducted at the national level. This will include the following by Forest Service, sampled every year, the project of law-up. When the project is completed, the Ministry of Agriculture will be able to study the progress in that state, and of course, of this new statute. It is actively conducting the law-up studies will be the same in the future.

The following activities and problems included in this study. It was determined that the modern general program is designed to meet the two major interests of student life--the academic, which has to do with the subject areas, and the non-academic, which includes all types of activities outside of the classroom and the classroom. The latter--the library, for example. These non-academic activities, while not in the classroom, are extra-class activities, and are not to be confused with the social development of students. The school is involved in providing facilities for all these programs and to employ trained personnel for their administration and the evaluation of their value. In this study of the activities in the United States, a few sources that support activities are appropriate outlets for individual development as well as development for groups and the whole campus. In this study, they have a beneficial effect on the student and the institution.

There are a few other sources which are experienced with extra-class activities and a positive relation to success after college. Interest in this matter prompts a need for a study to determine (by a follow-up survey) the relation of other experiences in extra-curricular activities and success as measured by position and by income. Experiences in extra-curricular activities were found to be a better means of predicting income than grade-point average. The study also supports the idea of investment. When the student is more involved in the subject categories, there

found that alumni of the School of Agriculture of M.S.C. were employed in over 500 different kinds of positions. A large majority of the alumni were happy in their present type of employment and were not interested in a change. The alumni indicated that there was agricultural employment for people with a great range of personal abilities and interests, but the ability rated highest by the largest number was that of being able to get along with people. The alumni recommended that the School of Agriculture make a special effort to counsel students individually. Nearly all graduates said their college training had been of definite help to them in getting their first job and a start on their career. The majority felt that students should take courses in several other departments as well as courses in their field of specialization, or that they should get as broad an undergraduate training in agriculture as possible. Twenty-three percent of the alumni reported that they had continued their academic training beyond the Bachelor's degree.

In the United States, industry's interest in higher education programs goes further than financial support. J. Whitney Bunting² reported a follow-up study of college graduates who were employed by General Electric. The study revealed that certain subject areas were particularly valuable to these graduates who were then employed by that organization. The engineering graduates in this follow-up study ranked English no lower than second place in importance in a listing of five subjects taken as undergraduates. The non-engineering graduates gave English first place.

A follow-up study conducted by G. H. Kessler and J. L. Kayman (1967) indicated that the high-school graduates who had participated in the program were more satisfied with their lives and more active in civic and social activities. The study also found that the graduates who had participated in the program were more satisfied with their lives and more active in civic and social activities. The study also found that the graduates who had participated in the program were more satisfied with their lives and more active in civic and social activities. The study also found that the graduates who had participated in the program were more satisfied with their lives and more active in civic and social activities.

Kessler and Kayman (1967) also conducted a follow-up study of a group of graduates from the Kansas high school who had participated in the program. They found that some subjects seemed to reflect a significant change in their attitudes toward participation in civic and social activities. Also, these respondents expressed a need for the thinking that the graduates' guidance programs should be improved.

Reviewing the impact of college upon adult life, G. H. Kessler (1967) selected four areas of living: personal life, work and family life, earning a living, and participation in civic activities. The major concern of the respondents was security and comfort for themselves and their families. The data obtained also indicate that apparently the amount of education really made any difference, because the respondents who did not receive degrees had the same attitudes as those expressed by the graduates. In dealing with family life, the majority of the respondents expressed dissatisfaction with the amount of family income. In this study, some respondents had collected variations and had followed them through analysis, but fifty percent of these young adults

were engaged in occupations other than those selected while they were attending college. The author found evidence that these former students did not know what they wanted while they were in college or that they arrived at their decisions accidentally and haphazardly.

A follow-up study of the Agricultural Economics Department of Michigan State University conducted by Warren H. Vincent¹² summarized results obtained from a mail questionnaire sent in the fall of 1964 to persons holding at least one degree from the Agricultural Economics Department at that university. Out of 550 questionnaires mailed, 331 respondents indicated that nearly 70 percent of the self-employed alumni with Bachelor's Degrees were in farming. Their annual earnings appear to be less than any other employed group in the sample. The author emphasized the difficulty of reporting accurate farm earnings (which are variable from year to year) due to inventory appreciation and depreciation which may not be reported in a survey such as the mentioned study. When the group considered on the basis of highest degree obtained by each subject, the group was composed of 45 percent with B.S. degrees, 22 percent with M.S. degrees, 30 percent with Ph.D. degrees, and three percent with degrees other than the above mentioned. On the average, there was about a \$1000 annual earnings differential between those with a Ph.D. and those with M.S. degrees. The difference between an M.S. and B.S. was about \$700 per year. Regarding employment status, there were 18 who were students or alumni in a retired or emeritus status.

In looking for information about industries in which the respondents are employed, it was found that there were 11 major industries and a total of 13 sub-classifications within these major groups. Nearly 67 percent were employed in some aspect of education. Other industries, classified according to the numbers of employed persons were: U.S. Government; finance; insurance and real estate; agricultural production; public services; wholesale and retail trade; transportation and public utilities; state and local government; contract construction, and military service. This study found that incomes were larger with longer periods of service. Considering those employed during the last five years, Ph.D.'s were earning over \$4000 a year more than those with the M.S. degree. However, the difference between M.S. and B.S. was only about \$1100.

The follow-up studies just reviewed provide some evidence of their value in determining the effectiveness of college education. When considering certain areas which may need some improvement, a study carried out by Mary C. Lyle¹³ at the Journal of Home Economics in Iowa State College is of interest. It indicated some very specific recommendations from a group of graduates representing the 1937-1941 classes. Seventy percent of these graduates were working in areas in which they had received special training. Nevertheless, these students also had some specific recommendations regarding subjects to be offered in the future. Ninety percent of them recommended that some economics courses be made a requirement

for all students; 4 percent recommended that all students take a course in home planning, and 8 percent said that social science, physical science, and biology were satisfactorily placed in the course offering.

Reviewing the work of extended college courses affect the values of students. F. L. Spence¹⁰ found from a group of graduating seniors who had taken courses with him at the University of Louisville, Kentucky, that 61 percent of them had not changed their opinion regarding illiteracy and participation in politics. Ten percent of them became more conservative. In regard to attitudes toward democracy, international relations, and race, 47 percent, 51 percent, and 58 percent, respectively, showed favorable changes in attitudes and opinions.

Extended services to graduates seems to be an unknown area in Latin American education, including the Caribbean Graduate School. On the contrary many colleges in America offer programs devoted to the service of their graduates and former students. Having these goals in mind, these services are designed to prepare students for service and to help them toward a more adequate adjustment to their positions. In this connection F. L. Cole¹¹ sampled the opinions of a group of teacher education graduates from Grambling College in Louisiana. Some specific proposals regarding the institution's services to its graduates were made by the respondents who expressed that all follow-up assistance should be provided through workshops and confer-

ences. The 100 respondents included in the research all agreed that graduates should not be invited back to the campus for remedial work. Student opinion about the merit of their college education in relationship to the degree of help received for the future development in their occupations seems to be of value for the adjustment of curriculum and other areas in the educative institution life. In this respect, Ernest Havemann¹⁶, in 1952, gave information about a follow-up study of 9,064 college graduates of a cross section of higher educational institutions located in all areas of the United States. As a result, a profile of the American college graduate was created. The majority of the students gave credit to their college education as supplying substantial help in their occupations. Although men were more satisfied with their training than women, two-thirds of all women subjects did recognize that college was helpful to them. The satisfaction level was so high that 98 percent said they would attend college again, 84 percent expressed that they would attend the same college, and 14 percent said they would attend college, but that they would choose a different institution.

The average graduate judged the value of his education by the salary he was earning. Students who specialized in certain areas were more pleased with their selections than those who did not specialize. In any case, all of them felt it was advisable to enroll in college. The graduate who had earned a portion of his expenses through self-help consistently received salaries lower than those earned by the

statement will be expected to be held by others. Also, it was found that the graduates earned in college had no relationship to success after graduation.

With the purpose to guide the college in evaluating certain aspects of its program, Ronald K. Sawyer⁴⁷ did a follow-up study of 100 graduates of Stillman College at Tusculum, Alabama. He found that a small proportion experienced difficulty with their courses; a majority found the library service satisfactory, but almost half of them said the material in the library and access to it were inadequate. Fifty-five percent and 67 percent of men and women, respectively, said the program was satisfactory. The major problems faced were of a academic and financial nature, and instructors were sought most often to help with the students. A large majority of the respondents liked their jobs and 42.7 percent planned to keep them. As a group, the graduates were satisfied with their college experiences; however, 44 to 58 percent wished that more help had been given in economic, civic and inter-personal areas of life. The greatest concern was economic and personal security.

In summary, the findings of these various follow-up studies in American education, although they cannot be directly related to the findings of the present research (because of the racial differences) will be of great value in providing some insights into the strengths and weaknesses of higher education at the Tusculum Graduate Center. In

any case this review of literature was of great value in convincing the author, once again, that caution must be exercised in generalizing from the findings in a single institution. This would be more dangerous if it is remembered that for most of its life Turrialba has been an isolated Latin American center for graduate training.

Other Follow-up Studies

It was considered pertinent to include very brief information related to other studies dealing with the situation of higher education in Central American countries carried out by the IIME staff in Guatemala, thanks to a special agreement signed between Michigan State University at East Lansing and the "Universidad de San Carlos" in Guatemala. In August, 1963, Burton Friedman¹⁸ reported a complete data gathering of the universities of Costa Rica, Honduras, San Carlos in Guatemala and two university-level normal schools. In all cases the author reported some gaps in the data, where information was either impossible or extremely difficult to obtain. He found the technique of administering questionnaires extremely slow in returns, which he thought can be taken as an indication that very few questionnaires will be returned at all. This fact was particularly true in the case of forms sent to professors, graduates, administrative officers, and especially selected "observers" of the educational scene.

It was found that personal gathering of data by members of the IIME was much more efficient than it was when done by

other means. Some of the data collected concerned: analysis of programs of study, course offerings, enrollments in and completions of courses, instructional costs, and classroom time.

It was mentioned as already advantageous in these areas to achieve standardization, uniformity and comparability among these institutions of the region as they seek to improve efforts toward integration under OSCEA leadership.

In a follow-up study of the Divisia Panama Graduates, William H. Wood, 1961, said that of the five Central American countries of primary schools of agriculture--at the vocational level--similar to that of the Divisia school. He found there was little published information concerning these schools.

In the same year, Harold Hyman states that the first thorough study of needs for vocational education has yet to be made in any of the Central American countries (and the same is true for some of the other Latin countries). These countries reported no such studies, nor studies in the planning stage at the time he made his inventory of vocational education in 1961.

One year later, in 1962, under the auspices of IIMF, Arnold Becker and Victor M. Arana¹ published a report on agricultural education at the high school level in each one of the Central American countries. This report took, in addition to literature collected, personal interviews with administrators, professors, and students of these educational institutions as basis for analysis. The data

published included six vocational schools: one in Costa Rica, one in El Salvador, two in Guatemala, one in Honduras, and one in Nicaragua.

Because the purpose of this work is not a study of vocational education, the information included above is considered sufficient.

In the following chapter is presented a summary of the historical development of the Inter American Institute of Agricultural Sciences of the IAD and its major advancements in dealing with its educational activities.

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1. The research initiated a period, from 1947 to 1948;
2. The enrollment of the educational personnel from 1948 to 1949;
3. The original educational services to the country members from 1949 to 1953; and,
4. The policy of decentralized activities, from 1953 to the present.

THE INTER-AMERICAN AGRICULTURAL BOARD (1948-1949)

A summary of pertinent local information about this period would be as follows:

In June 8, 1948, the Governing Board of the Pan American Union set up the Inter-American Committee on Tropical Agriculture, better known as the "Agriculture Committee" to consider the establishment of the Institute.

From September 1948 to March, 1949, a technical committee from the U.S. Department of Agriculture appointed by the Agriculture Committee visited eleven countries in Latin America to examine sites, offered the field headquarters.

In April 19, 1949, Carrizalva, Costa Rica was recommended by the Technical Committee of the United States Department of Agriculture as a site for the Institute. On June 18, 1949, the Governing Board of the Pan American Union formally approved the recommendations of the Inter-American Committee on Agriculture, and the Institute was inaugurated under their auspices. In December 19, 1949, the Congress of Costa Rica approved and ratified a contract between the Institute and their Government, for the Institute's operation in that country. The contract gave the Institute 2,100 acres of agricultural land valued at U.S. \$2.5 million.

On March 19, 1933, President Rafael A. Calderon Guardia of Costa Rica and late Vice President Henry A. Wallace of the United States dedicated the Institute in a ceremony at Turrialba, Costa Rica.

In 1933 the Charter of the Inter-American Institute of Agricultural Sciences was signed by only twelve countries. The term of existence of the Institute was to be perpetual but its existence could be modified by the members of the Institute.

With the official opening of the IIFA at Turrialba, the research work started during 1933. In 1934, four divisions of research work were set up:

1. Division of Economic and Rural Life;
2. Division of Plant Industry and Soils;
3. Division of Agricultural Engineering; and,
4. Division of Animal Industry.

Until the end of this period, three types of work were carried out in the Division of Plant Industry and Soils as follows:

1. Strategic or Industrial Crops;
2. Food crops; and,
3. Landscaping of buildings and grounds.

The Division of Animal Industry worked in three major problem areas:

1. The elimination and control of diseases, parasites, and other pests;
2. The improvement of nutrition; and,
3. The establishment of new strains or breeds.

The Agricultural Engineering Division was organized late in this period and the Division of Home Missions and Rural Sociology was still in the formative process. The educational program was being completed in order to receive the first graduates, who were selected from six of the member countries. The second period started with the arrival of these students in January, 1941.

The IICA Establishment of the Educational Program

The program which started during 1941 was implemented with a graduate educational program in agriculture. The program was officially inaugurated the 8th of January, 1941, with the participation of eight graduate students from Bolivia, Colombia, Costa Rica, Guatemala, Mexico, and the Dominican Republic.

From the very start the business and objectives of the IICA graduate school were those of encouraging and advancing education and agricultural sciences in the American Republics. These objectives were to be carried out through teaching, research, experimentation, extension activities, general education, and training in agriculture and other related arts and sciences.

The educational program which characterized this second period can be summarized as follows:

Educational purposes of the IICA graduate school

In order to fulfill the IICA general objective, facilities

for advanced study and research were offered to adequately trained students. These facilities and the two-fold process of providing them to the students with a comprehensive view of a field of knowledge and training him for independent investigation in that field. A high grade of scholarly work was expected from every student. Every candidate was also expected to develop ability to meet new problems, at least in his own field, and to solve them by his own ingenuity. In addition, it was hoped that the student would acquire a feeling of responsibility to be added to the sum total of human knowledge and that he would develop qualities of broad reciprocation, particularly in his special field of study.

Requirements for the Fellowship

Fellowships from the IIFA were awarded to those who had already shown outstanding ability in research and who were expected to return to their own countries to continue their work in agriculture.

In addition, some of the more important requirements were:

1. To have the required high professional and intellectual qualifications.
2. To be well grounded in basic sciences such as chemistry, physics, botany, and zoology.
3. To be prepared to give his entire time to the pursuits for which the fellowship was awarded, as well as to expend not less than one year and not

- more than three years in residence at the Institute.
4. To present a thesis summarizing the results of the research problem assigned to him.
 5. To remain during the course of his studies, conversant in two of the four official languages of the Far American Union: Spanish, English, Portuguese, and French.

Curriculum

No formal curriculum was offered during these early years of the graduate school, inasmuch as the student's time was devoted largely to a research problem and participation in seminars in each of the divisions of work. Instead, each participant was expected to devote considerable time to library work.

Degree

After satisfactory completion of his work, the student was awarded the degree of "Master of Science" (later changed to "Magister Agriculturae" and in 1961 again modified to "Magister Scientiae"). In order to obtain this degree, the student was required to be in residence for one year. However, approved candidates were allowed to complete part of their work elsewhere, subject to the approval of the faculty and director.

As pointed out earlier, each student was required to

present a thesis, prepared according to the Institute's regulations.³

Guest Lectures

It was recognized that tropical and sub-tropical Latin America had lacked an outstanding gathering place for scientists interested in tropical agriculture. This fact alone was responsible for much of the retardation in that part of the World, as compared to progress in the Far East, where notable strides had been made in the production and development of rubber, quinine, abaca, and other strategic products.

The Institute graduate school with its new facilities for living and working in a tropical setting was trying to attract as many as possible of the foremost agricultural scientists from the hemisphere. In addition, it was planned to occasionally invite outstanding scientists to visit the graduate school, give series of lectures, and act as consultants on research problems.

Fellowships and number of students

For the official opening of its academic program in 1926, the Institute offered 21 fellowships in education, agriculture to male students holding the equivalent of the B.S. degree in agriculture--one fellowship for each American republic. Applications for fellowships were forwarded through the foreign office of the applicant's country.⁴ Most of the

theolog was an individual crisis, with only a very limited number of persons who were affected. Even these circumstances, and even many of the students were doing research at the Institute for a year or more and in the further academic work in other institutions. The Institute was able to grant the degree to very few of its more useful candidates. In fact, only one person received a doctorate, five persons had, seven persons had, and six persons had.³

At the end of the year in 1941 the staff consisted of 10 national members. In the summer with the support of the IIA Director. However, since there were no study leave, there was no increase of only one new member over the summer working at the Institute graduate school during 1941.⁴

Summer 1941: The Institute's Work

1. Starting in 1941, the Director formed an Executive Committee composed of the heads of the three research and training departments and of other technical personnel. This new group assumed a solid role in determining internal policy of the organization and a great deal of responsibility in the execution of the Institute's program.

2. There was a meeting of the Administrative Committee of the Institute, constituted with the responsibility for the general plan, the development of the organization and the integration of its program of research and education. During this meeting the activities of the IIA were reviewed and plans were made for future programs.

4. Also an excellent percentage of the staff members was from the United States of America. A significant number of Latin Americans started working for the Institute. They were from Chile, Colombia, Costa Rica, Mexico, and Haiti.

5. Because plant science was considered basic to all agriculture, the Plant Industry Department officially received a leading place in the Institute's service to the American States. The coffee program received increased importance and it was carried out in three major fields of study and experimentation: physiology, agronomic trials and breeding, pathology, and entomology. Co-operative projects were initiated with Colombia, Guatemala, and one was being negotiated with Brazil. The work on improvement projects were approaching the third and fourth generations.

6. The Inter-American Cacao Center, organized during 1942, started conducting research, training, and the interchange of information on cacao production.

7. The Animal Industry Department was responsible for similar facts leading to the solution of livestock, dairy, swine and poultry problems. The central program was that of livestock improvement in tropical areas with preference given to projects in climatology, "breeds," control and nutrition. Work on animal climatology was increased with a grant of U.S. \$25,000 provided by the King Fund.

8. Through research, teaching and extension, the Department of Agricultural Economics and Rural Life was promoting a better understanding of the part played by man in

agricultural production, of the flow of this production through the channels of trade and ultimate consumption, and of the increasing productivity per man. The stress throughout the entire research projects was on the development of methodology, in order to facilitate similar studies elsewhere in the Latin countries. The Vocational Education and Extension Service made available its services to the 22,000 rural people in the Turrialba area and research was conducted to further improve methodology.

8. The library received a grant of U.S. \$60,000 to strengthen its resources and to make it possible to develop a Scientific Communications program. Ing. Armando Samper (the actual Director General of the IICA) on July 1, 1949, was made head of the new service called: Scientific Communications Service (SIC). By the end of this period this Service was extended to all American countries, giving rise to the distinctive characteristic of the third period, as will be seen later.

9. But the most outstanding fact during this second period was the establishment of the Renewable Resources Service, later transformed into a Department of Graduate Study, for the training and consultation work in the development, use, and conservation of renewable resources in the Americas.⁷

The IICA Regional Educational Services to the Country Members (1951 to 1969)

The previous periods can be considered as being dedicated

to the preparation of a program of research and education, although most of the second one was devoted to the development of such a program. The formative years had formed in the institution a pattern of fundamental research and advanced education, and the inception of a program of international leadership in services to the American member countries (which seems to be the main characteristic for this period under consideration).

The Establishment of Inter-American Communication Service

As was pointed out before, the establishment of SIC⁸ can be considered as an ideal example of this period. IICA officials and other U.S. organizations, including the Rockefeller Foundation and the U.S. Department of Agriculture, were aware of the lack of information and the high degree of isolation between Latin American agricultural scientists, these being negative factors determining the backwardness of agriculture. So, the IICA began to operate this information service based on the recommendations of a working team and with a grant from the Rockefeller Foundation. The rapid growth of SIC during 1950 and 1951 had the additional merit of projecting the Institute's image, directly, into the IICA member countries by means of the Turrialba Journal whose quarterly regular delivery began in July, 1950.⁹

Later in this period of analysis, in 1950, under an IICA/ICA agreement SIC began publishing "Extension en las Americas,"¹⁰ a journal dedicated to communicating (to the

y and extension services (conducted in Latin American countries) recent developments in Europe and U.S.A. extension movements.

Many other activities were planned and carried out by SIC since its establishment. There was an extension service, extension and visual aids publication, a postal reply service, a directory of agricultural experiment stations, and an extension campaign plan, a program of publishing agricultural booklets and manuals (under a Kellogg Foundation grant). There was also developed in-service and on-the-job training of agricultural administrators, a first meeting of Latin American agricultural librarians, and an ADESA training program was carried out, using as basic materials those produced in the U.S.A. by the National Project in Agricultural Administrations for the "Train the Trainers" program.¹¹

Besides these activities the SIC staff took under its responsibility the technical writing and information courses being offered by the graduate school for the benefit of its graduate students.

Technical Cooperation Program of the IAS: Project 30

Another outstanding landmark for this period, which also characterized the "services age" of IICA corresponded to the establishment of a project better known as "Project 30" of the Technical Cooperation Program of the Organization of American States.¹² Because of the experiences gained by IICA in the former years, in 1963 the Institute received the re-

responsibility of administering this Project with funds granted by the Inter-American Technical and Social Council, out of its special fund for technical assistance.¹

From its establishment during 1950 and 1951, Project 32 was serving (and is still partially doing so) all member countries of the Organization of American States. It was administered in three Zones as follows:

North Zone, with headquarters, first in Havana, Cuba, and later in San Jose, Costa Rica, and more recently in Guatemala, Guatemala. This zone includes: Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, and the United States of America.

Andean Zone, with headquarters at Lima, Peru, includes: Bolivia, Colombia, Ecuador, Peru, and Venezuela.

Southern Zone, with headquarters in Montevideo, Uruguay, includes: Argentina, Brazil, Chile, Paraguay, and Uruguay.

The central administration of Project 32 was first located at Turbiana, and later transferred to San Jose, Costa Rica. In summary, Project 32, apart from projecting ITSA's image directly into the American countries, also contributed to reinforce the structure of the IICA graduate school, because some of its staff members were used as professors in certain courses for the benefit of the different departments of study. Besides, this Project had the capacity to employ some of its funds to establish a scholarship program for advanced studies in agricultural fields, which was partially

utilized the graduate students from the three areas receiving training at Trinidad. Training was the essential function of Project 30 and it was carried out by international, national and regional courses. To have an idea about the volume of this educational program it is enough to mention the public students who were asked to attend some kind of short course dealing with in-service or on-the-job training within the respective field of work, to attend technical meetings and seminars, to go through an advanced course elsewhere in the U.S.A., Europe or Trinidad.¹⁵

International Technical Administrative Services

Another significant landmark was started during this period. Under a contract signed in 1969 between IITA and the International Organization Administration (IOA) of the United States, the Institute initiated a new program which included services to the Latin American countries and to other countries in the world.

In February 1, 1969, the Institute undertook this new type of service for the member countries.

At the end of this third historical period, until March, 1970, the regional services supplied to the Latin American countries a total of 12 short courses and workshops, most of them in Trinidad. A total of 122 participants had received training in these activities. Consultation services, mainly through career specialists, made a total of 11 country visits (upon request) in order to advise in techni-

and medicine. As was mentioned earlier, the journal "Nutrition in Latin America" was inaugurated under the auspices of this program, and the same happened with a coffee technical newsletter: "Inf." as it said with other series like, "Artisan and Coffee Technology Materials," "Medical Aspects of Extension Agents," and "Man's Work in Agriculture."¹⁴ A number of manuals were also produced under the funds supplied by this contract, but the most important contributions were in the strengthening of the graduate school at Turbato with a total of 18 technicians and 16 secretaries who were being paid from contract funds, besides a variable number of scholarships which were supplied to Latin American technicians in order to be trained at the graduate school at Turbato.¹⁵

Nuclear Energy Program (NEP)

At the end of this period in 1967, a new contract was signed between the IICA and the Atomic Energy Commission. With the help of U.S. funds resulting from this contract, the Institute established a "Nuclear Energy Program" as one of the various units of the Department of Plant Industry and Crops. The Nuclear Energy Program at the IICA was established to train Latin American students in the application of nuclear energy to agricultural problems, particularly in plant radiation and the use of radi isotopes.

Developments During This Period

Some of the most important activities for this period were:

1. In cooperation with FAO, a survey was completed of higher education in agriculture in the Latin countries. This study was followed by the First Inter-American Conference on Agricultural Education.

2. With a grant from the Rockefeller Foundation a study was made to determine the feasibility of utilizing national institutions and programs as centers for specialized training and the promotion of regional research cooperation. Some of the experiences gained in this study have been taken as a basis and principles to guide the development of new agreements dealing with graduate training (as will be reviewed in the following period).

3. The principle of complementing national institutions, under a program of decentralization of IICA activities, and the other one of aiding these national institutions to supply international services were being considered as policies of great importance for the near future.

4. The first experiment in these matters of international and national cooperation, based on the new concept of "Nucleos Naturales de Trabajo" (Natural working groups), was being established at the end of this period in Mexico. That was the Center for Research and Training on Agricultural Credit under the IICA management, but with cooperative efforts among CAS, CEMLA, the Agricultural Banks in Latin America,

ICA, FAO, and the corresponding agencies in the host country.

5. At the end of this period, discussions were conducted in order to propose a revision of the IICA Convention. These steps later matured and as a result, the IICA authorities proposed an amendment to that instrument.

6. One significant symptom was the budgetary growth from a total of U.S. \$156,950 available for the IICA operation in 1944-45¹⁶ to an estimated income of U.S. \$412,618 during fiscal year 1948-49,¹⁷ to a total of U.S. \$414,593 for 1952.¹⁸ For 1954, the total income of the IICA amounted to U.S. \$1,133,652, 28 percent of which was derived mainly from quotas of the 15 contracting states. The remainder came from commercial operations, donations, and contracts, the largest of which was with the Technical Cooperation Program of the CAS. In 1957-58, the total was U.S. \$1,470,481, of which 23 percent came from the general fund and the rest from outside support.¹⁹

In the field of educational activities more than 450 students, including graduates and other types of trainees, were received by the Turrialba graduate school during the period under consideration. The "Magister Agriculturae" degree was conferred as follows: three graduates in 1951; four in 1952; seven during 1953; 17 in 1954; nine in 1955; nine in 1956; and five in 1957. That represents an average of 7.7 "Magisters" per annum.²⁰

The IICA Policy of Internationalized Activities (1947....)

The expansion program

This period has been one of the most significant in the progress gained by the Institution. In the author's personal opinion it started around 1945 with an extension which was recommended in 1947⁴¹ by the Committee of Presidential Representatives, and later confirmed by the Economic Conference

in Buenos Aires. This period brought about the final document for the proposed extension, which was submitted to the IICA Board of Directors in November 1948. A significant development during this stage was a recommendation from the Presidential Committee for the initiation of a building program which was accomplished in part through a contribution of U.S. \$400,000. Another activity which characterized the beginning of this stage was a revision in the IICA research program which was completed in September 1948 with the preliminary publication of the "Working Paper on Internationalization" (Catalog of Research Projects), which included the research activities of the Institute as well as some of the IICA teaching activities.⁴²

In addition, during this period negotiation with the Special Fund of United Nations was successfully ended, which brought to the Institution a grant of some U.S. \$4,000,000 which must be distributed in a period of five years.⁴³

However, the most remarkable characteristic for the Institute was the appointment of a new Director General,

will took the job during June 1960. Dr. F. H. Allen resigned voluntarily from that position during 1964 and was succeeded by Ing. Armando Sumper from Colombia, former Director of the IPA Regional Services of the IICA.

A general review of all the IICA activities came into effect with the entrance of the new Director General who officially announced in 1960 a policy of decentralization which was contained in his "New Dimension" program.

The "New Dimension" Program

There are three main characteristics of this new program: a) a ratification campaign toward effective membership from all the countries of the OAS; b) a general review program in order to find out possible guidelines toward the most convenient structure for the organization; and c) an administrative review to look over and improve the administrative and financial procedures.

The first target culminated in success in 1964. The new policy has already made possible a substantial increase in the total funds now available. To understand the effort made in this respect, it is enough to mention a few figures. During the fiscal year 1959-60, the regular funds available in the IICA budget were U.S. \$180,776. For 1964-69 this amount was increased to U.S. \$1,972,676, and the total budget has grown from U.S. \$1,429,300 to U.S. \$4,315,000, making possible the expanded program announced by the Director General in his "New Dimension" policy.²⁴

This accomplishment, together with the withdrawal from the public system, was caused by the IFA big support drawn largely from funds coming from Latin American countries by means of grants, contracts, donations, and commercial and educational operations.

The second target was accomplished by means of a program review which was carried out during 1961 and 1962.

by X years of the General Director, after a touring consultation, prepared and published a complete document outlining the goals, programs, priorities and the future IFA organization to be carried out with the next 10 years.

Developments during this period

Some outstanding characteristics for this period dealing with training and education are the following:

1. The establishment at Toluca of a permanent registrar's office as a full-time job in order to better accomplish the typical operations dealing with the registered students, which formerly were often delegated to faculty members or other IFA personnel. This decision brought wide increase in the retention of admissions, expansion in the student enrollment and the handling of all the functions involved in facilitating all the steps of a graduate student toward the accomplishment of his task.

2. As compared with the former periods, in this one the president received the "Magister" degree.²²

3. In addition, more than 500 persons were receiving training as special students or attending variable periods of time in short courses, in-service or on-the-job training, as well as in library training courses of 9-months length.

4. The informal group on higher education in agriculture which was appointed during 1959 was working intensively during this period preparing the Second Latin American Meeting on higher education in agriculture, which was recently carried out in Medellin, Colombia, during May, 1962, thanks to a grant given by Rockefeller Foundation. Attending the meeting were 39 deans of Agronomy and Veterinary schools, plus some 60 observers and special advisers.²⁶

5. This period sought, under the IICA "New Dimension" the establishment of a formal Program of Higher Education under the "National Institutions Strengthening" Line of Work.^{27, 28, 29, 30, 31, 32}

6. In this period the First Meeting of Deans and Directors of Latin American Graduate Programs in Agricultural Sciences was held in May, 1965, in San Jose, Costa Rica with the representation of authorities in charge of 13 programs of this sort.³³

It would be a too time consuming enterprise to review in all its parts the notable development gained by the IICA to the present time. On the other hand, the purpose of this work is very specific in its task of studying the accomplishments of the IICA graduate school from the educational point of view, taking as a basis of judgment the opinions substan-

defined by the unification. For this reason, the following
algorithm will result in a more accurate way some of the
relevant information of the predicate call and the
reasoning which the unifier is doing with variable 1.

- 1 -

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ANNEXURE IV

THEORETICAL: THE THEORETICAL ASPECTS FOR GRADUATE TRAINING AND RESEARCH

The IICA "Policies and Procedures" N. O. published by the IICA Director General states that: "The Institute graduate school, established in 1968, will be devoted to the training of Latin American professionals graduating from the agronomy faculties and other institutions of university level dealing with higher education in agriculture."

The Graduate School's Educational Objectives

The same document confirms as the main objectives of the Institute: "The development in the student of an adequate capacity for scientific reasoning in relation to agriculture and rural life problems; to give emphasis to the student's development capacity in the planning of scientific research; to give the student the capacity to relate research results with the practical problems in the field; to develop in the student his thinking and acting capacities in the planning and execution of scientific research indoors and outdoors, under the faculty supervision."

Means for Accomplishment

For the accomplishment of these objectives the graduate school was authorized to develop some of the following specific activities:

1. Training of professional personnel in order to fulfill the urgent Latin American needs in teaching, research, and extension personnel.

2. Offering of facilities to conduct special research programs.

Through the Higher Education in Agriculture Program, the graduates will obtain:

1. An introduction to the national agricultural institutions of Latin America for the betterment of their administrative, planning, and curriculum development.

2. Promotion programs for the interchange of professors, to work on specific areas strengthening of the facilities and high-level schools of agriculture, as well as of the Technical graduate school.

The graduate school teaching program will be developed through:

1. Formal courses offered to candidates seeking the Latin "Magister" degree;

2. Extensive courses of in-service training for graduate students who are seeking a training certificate;

3. Short courses at the graduate level in those fields previously recognized by the graduate school, for which training the participants will be provided with the corresponding certificate of attendance;

4. Short courses offered by the graduate school faculty at the national institutions of higher education in agriculture in the IICA member countries. The corresponding certi-

degrees of attendance will be issued by the educational institutions.

Graduate School of Biological Sciences

The graduate school of biological sciences were considered as follows: The Tropical Center for Training and Research in Thermistia, Costa Rica. In addition, some opportunities will be provided in the Center for Research and Training at the Temperate Zone situated at the Center for Agricultural Research "Albert Einstein" from the Ministry of Animal Husbandry and Agriculture of Uruguay, at Externado (with the cooperation of other facilities offered by temperate zone countries), at the Agrarian University of Peru, at La Molina, and in the "Technical Nodes" research-centers which will be established by the IICA in other national institutions of similar rank, previously recognized by the Institute.

Inasmuch as participating an Academic Council was created and composed of all the faculty at Thermistia and other IICA projects and staff members located at the IICA Regional Headquarters, we have received the responsibility of offering at Thermistia recognized graduate courses for the supervision of graduate research. The final decision about what may be included in the academic council was delegated to the Dean and Directors of the Thermistia Center.

It was established for the Academic Council to have six annual meetings in order for the Dean to be advised in regard to the programs and regulations of the graduate school; the

examining policy in relation to the degrees to be offered; the new teaching programs; admission requirements; examinations; degree requirements and equivalents; and other corresponding matters. As a matter of principle, the chairmanship of the Academic Council was allotted to the Dean of the graduate school who was also authorized to direct and modify the graduate school rules and regulations, as well as to be vigilant for their observance.

Development of the Graduate School

As was stated in Chapter III, the original departments of the graduate school were Plant Industry and Soils, Forestry and Rural Life, Agricultural Engineering and Animal Industry, plus the "Anderson Memorial Library." Later on, the Department of Natural Resources and the Scientific Communications Service were established and some of the Agricultural Engineering Department personnel was transferred to the Anderson Farm headquarters.

It was also explained that the preliminary work was concentrated in the building of collections of the various crops susceptible to be grown and improved at the Turrialba grounds.

During the first periods studied, Turrialba has been able to get support by means of grants, donations, or bilateral contracts for specific purposes, but always keeping in mind the reinforcement of its departments or disciplines as they are currently regarded.

The Department of the Discipline of Study

Plant Industry and Soils is the largest unit of the graduate center and its basic goal is to improve agricultural production methods in order to disseminate them in Latin American rural areas. It is not interested in solving isolated problems, but in cumulative experiences in basic technological problems such as the absorption of nutrients, the genetic improvement of plants, and other fundamental research of wide applicability in problems for which this discipline has facilities. Other approaches adopted by Plant Industry and Soils have been direct services offered to the countries, such as consultation, exchange of information and materials, establishment of cooperative programs, and coordination of the present ones in order to eliminate possible duplications, looking always toward greater efficiency. Training and promotion of international conferences, workshops, and seminars have been typical activities which are limited in accordance with the graduate center policy to keep at the training program.

This discipline has an approximate area of 42 "hectares" of research, or so, plus a small plantation for study and research at "La Loma" farm with 120 "hectares" (situated just on the tropical Atlantic line of Costa Rica), plus all the appropriate physical facilities and required technical equipment.

Two main programs are conducted by Plant Industry: the "feeding" crops and the "perennial" ones (undertaken within the line of work No. 3) devoted to a diversification of export crops; increase of the basic feeding ones, like beans, corn and rice; adequate use of forests; and better management of tropical animal production.

Agricultural Economics and Social Sciences Discipline

Although the Department started work in 1947, only since 1956 has it devoted all its efforts to training personnel in the field of Agricultural Extension in order to develop a number of leaders able to cause a widely creative change in the effectiveness of Latin American extension services. These extension services had failed to produce the results expected in the member countries, as compared with those obtained by similar movements here in the United States of America.

Most of the first ten years were concentrated in rural community development looking for the most effective means to stimulate community growth by means of education for the inter-relationship between man, the land, and the climate.

By 1953-54, because of the amount of information accumulated in rural development studies, the Department shifted its emphasis to seeking means to implement the adoption of new farm technology. From the research catalog² it was found that the Department had been especially interested in discovering how to use the agricultural extension agent to bring about the desired diffusion of change within the rural society.

Within the research activities there have been very important studies in rural sociology, agricultural extension, vocational agriculture and agricultural economics.²

The Department had been especially interested in two main types of activities:

1. How to increase the farm productivity and its efficiency;
2. How to increase processes of rural modernization.

Within the educational activities, training had been divided into graduate school training and extension education. The training program under the graduate school began in 1960.

The basic course used to take a minimum of one year, although 18 months is an average most frequently observed now. The Department hopes to produce in that length of time (18 months) the kind of leaders required by the Latin American extension services. As in all other discipline, preparation of an original thesis is required.

Through this Department the International Cooperation Administration has sponsored a broad field of training in extension education, such as seminars, workshops, in-service training, international and national short courses, and on-the-job training. Furthermore, some staff members had been working actively in the "Train-the-Trainer" program, better known in the Latin countries as APECO.

The major responsibilities of the Department were teaching, research, consultation, publication, and administration.

Expense in these areas (with the exception of administrative activities), based on time, were broken down as follows: consultation services, 40 percent (most on AIB contract); research, 20 percent; teaching, 20 percent; and publications, 20 percent. The regular staff members, paid by the FICA budget, put more of their time in teaching and research. The other half of the staff, because they were under AIB contract (which provided salary and travel expense and other benefits) were spending more of their time in consultation and publications. As a result of this, graduate students were sometimes advising for a major emphasis in teaching.

In fact, as of fiscal year 1961-62 the Department had already changed its name and structure. Under the "New Liminalian Program" its denomination has been changed to "Discipline of Economics and Social Sciences," including three programs of work: "Resources for Development," "Agricultural Extension," and "Written and Audiovisual Communications for Extension."

Discipline of Forestry (formerly called the "Department of Natural Resources"). Its basic goal has been "the promotion of the conservation and rational use of the forests, waters, soil, and wildlife of Latin America."

Teaching, research, and publications have been the main sources to best fulfill this objective. Perhaps the least planned activity has been consultation, although many times the staff members have responded to requests from different Latin American countries, amounting to some 10 percent of the total activities performed by this discipline.

This and Animal Industry have been the least adequately staffed discipline, at least during the '50's and part of the '60's. Nevertheless, teaching and related research have been considered the main functions of this discipline. On the other hand, Forestry has been offering one of the largest curricula, perhaps due to the fact that students entering to receive training in this area basically have had a background as "ingenieros agronomos" but little as foresters.⁴ The unbalanced situation created between the limited number of staff members and the large number of courses offered has recently been corrected under the "New Dimension Program," with a total of ten positions, eight of which were appointed during the first semester of 1965 with one Ph.D. and seven technicians at lower levels.⁵

Through the Special Fund Program of the United Nations, the Forestry Department will be considerably strengthened in its aim of producing leaders with a sufficiently high level of knowledge, skills, abilities, and understandings about the fundamental importance of adequate programs of conservation of natural resources (which are so badly exploited in most of the Latin American countries).

Other activities related to consultation and services have been carried out by collaboration in established training programs in other places of Latin American countries; supply of adequate information, seeds, and other materials; publications prepared by the staff members; and participation in conferences. Some of the countries which benefitted from

work in planning, methodology, and other services rendered by Forestry have been Panama, Colombia, Costa Rica, Cuba, and Venezuela.

For the appropriate development of its teaching and research activities the discipline has under its own control some 11/2 acres of undisturbed forest located in the Institute Farm, plus some 1/2 acres, largely undisturbed, donated by the Santiago Province of Costa Rica. The Department of Forestry also offers a great variety of ecological conditions that can be observed directly by graduate students through an annual practical study course which entails appropriate visits to the Central American countries and Mexico.

The Animal Industry

During the many years many different projects were considered suitable for development. Although later on the activity lines of the Animal Industry were changed, looking for those areas in which useful follow-up work was possible. The Department of Animal Industry has always preferred to ignore many important aspects of its own field rather than to deal with them in a mediocre way. This basic philosophy was the justification for limiting work to five main programs of study and training, developing each of them carefully and without haste, rather than to launch into a number of ambitious projects and risk their early ending. In other words, long-term "grass roots" projects have been at the same time a building up and a building up movement.

Following these lines, Animal Industry has concentrated on training, research, and publications applied to the following fields: 1) animal nutrition; 2) dairy cattle breeding; 3) beef cattle breeding; 4) climatology; and, 5) pasture management.⁶

It has been the policy here is to train students through research, seeking to develop students able to be leaders in this field in their countries. Selection of students has been rigid and tough, but has resulted in an exceptionally hard-working group of people.

Only three basic courses have been offered in the past. These were: animal nutrition, animal physiology, and animal breeding. During the late 50's a seminar was established in order to train the students in the management and statistical interpretation of biometrics data. As an average, each of these courses was divided into a lecture of about three hours, and a laboratory or practical work of seven. The Rockefeller Foundation has been one of the main sources in the granting of four or five assistantships per year in this discipline. Most students remained no more than one year to fulfill their requirements toward the "Magister" degree.

A summary concerning the five line projects which follow is a document prepared by the same Department.⁷

Animal Nutrition

Initiated in 1957, it has as its basic problem to dis-

various ways of increasing milk and meat production through artificial utilization of available feeds. In order to be able to increase milk and meat productivity, research into animal nutrition is absolutely essential. Unless the combination of feed elements is sufficient, the livestock will be of no use to the industry whatsoever. Some of the greatest advances of knowledge lie in the following four areas: analysis of feeds, digestibility studies, palatability and consumption trials, and tests of production capacity.

In addition, studies are being made on the physiological effects of climate on nutrition and the development of feed study methods for use in other institutions with limited equipment. These studies are being used as teaching aids. Because of the emphasis upon methods, students will be able to return to their own countries and work out projects applicable to other situations.

Breeding department

This project, initiated in 1948 and reorganized in 1953, is concerned with the exploration of ways of increasing milk production through breeding. Most of the work relates to milk production in the tropics, but some general principles which are independent of climate are utilized, tested, and developed.

The Department has made studies on the effect of cross-breeding and environmental variations with the Jersey, a temperate breed. Crosses also were tried between local Friesian

and Sindh Oxide and Europe between 1947 and 1958. At present
there are no more being bred, but the animals are kept
for study until natural death or elimination from the herd
occurs. A new project on artificial hybridization for living
experiments and a research fund for research was recently
started. This will test the practical use of world vision
in milk production in the tropics. The work and results
will be reported.

Research on the Tropics

This project was initiated in 1948 and reorganized in 1958.
The situation is immediate. The problem of beef breeding
in Latin America is a part of the race between an
increasing population and a continually shrinking production
of beef cattle.

Artificial hybridization for living

In 1954 the King Ranch gave a climatic chamber to study
artificial climatic conditions for constant control. Studies
of animal physiology were especially well suited to the use
in this chamber.⁸

Improvement of pastures

This project was initiated in 1948 and reorganized in
1958.

The objectives of this project have been: 1) to obtain
greater production of beef through the use of tropical

and sub-tropical conditions; 2) to introduce and manage effective mixtures of grasses and legumes; 3) to assemble and distribute information concerning pastures; and 4) to train people for research and other phases of grassland improvement, to be conducted by interested parties in Latin America.

The Library and Documentation Service

The "Orton Memorial Library," a fundamental element of the graduate school, began its activities in 1946, and from then on its growth has been gradual, but steady. Now it is one of the more important library centers in all Latin America. Under the "New Dimension" Program the library has been expanded with the addition of reproduction and bibliographic services, which formerly were carried out by SIC.

The functioning of the library as a service unit of the graduate school is carried on at the present time with a total of five professional staff members and eight auxiliary personnel. It has a total area of 767.90 square meters. It also gave 7,044 units of annual circulation of publications, 42,000 volumes, 185 "Magister Theses," 1,207 current and 441 subscription titles of serial publications received regularly, 49 bibliographical indexes, and microfilm and microcard reading facilities. Its holdings include more than 60,000 pamphlets, reprints, photo copies, microfilms, and maps.⁹

The library is also engaged in teaching activities of two kinds: the basic course on usage of the library (offered to the graduate students), and an annual short course generally attended by personnel working in Latin American agricultural libraries. The seventh course of this type was offered during the fiscal year 1963-64 to five students of Colombia, Ecuador, Peru, and the Dominican Republic.

In the research field the library was interested in conducting research dealing with the bibliographic resources existing in the Latin American Agricultural Libraries.

In the area of consultation a wide program of technical assistance to the Latin American Agricultural Libraries has been planned.

This Unit also began working on five different cooperative projects dealing with "Interchange of Bibliographies," "Selection of Recipient Libraries of the IICA Publications," "Agricultural Libraries Guide," "Cooperative Catalogation of IICA Publications," and "Agricultural Bibliographic Bulletin."

The Graduate School Administration

Besides the information previously included in this chapter, it was considered advisable to include some brief information about the structure of administration, which follows. As of July, 1965, the Tropical Center employed 180 people, plus 20 other vacant positions. The 200 posts of work included professional personnel, secretaries, and

and persons devoted to attend general administration of the "Tarralpa" and "La Molina" farms. A breakdown of the various disciplines and services follows:

Tarralpa Director's Office-----	7
Dean's Office-----	8
Plant Industry and Soils Discipline-----	57
Economics and Social Science Discipline-----	30
Forestry Discipline-----	15
Animal Industry Discipline-----	17
Library and Documentation Service-----	1
Administrative Services-----	63
Total-----	188

The Dean's office was served by the Dean and two auxiliary ones situated at "La Molina" in Peru, and in Montevideo, Uruguay. This office also had the consultation services in research and training of the Senior Technician appointed under the United Nations Special Fund.

The Tropical Center in Tarralpa was the headquarters for the graduate school receiving both graduate and special students. Through training at the graduate level, the school has been able to prepare (until December, 1964) a total of 185 "Magister" holders.

In accordance with the new rules of the graduate school, candidates were classified into the following three groups:
 (-) Graduate Students, those already admitted to the school, having an "Ingeniero Agronomo," "Ingeniero Forestal," "Veterinary Medicine," "Bachelor of Science" degrees, or similar

professional studies giving the student the chance to follow the desired training; (2) Advanced Students, Candidates for Magister Degree, those persons admitted as graduate students, registered at the school who have already passed the "admission examination" toward the "Magister" degree; and (3) Special Students, all those candidates who do not fulfill all the requirements allowing them to be considered graduate students.

Once the student is admitted, he must fulfill all the class work and research assigned by his advisory committee, generally made up of the main advisor and three other members. One of whom must be from a different area of the student's major field of work (Sections B and E of the Rules).

Each student must present a preliminary qualifying examination for the "Magister" Degree. He must also submit a seminar presentation of the findings in his research, a language proficiency examination, thesis presentation, and a final examination before his committee, plus a minimum of 48 credits in courses, of which approximately 18 credits were recognized as part of the research work. There was followed a minimum time period of one year, although usually from 16 to 18 months were required to complete the work necessary for the degree (Section E of the Rules).

The academic year at the Center began the first week of September and consisted of four quarters of three months each, plus one month of intensive training in library use, a course in basic English and an "Orientation Program" in

- order to familiarize the student with the Center's different programs of work and IICA organization and functioning.

The total cost for a year's study, including tuition, meals, room, teaching needs, medical insurance, personal stipend, study trips, and books amounted to U.S. \$2,450 plus U.S. \$575 for agricultural extension training (consisting of 45 days of field practice and an international study trip). An additional U.S. \$300 was required for Plant Industry and Animal Industry students and approximately another U.S. \$450 was required for a six-week international study trip for Forestry students.

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CHAPTER V

ANALYSIS OF THE DATA

Introduction

This research project sought to make an evaluation of the value assigned by the graduates to the program in which IICA personnel service was engaged.

Several educational institutions have been being considered here. Express the purposes of such programs in terms of educational objectives, plans or goals, and some means of accomplishment. There are educators who have distinguished between educational objectives and the more general statements of aims or goals. In the case of the institution referred to in this appraisal, two types of objectives can be noted: those of a more general nature, which sought to bring about change on a Latin American scale, and others more specific, concerning the change that the graduate school hoped to produce in the case of each individual student.

This study was particularly interested in measuring these more specific objectives, using two-fold data submitted by the graduates concerned. One which can be considered as a direct measure, consisted of the degree of agreement that the graduates expressed toward the Turriallba's educational objectives, and the degree to which he thought each of these objectives was achieved by the institution in accordance with his personal experience. The other was rather an in-

about measures were up of a series of questions submitted to the respondent, dealing with such areas as degree of employment and unemployment, job satisfaction, degree of participation in the socialization, features in the current development of his job, current problems faced by the graduate and the wish to continue with the graduate training, degree of mobility in his professional life, and many other items which are better explained in the following paragraphs.

The Instrument

Data collection was designed upon one instrument which was developed for this study. Three groups of help were sought in deciding what information to secure from the graduates and in wording of the questionnaire.

A preliminary draft of the questionnaire was circulated among some of the administrators and academic staff of the Institute for criticism and comments. These persons were suggested by the IICA Director General; bibliographical data and other related questionnaires were studied for new ideas; and, a revised draft based on these experiences, was then prepared for the Guidance Committee's final approval.

The final instrument included the following items:

- The graduate's present employment status;
- The graduate's past employment status;
- The graduate's evaluation of the training at Terrestrial;
- The graduate's evaluation of the faculty and his training in his department of study;

See Appendix

His evaluation of the ILIA graduate school objectives from the following points of view:

- 1) The student's plans and degree of agreement with these objectives; and,
- 2) The student's opinions regarding the degree of accomplishment of these objectives by the Institute (always keeping in mind the limited budgetary resources of the ILIA).

His evaluation of the student personnel services, with special reference to his academic, personal, financial, and health problems;

His evaluation of the library services;

His recommendation that the graduate would recommend the ILIA to other graduate schools;

Some additional information dealing with the graduate's present income, source of fellowship, present field of work; and,

Some other minor items.

A final section to be answered by Ph.D. holders, or potential candidates was also included. This section inquired about the degree of acceptance of Tharriol's "Magister" Degree by other graduate schools and the degree of help given to many by their former training at the ILIA graduate school.

The questionnaire was also open at the end, inviting the subject to make any additional comments.

Second Steps Followed in this Study:

Looking for validity and reliability of the instrument's wording, the final questionnaire was submitted in English (1

and translated and answered in Spanish) to some ILM students pursuing graduate studies at Michigan State University. Later, a revised English draft of the questionnaire was translated into Spanish and then back into English (to measure reliability of language use), by an experienced bilingual student in Michigan State University's College of Education. When these efforts of validity and reliability were accomplished, a final Spanish copy of the instrument was prepared, reproduced, and distributed in the following manner:

In accordance with a list of graduates prepared in December, 1961, by the Thorleike Registrar's Office, each graduate received a copy of the questionnaire, plus a letter explaining the purpose of the study and asking the respondent for his cooperation. This material was dispatched by air mail to all the graduates on the 11th of February, 1963;

As of the 11th of March, 1963, 43 answers were received. At which an appreciative letter was sent to the graduates acknowledging the attention they had devoted in the answering and returning the questionnaire.

At the same time (March 11, 1963) the first follow-up letter was sent to the non-respondents asking them to cooperate in the study. Perhaps as a result of this letter, 43 more questionnaires arrived by the 15th of March.

Similar procedures were followed to acknowledge the receipt of questionnaires from the respondents, and a second follow-up letter was air mailed to the other graduates.

By the 16th of April, 1963, when a third follow-up letter was sent, 10 additional answers resulted.

After that, by the end of August, 1961, 19 more questionnaires were collected (thanks to the cooperation of some administrative officers at the IICA's Mexican Office and at the Universidad graduate school, mainly to some graduates in different Latin American countries). The total questionnaires received by mail was 41.

With additional questionnaires received from the IICA, it was possible to carry out an 18 day trip to selected Latin American countries to follow questionnaires from respondents, some written information and bibliography collected at the graduate school, and especially to inquire about the progress the graduates had in answering the questionnaires.

This trip was profitable because some instruments were completed, as well as valuable written information concerning the present developments of the IICA graduate school.

Other extremely important information was derived from personal interviews with the IICA Official Relations Officer, the Universidad's Dean and Registrar, and with the graduates from whom the questionnaires were collected. It was very interesting to notice that the main reason expressed by the interviewed graduates for not answering the queries was that "they were expecting to do so in the immediate future (but unfortunately they forgot to do it....)".

Two more questionnaires arrived by mail, after the aforementioned's visit to Mexico City, and Monterrey, in Mexico. Unfortunately, these documents could not be included because all the tabulations and computer calculations had already been

needed, with a total of 118 questionnaires collected out of a total population of 131 graduates (instead of 185, because two had died).

During the remaining months a total of 26 different questionnaires were returned by the post office, due to incorrect or obsolete addresses. In search for a wider response, some telephone calls were made to a few graduates from the United States and Latin Americans pursuing graduate studies toward the Ph.D. Degree in American universities--in a measure--with successful results.

Of this study consists of very nearly 81 percent of the total graduates who received the questionnaire, made up of 61 subjects representing the Plant Industry and Soils Department; 11 out of a total of 33, 18 out of 36 graduates from the Economic and Social Sciences Department; 19 out of 27 graduates from the Forestry Department; and 12 out of 15 graduates from the Animal Industry Department.

Tabulation and Analysis of Data

The collected information was grouped in a total of 113 variables dealing with the different areas mentioned at the beginning of this chapter. The analysis program prepared by the "IBM 360 MOD" computer yielded a total of 151 combinations made between variable 11, corresponding to the four different graduate school's departments attended by the graduates at Tarralalca, and the successive areas in which the queries were made. For the "ACT II" and "ACT III" programs employed in the analysis, the same computer rendered the following statistical measures: means, standard deviations, Chi squares,

contingency coefficients, product-moment correlations, gamma, Kruskal-Wallis H, independent variables down and across, percentages of the totals, theoretical frequencies, and cell Chi-squares.

Statistical Treatment of Data

Chi-square (χ^2) was selected for two reasons as the statistical tool to test the significance of the relationship between the IICA graduates' department of study and the opinions they gave in relation to the different areas of inquiry: first, this technique enables the investigator to apply mathematical procedures to categories that are not strictly quantitative in all their aspects; and second, it weights every case proportionately to every other one. In the present use of χ^2 , the five percent level of probability was adopted as the criterion of significance. This means that the specific distribution of the opinions expressed by the graduates, when measured against their department of study at Turrialba, might be attributed to the chances of sampling five times out of 100. Therefore, it is feasible to assume with confidence that a functional sense, rather than a chance relationship, is governing the answers given by the graduates.

The following chapter is focused to present the data collected according to the six specific objectives which were conforming the general objective for this study.

CHAPTER VII

PRESENTATION OF THE DATA

As mentioned earlier, Chapter VI has the purpose of presenting the tabulation and analysis of data collected for this research, following the six specific objectives which formed the general purpose of this study.

In order to present the data in an orderly manner, information relating to the sixth specific objective is included. This objective reads as follows: "To ascertain the IICA graduates' geographic distribution of institutions and degree of service to Latin American countries, particularly in relation to higher education in agriculture and to rural life."

Geographic Origin of the IICA Graduates

The Turkish graduates included in this study represented only nearly all of the countries of the OAS, but also some nations outside the regional limits of the Organization of American States, as is the case with Australia, the Philippines, Portugal, Surinam, and Holland.

Nevertheless, there were two Central American countries which were not represented in this study because they either lacked facilities of agronomy at the university level or because the possible holders of "Ingeniero agronomo" degrees did not come to Turkiye during the period which this study covers.

As Table 1 indicates, the Andean Zone (including

Table 1

GEOGRAPHICAL ORIGIN BY ZONES AND DEPARTMENTS OF STUDY
OF THE TURRIALBA GRADUATES WHO RESPONDED

Departments of Study	Geographical Origin by Zones				Totals
	North. Zone	Andean Zone	South. Zone	Other countries	
Plant Industry & Soils	18	34	7	3	62
Economic & Soc. Sci.	9	12	7	---	28
Forestry	6	11	1	1	19
Animal Industry	12	6	---	1	19
Totals	45	63	15	5	128
x ² = 15.643 N.S.					

Venezuela, Colombia, Ecuador, Peru, and Bolivia) was the one represented by the greatest number of graduates. Sixty-three respondents from the 128 participants included in this study had studied in the graduate school as follows: 34 graduates out of 62 in the Department of Plant Industry and Soils, 12 out of 28 graduates in the Department of Economy and Social Sciences, 11 from a total of 19 respondents in the Department of Forestry, and six out of 19 persons in the Department of Animal Industry.

The second most represented region in this study was the Northern Zone (including Panama, Costa Rica, Nicaragua, El Salvador, Honduras, Guatemala, Mexico, the Dominican Republic, Haiti, Cuba, and the United States). Of the 45

participants from the Northern Zone. Out of 19 persons interviewed, seven came from the Department of Animal Industry. The second greatest number of respondents (18 out of 62) belonged to the Department of Plant Industry and Soils.

The least represented geographic region was the Southern Zone, with only seven participants who graduated in Plant Industry and Soils and seven who graduated in Economy and Social Sciences.

The calculated value of χ^2 was not significant at the level of five percent which demonstrated that there was no relation between the graduate's department of study and his geographic place of origin. Of course, such a conclusion is only valid within the limits which the present study covers.

Work Areas of the Graduates at the Moment of the Study

As is shown in Table 2 (p. 58), only 20 graduates, or 32.3 percent of the 62 respondents, gave indication that they were working in research. The second most important activity is revealed as agricultural extension, a field in which 21 of the 62 respondents engaged in such activities. Teaching and research was the third most frequent activity, and administration, with 15 representatives, took fourth place.

In order to find out the true significance of Table 2 regarding the proportion in teaching, it would be necessary to add to the 11 graduates who indicated that they were working exclusively in the field of teaching those who were

Table 1

MAIN ACTIVITIES BEING DEVELOPED BY LIMA GRADUATES
AT THEIR PLACES OF WORK BY DEPARTMENTS OF STUDY

Main Activities being developed by LIMA graduates	Number of Informants by Departments of Study				Totals by Alternatives	
	Elementary Education	Elementary Education & Social Science	Physical Science	Art-Medical-In-house-ary	No.	Percent
Teaching	4	1	1	1	11	8.4
Research	29	1	1	1	36	27.9
Extension	4	11	1	1	21	16.2
Administration	9	1	---	5	15	11.5
Teaching & research	1	1	5	1	10	14.8
Teaching & extension	---	1	---	---	1	.8
Teaching & admin.	1	1	---	1	4	3.1
Research & extension	1	---	---	---	1	1.5
Research & admin.	1	1	1	---	3	6.1
Extension & admin.	1	1	1	1	8	6.1
Teaching, research, & extension	---	---	---	1	1	.8
Teaching, extension, & administration	---	---	---	1	1	1.5
Administration, teaching, & research	---	---	1	1	2	1.5
Teaching, research, extension, & admin.	---	---	1	---	1	.8
No response	5	1	1	---	7	5.3
Totals	61	18	19	19	128	100.0

x- 78.7-8 E.S.

teaching and also engaged in other activity. These include teaching and research (12 participants), teaching and extension (one participant), teaching and administration (four participants), teaching, research, and extension (one participant), teaching, extension, and administration (two participants), and teaching, research, extension, and administration (one participant). These provide a total of 21 different participants, or nearly a third of the number included in this study, who were engaged in teaching.

Following the same analysis, it is apparent that 36 respondents were working in some field of activity in which some research would be expected from them. In identical analyses, 36 graduates indicated that they were working in certain extension activities.

A very striking fact revealed is that the appreciable number of 41 respondents were carrying out the function of administrators, for those who supposedly had not received training for administration.

This reasoning could not be concluded without indicating that the educational activities were those which demanded with the greatest frequency the knowledge and abilities of these Turrialba graduates. In one form or another, 77 of them (41 educators and 36 extension workers) had to efficiently know and use the educative process in order to produce some sort of change.

Present Income of the IICA Graduates

It can be observed through the data that appears in Table 3 (p. 91) that 19.5 percent of the graduates reported a monthly income that fluctuated between U.S. \$300 and \$399. Another 18.0 percent of the 128 participants had a monthly income which varied between U.S. \$400 and \$499. From the same table it could be observed that 27.4 percent of the graduates received a very low remuneration which fluctuated between less than U.S. \$100 (one informant) and U.S. \$299. None of the representatives from the Department of Animal Industry was included in this group. In 1964, 32 participants received a monthly income that fluctuated between 500 and 800 U.S. dollars. Toward the opposite extreme of this curve of salary distribution, 17 graduates were found who received remunerations that fluctuated between U.S. \$700 and U.S. \$1,500 per month.

The professional man of the Department of Plant Industry and Soils, who did not answer this question, was considered classified in this last salary group. The reason for this classification was that at the moment of the study he possessed the advanced Ph.D. degree, and because the organization which enjoyed his services gave him a high classification in the salary scale (judging by the salaries declared by other professional men of a similar rank).

Table 1

MONTHLY INCOME OF THE IINA GRADUATES BY DEPARTMENTS OF STUDY

Monthly Income: Range: U.S. \$	Departments of Study				Total	Percent
	Pl. Ind. & E. Is.	Gen. & J. S.	Fore- stry	Animal Indus- try		
Less than 100	1	---	---	---	1	.8
100 - 199	6	6	1	---	13	10.1
200 - 299	11	1	1	---	13	10.4
300 - 399	9	6	6	4	25	19.6
400 - 499	11	1	1	5	18	18.1
500 - 599	7	---	1	1	10	7.8
600 - 699	7	1	1	7	16	12.1
700 - 799	---	1	1	1	3	2.3
800 - 899	1	---	---	---	1	.8
900 - 999	1	---	1	---	2	1.5
1000 - 1099	1	1	1	---	3	2.1
1100 - 1199	---	---	---	---	---	0
1200 - 1299	1	1	---	---	2	1.1
1300 - 1399	1	---	---	---	1	.8
1400 and over	---	---	1	---	1	.8
No. response	1	---	---	---	1	.8
Totals	61	28	19	19	127	100.0

The Value of the Academic Program

The first specific objective was focused on obtaining some opinions from graduates in respect to the academic value of the program followed by the IICA graduate school. In continuation, the results achieved by the study are presented:

Courses of Greatest and Least Value in the Curriculum of the IICA Graduate School

Considering that the curriculum is one of the greatest means of achieving the educational objectives of a university, and since the curriculum occupies the central position in a graduate school, it was believed suitable to ask the graduates of the IICA which courses they considered of the greatest or the least value in relation to the greatest or least use made of them in professional life. The replies submitted by the graduates appear on the following pages. In table 4, (p.93) 70 out of 128 students spoke in favor of the statistics course as being the one of greatest value among the group of basic courses. With scarcely 16 votes in its favor, the technical writing course occupies the second place.

The value of χ^2 was highly significant at the level of one percent which meant that there was a close relationship between the respondent's department of study and his opinion expressed in respect to the value of the aforementioned courses.

Table 4

BASIC COURSES OF LEAST VALUE AT THE TEMA GRADUATE SCHOOL
IN ACCORDANCE WITH SPECIALIA GRADUATES
BY DEPARTMENTS OF STUDY

Basic Courses of Least Value	Departments of Study				Totals
	Int. Ind. & Skills	Comm. & C. Sc.	Fore- stry	Animal Indus- try	
Statistics	19	11	9	11	49
Technical Writing	5	9	7	1	22
English	---	7	1	---	8
Library Training	1	1	---	1	3
Animal Husbandry	1	1	---	---	2
Other Courses	6	---	1	1	8
No answer	7	1	2	3	13
Totals	40	22	19	15	96
$\bar{x} = 51.6\%$					

In like form, the results stated by the graduates in respect to the basic courses of the least value are found in Table 5. Nineteen percent classified the English courses being the one of least value, and technical writing again occupied the second place, with library training third.

It is probable that the large number of 72 persons who did not answer this question may have done so because they felt that no course had been of the least value. Nevertheless, it would be interesting to find out why 56.3 percent (72 no answers) of the respondents abstained from answering this question.

Graduate Courses of the Greatest Value

When persons responding reported which graduate courses had been of the greatest value, their reports were classified by departments.

In the Department of Plant Industry and Soils the courses in plant physiology and plant pathology were the ones most frequently pointed out, with 17 and 16 opinions, respectively. Other courses mentioned were: Citrus genetics, with five opinions; plant breeding, soils, and experimental design, with four opinions each. Singularly, six of the 62 graduates who represented this department abstained from answering and altogether 11 respondents gave one or two votes for other courses.

The graduates of the Department of Economics and Social Sciences recognized man as of agricultural extension and animal husbandry as being the graduate courses of the greatest value, with a total of 12 and five votes, respectively. Methods of social research and educational psychology were mentioned in third place, with a total of four votes each.

In the Department of Forestry, dendrology and silviculture were classified as the graduate courses of the greatest value, with seven and five votes from the 19 respondents who represented this department. Three graduates mentioned courses that they had received in another department and the remaining 16 cast their votes in favor of a different graduate course.

Finally, eight of the 19 graduates of the Department of Animal Industry classified animal husbandry as the best graduate course. Animal physiology remained in second place with

six votes. Three students spoke in favor of animal nutrition and two cast their votes for courses received in another department.

Graduate Courses of the Least Value

Upon referring to this aspect of the questionnaire a little more than 5 percent of the 118 graduates also abstained from giving an unfavorable opinion in respect to the graduate courses of least value that they had received in their training. Furthermore, in the majority of the cases

Table 4

PASTIC COURSES OF LEAST VALUE AT THE GRADUATE SCHOOL
IN ACCORDANCE WITH TERRALBA GRADUATE'S OPINIONS
BY DEPARTMENTS OF STUDY

Basic Courses of Least Value	Departments of Study				Totals
	Plant Indus- try & Soils	Econ. & S. Sc.	Fores- try	Animal Indus- try	
Technical Writing	5	2	3	3	13
English	9	4	5	3	21
Organic Chemistry	1	---	2	2	6
None of them	5	2	---	.	7
Other courses	5	1	2	---	8
No answer	43	15	10	4	72
Totals	68	28	19	19	134

xxx 15.74c N.S.

a single graduate course never received more than two unfavorable opinions, with the exception of a course in Plant Industry and Soils and two courses in the Department of Economics and Social Sciences.

The least favored courses were: plant pathology, farm management (eight opposing opinions), home economics (with five votes against), forest utilization, forest engineering (two votes opposing each), and animal nutrition (with two opposing votes).

General Graduate School Characteristics

The process of evaluation in education allows an educational institution to be described in terms of its most-excelling attributes, or by the degrees of acceptance or preparation which that institution presents in order to meet its objectives. When the Turrilba graduates were asked about the attributes or strengths which most characterized this graduate school, they gave the replies which are found in Table c (p. 27). Although the opinions given were tabulated independently, it is interesting to note that they could all be abstracted into one or at the most two alternatives which refer to Turrilba as: "a very adequate place to further graduate studies in agriculture and in social sciences," and that, "there is an adequate balance in Turrilba of the attributes required in a graduate school so that it can fulfill its objectives."

Table 1

IICA GRADUATE SCHOOL STRENGTHS
ACCORDING TO GRADUATES' OPINIONS
BY DEPARTMENTS OF STUDY

IICA Graduate School Strengths	Departments of Study				Totals
	Ph.D. & M.Sc.	B.Sc. & B.Ed.	Agres- sary	Animal Indus- try	
Ideal combination of research & teaching	4	4	5	5	18
Library facilities	10	5	9	2	26
Faculty with Ph.D. and their scholarship	8	8	---	3	19
Very good environment, facilities, & scienti- fic attitude to carry on research	4	3	4	1	12
Teaching & research in tropical agriculture, agricultural extension and animal husbandry	4	2	---	1	7
The organized programs of research, study, & analysis of Latin American problems	1	1	1	1	4
The teaching of statisti- cs & plant physiology	1	---	---	1	2
The teaching process in Spanish	1	---	---	---	1
The Plant Industry in certain areas	1	---	---	---	1
No answer	4	---	---	1	6
Totals	61	18	19	19	117
100-53.08%					

This supposition was backed up even more when the value of χ^2 is observed to be significant at five percent. In other words, there was an less variation between the opinions given and the departments of study if those who participated in this study; all of the graduates and more or less the same opinion as in respect to the strengths that the HCA graduate school presented.

The Library Service

There is no doubt that the library service of the graduate school, in accordance with the information in Tables 6 & 7, was considered one of the strongest points of the institution.

Table 7

HCA GRADUATES EVALUATION OF THE "WERTEN" MEMORIAL LIBRARY AT TEREPALBA

Items Considered	Alternative				Totals
	Yes	No	Don't Know	No Response	
Space for comfortable study	90	16	2	3	111
Direct access to materials	114	9	---	1	124
Arrange references for classes and theses	112	12	---	1	125
Efficiency shown to student by staff	111	5	6	6	128
Kindness shown to student by staff	113	5	3	1	122
Appropriate reading hours for students	97	20	5	5	127
Notification to student when new books arrive	91	24	8	6	129
Arrange instruction to student in the use of the library	107	16	1	1	125

Values of χ^2 on these items were significant at 5% level.

Some of the aspects evaluated by the students such as "direct access to reading materials," "sufficient number of bibliographic references for his courses and research themes," "sufficient instruction given to the student over the use of the library," and "appropriate reading schedules" were significant at the level of five percent. The values of χ^2 in these cases pointed to the presence of relations or dependencies between the two variables considered in each case. Of all the items evaluated by the students, the "Orton" Memorial Library received the greatest number of the votes cast by the respondents. It is a service which, judging by the graduates' way of thinking, has conveniently fulfilled its obligations.

IICA Graduate School Weaknesses

As in other similar situations, Turrialba also had certain weaknesses which were recognized by the IICA graduates. The results of the question, "What do you think were the three weaknesses in the Turrialba graduate school which need to be strengthened?" were tabulated in Table 8 (p. 100). The weakness which reached the greatest percentage (16.4 percent) was "the poor methods of teaching" observed on the part of certain professors of the center. This was especially mentioned in the departments of Plant Industry and Soils, and Economics and Social Sciences, in which this alternative reached the greatest number of 14 and five votes, respectively.

Table 2

IICA GRADUATE SCHOOL WEAKNESSES
ACCORDING TO THE GRADUATES' OPINIONS
BY DEPARTMENTS OF STUDY

IICA Graduate School Weaknesses	Departments of Study				Totals
	Pl. Ind. & Ills	Engn. & C.Sa.	Forestry	Animal Indus-try	
Poor teaching methodology of certain faculty	14	5	1	1	21
Reduced number of professors & laboratory facilities	11	---	5	1	17
Reduced number of subjects & specialities	11	1	---	3	17
Reduced length of time of residence for study	4	8	3	2	17
The administration, including student services	2	6	4	1	13
Lack of separation between teaching & research	4	---	1	1	7
Poor mathematical relationship, professor/student	3	1	1	---	5
Deficient dormitory facilities & lack of married housing facilities	1	---	1	1	3
Other reasons, with one vote each	6	3	1	3	13
No answer	6	1	---	4	11
Totals	62	18	19	19	118
$\chi^2 = 98.815^{**}$					

The other three following alternatives which attained nearly 51 percent of the votes are a direct consequence of the lack of economic means, which has been characteristic of the institution throughout its entire existence. There have been few professors and few laboratory facilities due to lack of economic means; there have been few courses and few specializations, for identical reasons; furthermore, the time of residence for the student on a scholarship could be affected by the same symptom. Although these problems are not susceptible to solution in the most desired manner, a good part of them can be correlated with the most recent increases of the budget.

In the case of the other alternatives pointed out by the graduates, the absence of economic means was also implicit. They complained about a poor administration, which included student services; the poor mathematical relationship that there was between professors and students; and the lack of living facilities for single and married students. Although all of these shortcomings are important, the mathematically deficient "professor-student" relationship was considered the most significant.

This is neither the time nor the place to go into the reasons which defend the points of view reported. The IITA graduates agreed in their manner of thinking regardless of their department of study, as was shown by the value of χ^2 , which was highly significant at the level of one percent.

Graduates' Attitude Towards the IICA Graduate School

In an effort to measure the IICA graduates' preference for their teaching center, questions were included in the questionnaire. These could be categorized as indirectly allowing the graduates to reveal their attitude toward their school. The results obtained in this phase are included in Tables 2 and 3.

Table 2

GRADUATES' ATTITUDE TOWARD IICA GRADUATE SCHOOL
BY DEPARTMENTS OF STUDY
AS CLASSIFIED BY THE QUESTION:
"Would you recommend Turrialba to your friends or relatives?"

Department of Study	Responses						Totals	
	YES		NO		No Response		Num- ber	Per- cent
	N.	%	N.	%	N.	%		
Plant Industry & Soils	51	82.3	7	11.3	4	6.4	62	100.0
Economics & Social Sciences	13	100.0	--	---	--	---	13	100.0
Forestry	17	89.5	--	---	2	10.5	19	100.0
Animal Industry	10	84.4	1	8.3	2	16.6	13	100.0
Totals	111		8		8		128	

x² = 11.181

The hundred and twelve out of the 128 respondents answered "yes" to the direct question made to them in relation to whether they would recommend the graduate school to a relative or a friend (if Turrialba would offer the courses they desired);

any eight respondents took the negative, and on other eight graduates obtained from answering (see Table 9). Although the questionnaire provided space for the informant to express his reasons when responding negatively, only one person from Animal Industry said, "Because of present availability of staff and physical facilities do not permit it to keep up to date on scientific progress." The seven other respondents who would not recommend Turrialba to their relatives or friends belonged to the department of Plant Industry and Soils.

Table 9

GRADUATES' ATTITUDE TOWARD THEIR DEPARTMENT OF STUDY
AT TURRIALBA BY DEPARTMENTS

Departments of Study	Would you choose the same department of study						Totals by Depart- ments	
	YES		NO		N Res: nse			
	N	%	N	%	N	%	N	%
Plant Industry & Soils	51	82.3	8	12.9	3	4.8	62	100
Humanities & Social Sciences	10	41.7	2	7.7	--	---	12	100
Forestry	12	98.3	1	8.3	1	11.5	14	100
Animal Industry	17	80.2	1	5.3	1	5.3	19	100
Totals	127		15		6		148	
χ^2 6.176 N.S.								

It was found in the results tabulated from Table 9 that there was a relation between the student's way of thinking and feeling and the department in which his studies took place.

The value of χ^2 was not significant at the level of five percent. When the graduates were asked whether they would hypothetically choose the same department of study to again begin training at the graduate level, 17 of the 128 respondents answered affirmatively, 15 indicated that they would choose another department, and six abstained from answering. Among the 15 graduates who would look for another department there were eight graduates from Plant Industry and Soils, two from Economics and Social Sciences, four from Forestry, and one from Animal Industry. The value of $\chi^2 = 6.176$ did not indicate significance at the level of five percent.

Evaluation of the Teacher's Faculty, According to Department and Specific Instruction

Remains the primary leadership in the education process and against the teacher. But the American Handbook of Research and Teachers¹ expresses that:

"Despite the critical importance of the problem--teacher effectiveness and a half-century of prodigious research effort, very little is known for certain about the nature and measurement of teacher personality, or as of the relation between teacher personality and teacher effectiveness."

Many investigations, after their corresponding analysis and calculations, have concluded that the "good" teacher is friendly, cheerful, sympathetic, and morally virtuous, rather than cruel, depressed, unsympathetic, and morally depraved... Since teaching is essentially human interaction, the characteristics enumerated above constitute self-evident needs. Perhaps the fundamental thing in the classification of a teacher

is rather certain distinctive and specific characteristics in the personality of the professor and his effectiveness.

For the reasons mentioned, this study attempted to include questions that would have relation with the so-called "behavioral" definitions (that is, personality as the totality of a person's usual behavior); "social-stimulus" definitions (that is, personality is defined by the response made by others to the individual as a stimulus); and "depth definitions" (that is, personality as the dynamic organization within the individual which determines his unique behavior).

The results of this effort may be observed in Tables 11, 12, 13, 14, and 15, which follow.

Table 11

ACADEMIC COMPETENCY OF THE FACULTY
ACCORDING TO THE GRADUATES' OPINIONS
BY DEPARTMENTS OF STUDY

Faculty at the Department	Faculty as Demonstrated by Graduates						Totals
	Almost All	About 75%	About 50%	About 25%	Almost None	No Res.	
Plant Industry	26	12	0	1	---	1	40
Economic & Social Sciences	18	0	1	---	---	---	19
Farmology	7	7	1	3	---	---	18
Animal Industry	11	8	---	---	---	---	19
Totals	62	27	2	4	---	1	96

Nov. 19, 1917

Academic competence (see Table 11). includes verbal and cognitive ability, knowledge and understanding of general and specific subject matter, the degree of professional information, the degree of general and professional education, and experience. The faculty at Turrialba, taken on the whole by departments of specialization were given high rating. Sixty-two graduates said that 100 percent of their professors possessed that attribute, and 52 gave them an evaluation which illustrated in the neighborhood of 75 percent. Only nine graduates classified their teachers with 50 percent of that attribute, and just four, three of whom were in Forestry, considered that this attribute was 25 percent present. Only one student abstained from giving his reply. The value of χ^2 showed that the differences among departments of study in the opinions given by the respondent were not significant at the level of five percent.

The opinions expressed by the respondents regarding the attitudes of the faculty toward the graduate school and its educational value, are summarized in Table 12 (p. 107). Fifty-five ex-students indicated that the faculty almost always demonstrated a broad point of view in respect to the school and its relations toward the students, in that which concerned its educational function.

Forty persons recognized the same attitudes for the faculty in approximately a 75 percent category. Twenty-one graduates recognized this attitude in their professors at around 50 percent; seven saw it at 25 percent; and three

generally denied the existence of this attitude in their departments.

Table 13

FACULTY'S ATTITUDE TOWARD THE UCA GRADUATE SCHOOL
EDUCATIVE VALUE, ACCORDING TO THE GRADUATES' OPINION
BY DEPARTMENTS OF STUDY

Departments of Study	Percentage of Faculty Who Had A Better View of Graduate School and Its Educational Function						Totals
	Almost All	About 75%	About 50%	About 25%	Almost None	No Pos.	
Physical Industry	20	11	10	4	2	2	69
Mathematical & Social Sciences	11	6	2	---	---	---	18
Forestry	8	6	3	3	---	---	19
Animal Industry	11	7	---	---	2	---	19
Totals	55	29	14	7	3	2	128
$\chi^2 = 31.508$							

The value of χ^2 showed significance in the differences at the level of five percent indicating that there was a correlation between the respondents' evaluation and the department in which he carried out his studies.

The results of the opinions expressed by the graduates in relation to the graduate school faculty's behavior (in respect to the great standards of excellence as to the high ideals which a professor should demonstrate in the fulfillment of his academic functions, in the expressions of his interest, and in his participation in the school's educational activities) are found in Table 13 (p. 118).

Table 2

FAMILY ATTITUDE TOWARD THE IITM GRADUATE SCHOOL
 MEASURED BY THEIR OWN BEHAVIOR
 ACCORDING TO GRADUATES' OPINIONS
 BY DEPARTMENTS OF STUDY

Department of Study	Proportion of Faculty Who Had High Standards of Excellence or Perfection High Ideals						Totals
	Almost All	Almost 75%	Almost 50%	Almost 25%	Almost None	No Res.	
Plant Industry	21	21	14	7	4	3	60
Economics & Social Sciences	11	11	5	---	---	---	28
Forestry	8	1	6	1	1	---	16
Animal Industry	14	3	---	---	1	---	18
Totals	48	21	21	8	6	3	118
$\chi^2 = 19.21$							

A total of 118 ex-students recognized this behavior as characteristic of the Turinlock faculty to the degree of 75 percent or over. Twenty-two respondents recognized it in the degree of 50 percent, and 14 graduates practically denied its existence or only found it in a very limited form in the faculty of their respective departments. There were twelve ex-students who abstained from answering.

Once more here, the value of χ^2 turned out to indicate significant at the level of five percent. This result indicates that there was a relationship between the opinions addressed and the respondent's department of study.

Table 11

FACULTY'S PERCEPTION AS TO WHETHER THE LEAD PLANNING OF
GRADUATE STUDENTS' ACQUISITION OF WORK
ACCORDING TO GRADUATES' PERCEPTIONS
BY DEPARTMENTS OF STUDY

Department of Study	In a plan of faculty who led students to take responsibility for planning their own work						Totals
	Almost All	About 75%	About 50%	About 25%	Almost None	No Res.	
Plant Industry	14	10	7	5	2	5	43
Commerce & Social Sciences	14	10	---	---	---	1	25
Forestry	14	5	---	---	---	1	20
Animal Industry	10	5	1	---	---	---	16
Totals	74	45	8	5	1	7	130

$\chi^2 = 12.116$

In respect to the ability to help the student understand his own responsibility in the planning of his work, the academic leadership of the Turbelle faculty was evaluated very high attributes. The surveyed five graduates reported that this characteristic was always demonstrated between 75 percent and 100 percent of the cases. Seven graduates did not respond to this question, and just one student from Plant Industry did not recognize this quality in his faculty. The value of χ^2 at the level of five percent was 3.84 to indicate significance. The value observed is shown in Table 11.

Finally, the effectiveness of the faculty was also evaluated by employing the attitudes developed by the teachers in

their relationships with the students and in the devices prepared by them so that the student could check his own progress. The results obtained can be seen in Table 15. A great majority (93 out of 123) of the respondents indicated that the professors almost always allowed them to check their own progress. The value of χ^2 was too low to show that the differences between departments were significant.

Table 15

FACULTY'S LEADERSHIP AS MEASURED THROUGH SOME EVALUATION PROCEDURES OF THE STUDENTS' PROGRESS ACCORDING TO GRADUATES' OPINIONS BY DEPARTMENTS OF STUDY

Department of Study	Proportion of Faculty Who Led Students To Check Their Educational Progress						Totals
	Almost All	About 75%	About 50%	About 25%	Almost None	No Res.	
Plant Industry	23	15	10	9	2	5	64
Economics & Social Sciences	13	10	3	---	---	2	28
Forestry	10	6	1	---	1	1	19
Animal Industry	12	6	---	---	---	1	19
Totals	58	35	14	9	3	9	128
$\chi^2 = 10.389$							

Recognition of the Educational Value of Thruway in Other Graduate Schools

Making use of the data submitted by 28 graduates who have obtained advanced degrees in other graduate schools (especially

in North American universities). It was also undertaking similar studies in these institutions. It was believed essential to ascertain the degree of recognition that had been given to degree of "Magister" offered by the IICA graduate school, and to also find out how much the studies received at Terrisima had helped.

Table 17

"MAGISTER'S" DEGREE FROM MINICA BY OTHER GRADUATE SCHOOLS
IN THE U.S.A., AS INFORMED BY IICA Ph.D. HOLDERS
AND/ OR DOCTORAL CANDIDATES

Departments of Study	Degree of Recognition		Did not follow such training	Totals
	Completely	Some or None		
Plant Industry	6	0	52	6
Economics & Social Sciences	0	---	25	25
Forestry	0	---	10	10
Animal Industry	2	---	17	19
Totals	8	0	104	112

x70 3.712

The results of these investigations may be appraised in Tables 16 and 17. In Table 16, the respondents indicated that the degree conferred by the IICA was completely recognized by American universities as being equivalent to the "Masters." Only three professional men stated that the aforementioned document was just partially recognized in their programs of study toward the Ph.D.

Table 17

DEGREE OF HELP RECEIVED BY TARRIALBA TRAINING
ACCORDING TO THE OPINIONS OF IICA Ph.D. HOLDERS AND
OTHER GRADUATES RECEIVING ADVANCED TRAINING
BY DEPARTMENTS OF STUDY

Department of Study	Training Degree of help			Did Not Follow This Train- ing	Totals
	Almost completely	Very Much	Some but limited		
Plant Industry	4	11	4	46	65
Economics & Social Sciences	1	2	---	25	28
Forestry	1	1	---	16	18
Animal Industry	1	1	---	16	19
Totals	7	15	4	103	129
N = 10,233					

On the other hand, in Table 17 the information is presented which was tabulated from a total of 128 Tarrialba graduates who, under whom were undertaking studies toward the same advanced degree. Nine students said that the knowledge, skills, abilities, and understanding acquired at the IICA were of nearly complete help to them; 15 said that they helped a great deal; and just four considered their education to have been of limited value.

The Graduate School's Educational Objectives and its Degree of Achievement

One of the purposes of this research was to measure the graduates' degree of approval of the IICA graduate school.

Objectives, and if these were achieved, to ascertain the degree of fulfillment of these aims. This was done by utilizing the graduates' opinions since they could be assumed to constitute the finished product of these objectives.

Aside from the fact that the opinions cast by the graduates in respect to their degree of agreement or disagreement with the established objectives may be appraised in Tables 18, 19, 20, 21, 22, and 23, their opinions in respect to the degree of accomplishment of these objectives (within the limited economic means of the institution) are also presented.

Educational Objectives in the Individual Training of the Graduate

Objective No. 1

"To develop an adequate capacity of scientific reasoning in connection with agriculture" 88.7 percent of the graduates

Table 18

DEGREE OF ACCOMPLISHMENT OF OBJECTIVE NO. 1
ACCORDING TO THE IICA GRADUATES' OPINIONS
BY DEPARTMENTS OF STUDY

Department of Study	Degree of Accomplishment						Total
	Almost All	About all	About 90%	About 75%	Almost None	No Ans.	
Plant Industry	13	27	10	4	1	7	62
Economics & Social Sciences	7	9	6	---	1	5	28
Forestry	0	0	4	---	---	---	4
Animal Industry	5	9	2	---	---	3	19
Totals	25	55	22	4	2	15	118

were in agreement with this objective, 1.1 percent manifested disagreement with it, and only 1.4 percent of the respondents expressed doubt in regard to the value of this objective; 7.1 percent of the graduates either abstained or neglected to answer the question. The value of χ^2 was highly significant at one level of test.

If it is important to measure the degree of agreement or disagreement, it is even more important to analyze (in Table 18) the degree of agreement which the graduates attributed to this objective. There was a total majority of 46 graduates who indicated that the objective had been met between 75 percent and 100 percent of the time. Analyzing the replies by department of study, it may be seen that Forestry and Animal Industry obtained the greatest percentages with 79.5 percent and 75.0 percent, respectively. The value of χ^2 did not reach significance at the level of five percent, which indicated that there was no relation between the opinion expressed by the respondent and his department of study.

Objective Number 2

"To develop an adequate capacity of scientific reasoning in relation with ranch life problems."

Although in smaller number, nonetheless, 61.7 percent of the graduates considered that it was important to set this objective as one of the plans pursued by the IICA graduate school. Eighty-nine percent (or all but 11.9 respondents) of the graduates were in disagreement with it;

Table 19

DEGREE OF ACCOMPLISHMENT OF OBJECTIVE NO. 2
ACCORDING TO THE IICA GRADUATES' OPINIONS
BY DEPARTMENTS OF STUDY

Department of Study	Degree of Accomplishment						Totals
	Almost 100%	About 75%	About 50%	About 25%	Almost None	No Res.	
Plant Industry	3	12	7	6	5	29	61
Economics & Social Sciences	11	11	2	1	---	---	26
Forestry	4	5	2	1	1	6	19
Animal Industry	2	7	4	---	---	6	19
Totals	23	35	15	8	6	41	128

$\chi^2 = 47.717^{**}$ χ^2 was highly significant at one percent level

13.3 percent did not know what to think about it; and 19.5 percent of the graduates did not answer the question. The value of χ^2 , calculated to determine the degree of agreement with this objective, showed this agreement to be significant at the level of one percent.

The graduates of the Department of Plant Industry and Soils were those who exercised the most decisive influence on the results obtained, since 10 of them were in disagreement; another 10 doubted the importance of the objective; and another 16 abstained from answering.

Looking at Table 19, it can be seen that 58 graduates out of 128 considered that this objective had been completed

by the school to a degree of between 75 percent and 100 percent. Fifteen graduates felt that this goal had been hardly achieved to the 50 percent level, and that the institution ought to emphasize it more in order to make it a 100 percent reality. Forty-one respondents did not answer the question, and only six felt that the institution had made no effort to meet the objective.

The calculated value of χ^2 showed significance at the level of one percent demonstrating that the graduates cast their opinions in accordance with the department to which they belonged. The ideas expressed earlier in respect to the degree of agreement with this objective acquired even more validity, and are worthy of being taken very much into account, into the curriculum.

Objective No. 3

"To give emphasis to the development of student's capacity in the planning of scientific research."

Table 22

DEGREE OF ACCOMPLISHMENT OF OBJECTIVE NO. 3
ACCORDING TO THE IICA GRADUATES' OPINIONS
BY DEPARTMENTS OF STUDY

Department of Study	Degree of Accomplishment						Total
	Almost 100%	About 75%	About 50%	About 25%	Almost None	No Res.	
Plant Industry	23	18	11	---	1	9	62
Economics & Social Sciences	12	11	3	---	1	1	28
Forestry	7	10	1	---	---	1	19
Animal Industry	8	4	3	---	---	4	19
Totals	50	43	18	---	2	15	128

$\chi^2 = 11.140$ N.S.

Only three students ventured to doubt the importance of this objective, and 11 graduates abstained from answering the respective question. There was not a single respondent who was in disagreement with this objective. The calculated value of χ^2 did not reach significance to the level of five percent. Looking at the degree of achievement (Table 11), it was found that 93 students felt that the objective had been fulfilled to a level of between 75 percent and 100 percent; 18 graduates found its achievement to be on a mediocrity level; and only two students affirmed that the institution had made practically no effort to meet the objective. The value of χ^2 did not reach significance to the established level of five percent. Therefore, there were not differences by departments of study.

Objective No. 4

"To give the student the capacity to relate research results with the practical problems in the student's field of study."

Table 11

DEGREE OF ACCOMPLISHMENT OF OBJECTIVE NO. 4
ACCORDING TO THE IICA GRADUATES' OPINIONS
BY DEPARTMENTS OF STUDY

Department of Study	Degree of Accomplishment						Total
	Almost 100%	About 75%	About 50%	About 25%	Almost None	No Res.	
Plant Industry	20	18	11	4	1	8	62
Economics & Social Sciences	10	11	1	2	1	2	27
Forestry	9	7	3	---	---	---	29
Animal Industry	10	6	1	---	---	2	19
Totals	49	43	16	6	2	12	128

$\chi^2 = 11.016$ N.S.

Once again, just three students were in disagreement with the value of this objective; one was not sure of its value; and nine abstained from answering. The immense majority, however,--practically 90 percent of the respondents--attributed indisputable importance to this objective of the institution.

As far as the degree of reaching or fulfilling the objective is concerned, (Table 21), 92 of the 118 graduates, or 77.9 percent, acknowledged that the school had fulfilled it to the level of between 75 percent and 100 percent; 16 considered that it was accomplished in a mediocre manner; six indicated that only minimal efforts had been made to reach it; and two were convinced that nothing had been done to bring it about. The calculated value of χ^2 to the level of five percent did not turn out to be high enough to indicate significance of differences by departments of study.

Objective No. 5

"To develop the student's thinking capacities."

Table 22

DEGREE OF ACCOMPLISHMENT OF OBJECTIVE NO. 5
ACCORDING TO THE IICA GRADUATES' OPINIONS
BY DEPARTMENTS OF STUDY

Department of Study	Degree of Accomplishment						Total
	Almost 100%	About 75%	About 50%	About 25%	Almost None	No Res.	
Plant Industry	16	19	10	4	2	11	62
Economics & Social Sciences	11	10	3	---	---	---	24
Forestry	4	10	2	---	---	3	19
Animal Industry	8	5	2	---	---	6	21
Totals	39	44	17	4	2	24	126

$\chi^2 = 15.877$ N.S.

The same as in the previous cases, 81.3 percent of the graduates were in agreement with this objective of the IIA graduate school. Five students (four of whom belonged to the Department of Plant Industry and Soils) reacted against the objective, and 12 (or 14.6 percent) did not answer the question. The calculated value of χ^2 showed lack of significance at the level of five percent.

In respect to the degree of achievement of this objective (see Table 22), 51 students (61.3 percent of the respondents) indicated that the IIA achieved it to the level of between 75 percent and 100 percent. Its achievement was mediocre for 17 of the graduates. Four respondents from Plant Industry and Soils indicated a minimal degree of achievement, and another two from the same department indicated that the graduate school had made no effort to reach that goal. Finally, 11 graduates abstained from giving their opinions in respect to the issue. χ^2 was not significant at the level of five percent, which indicated that there were no significant differences by department of study.

Objective Number

"To develop the student's writing capacity."

This was another objective which also merited ample backing on the part of the graduates, because 91 of the 118 respondents were in its favor. Looking at the partial percentages of approval, according to department of study, it was found that the greatest number voting in favor of this

Table 1.

DEGREE OF ACCOMPLISHMENT OF OBJECTIVE NO. 6
ACCORDING TO THE IICA GRADUATES' OPINIONS
BY DEPARTMENT OF STUDY

Department of Study	Degree of Accomplishment						Total
	Almost 100%	About 75%	About 50%	About 25%	Almost None	No Res.	
Plant Industry	15	17	11	5	1	18	67
Economics & Social Sciences	5	15	3	1	---	4	28
Forestry	4	8	1	1	---	5	19
Animal Industry	4	14	2	---	---	9	29
Totals	28	41	17	5	1	36	128
$\chi^2 = 16.049$ N.S.							

objective were in the department of Economics and Social Sciences, with 23 out of 28 graduates, and that the smallest number went to 11 out of 19 graduates from the department of Animal Industry. Seven students from this last department did not answer this question. They constituted about 24 percent of the graduates who abstained from answering. The calculated value of χ^2 was not significant, which indicated that there was no association between the respondents' departments of study and the opinions they expressed.

Although there was a small number of students (see Table 1.) who recognized a high degree of achievement of this objective on the part of the graduate school, 69 participants felt that Turrialba reached this goal to the level of between 75 per-

and 1 percent. At any rate, that number represented 5.6 percent of the total of 1.8 respondents. The value of χ^2 did not reach significance, which indicated that the validity of the hypothesis was null in respect to association between the two variables studied.

Before terminating this area of study, it was thought indispensable to clarify that the only objectives considered here were those which related directly to the institutional's graduate education program. There were another 22 general and specific objectives which constituted the goals sought by the IICA on a Latin American level. Such objectives were not included here because they were not directly related with the theme of this investigation.

Questions that the IICA Graduate Would Like to See
Addressed by the Faculty in Graduate Level

As a complement to the second specific objective of this study, it was considered important to include a section in which the respondents could express their points of view concerning possible changes or innovations that they would like to see in their graduate school, using their past experiences in the sector as points of departure.

Since a determination of these aspects could be very ample in content, it was deemed suitable to concentrate it in a few possible reference areas, including in addition a twelfth alternative which would leave the door open for the respondent to indicate the name of other possible areas which he considered worthy of mention.

The following were some of the areas in a graduate school such as the IICA's which were most susceptible to discussion and commentary: the process of admitting students; the academic program or the curriculum; the research program; the scholarship program (and as some graduates saw it in accordance with his own scholarship recommendation); the general administration of the graduate school; the extra-curricular activities, including the recreational ones; the institutional administration of business, especially in relation to that which pertains to the interests of the regular students; the area of student services, especially in that which is relative to living facilities, food, and transportation; the area of guiding and counseling of the students; the area of follow-up with the graduates; and especially, what they think of and what they would recommend in relation to the status of graduates from the Inter-American Institute of Agricultural Sciences. Since the technique of "open questions" was adopted to make the graduates feel in complete liberty to express opinions, the formulation of this section of the questionnaire had to be done in terms of three alternatives:

- a. That the area observed should continue as it is;
- b. That it should change;
- c. No observation.

The results obtained from this part of the study appear in Table 22 (p. 113). As in the previous cases, χ^2 was also applied here as a statistical measure. In every case considered, when the null hypothesis was submitted to the test, it sur-

Table 11

AREAS IN WHICH MAJORITY OF GRADUATES OF THE DEPT. OF AGRICULTURE
FOR THE B.A. AND B.S. DEPT. OF STUDY

Area of Interest and Department of Study	Number of Opinions			Totals
	Yes Change	No Change	X Answer	
<u>Academic Program</u>	<u>100</u>	<u>9</u>	<u>7</u>	<u>116</u>
a. Plant Ind. & Soils	46	3	1	50
b. Bot. & Agr. Sciences	19	2	7	28
c. Forestry	16	1	1	18
d. Animal Industry	11	1	6	18
<u>Research Program</u>	<u>42</u>	<u>17</u>	<u>5</u>	<u>64</u>
a. Plant Ind. & Soils	22	6	8	36
b. Bot. & Agr. Sciences	14	1	7	22
c. Forestry	11	1	1	13
d. Animal Industry	5	2	6	13
<u>Service Class Activities</u>	<u>60</u>	<u>7</u>	<u>6</u>	<u>73</u>
a. Plant Ind. & Soils	31	5	7	43
b. Bot. & Agr. Sciences	18	---	10	28
c. Forestry	7	2	1	10
d. Animal Industry	4	---	10	14
<u>Follow-up Studies</u>	<u>81</u>	<u>2</u>	<u>19</u>	<u>102</u>
a. Plant Ind. & Soils	49	1	11	61
b. Bot. & Agr. Sciences	22	---	5	27
c. Forestry	16	1	3	20
d. Animal Industry	14	---	6	20
<u>General Educational Program</u>	<u>72</u>	<u>6</u>	<u>11</u>	<u>89</u>
a. Plant Ind. & Soils	44	5	18	67
b. Bot. & Agr. Sciences	20	1	11	32
c. Forestry	11	1	1	13
d. Animal Industry	7	1	8	16
<u>Administrative Work</u>	<u>71</u>	<u>16</u>	<u>12</u>	<u>99</u>
a. Plant Ind. & Soils	40	13	8	61
b. Bot. & Agr. Sciences	19	6	1	26
c. Forestry	11	2	4	18
d. Animal Industry	11	5	1	17
<u>Business Administration</u>	<u>11</u>	<u>8</u>	<u>24</u>	<u>43</u>
a. Plant Ind. & Soils	11	5	20	36
b. Bot. & Agr. Sciences	7	1	18	26
c. Forestry	8	1	6	15
d. Animal Industry	1	---	10	11

continued on p. 111

Table 2. continued

Area of Change and Department of Study	Number of Opinions			Totals
	Yes Change	No Change	No Answer	
<u>Students of BBA Graduates</u>	<u>43</u>	<u>8</u>	<u>50</u>	<u>101</u>
a. Plant Ind. & Soils	17	5	22	44
b. Econ. & Soc. Sciences	17	1	16	34
c. Forestry	7	1	8	16
d. Animal Industry	7	1	8	16
<u>Student Reviews</u>	<u>43</u>	<u>6</u>	<u>60</u>	<u>109</u>
a. Plant Ind. & Soils	17	4	28	49
b. Econ. & Soc. Sciences	16	1	11	28
c. Forestry	7	1	8	16
d. Animal Industry	7	0	11	18
<u>Student Counseling & Guidance</u>	<u>43</u>	<u>11</u>	<u>50</u>	<u>104</u>
a. Plant Ind. & Soils	17	7	24	48
b. Econ. & Soc. Sciences	17	2	17	36
c. Forestry	7	1	8	16
d. Animal Industry	7	1	11	19

*Areas in which χ^2 was significant at 5% level.

tested an assertion of association or relation between the opinions offered by the graduates and his department of study. Nonetheless, in three areas the null hypothesis of no association had to be rejected. That phenomena occurred when the respondents referred to the academic programs, the research programs, and the extra-curricular activities. In these areas the values of the opinions offered varied with the department in which the respondent studied.

Reviewing with care, the results obtained several reservations can be made.

The graduates from the department of Economics and Social Sciences were the most interested in recommending a change

in the process of student admissions. This was perhaps due to the fact that they considered that the "ingeniero agronomo" is not the only ideal type of Latin American professional person who should be accepted by Turrialba as a potential candidate for receiving graduate training in the areas offered by the institution. The graduates who committed themselves least for a change in this process were the students from Animal Industry.

The graduates showing the least conformity with the curriculum were those from the department of Plant Industry and Soils. Ninety percent percent of 50 graduate students out of the 62 included in this study, indicated desire for a change in the academic program of the department. A similar tendency, although not as marked, was observed in the students from Forestry, in which 11 of the 19 respondents indicated that they would like to see a change in the department's academic program. At any rate, everything concerning the academic programs appears to be a critical area which merits full care and attention on the part of the graduate school authorities, and especially, in the part of a full-time dean with sufficient experience in the field of educational administration at the graduate level. Many informants from all of the departments mentioned the possibility of Turrialba making the necessary arrangements in order to broaden its radius of action toward the Doctorate.

The graduates from Forestry were those who in the greatest percentage (84.5 percent) hoped to see a change in the curriculum

program in their curriculum. They were followed in this compulsory way by the other departments of the University and the Faculty. The students satisfied with the status quo in the research program were those who came from the department of Animal Husbandry.

The Forestry graduates were really three more alienated with the university program while professional people were not disappointed in respect to their studies. Most of the graduates from this department had received scholarships from the Fellowship program of the Organization of American States. Their receiving some of the research assistance by the Fellowship program was a source of complaint. Many complaints were found directed against the Technical Secretary of the program. He was accused of not being interested in the fate of the scholarship holders; of laxity in the terms of giving out the scholarships; of negligence in the proper correspondence by not filling the scholarship index; and of other complaints that give rise to doubts concerning the necessity of changing the system and directing that program under the new concept of work with the material.

All of the graduates who participated in this study depended on some kind of scholarship provided by some institution in order to undertake training. Thirty-six professional people were given scholarships by the AID Program mentioned earlier and nearly all of the 46 graduates had similar observations.

In contrast, there were 11 scholarship holders sent to Thailand by the AID program who had no serious observations.

There had been a marked rise in the yearly number of scholarships to increase the fulfillment of graduate studies.

After completion of granting scholarships and receiving application from IICA/EEC (East Zone), with 10 scholarship holders; IICA/EEC (Kusileo Energy Program), with five scholarship holders; IICA/American Forest Research Institute, with seven scholarship holders; IICA/Forest Programs, with 12 scholarship holders; agreements, with five recipients of scholarships; and other sources, with 14 scholarship recipients.

Initially 11.7 percent, that is, 61 of the 528 students, gave their opinion in relation to the external administration of the graduate school. The most interested in recommending a change in this area were the 30 students from the department of Plant Industry and Silv. They were followed by the departments of Mechanics and Civil Sciences, and Forestry, each with 10 percent. The graduates least interested in this area were those from Animal Industry, with just 0.6 percent of the respondents. All of them wanted the administrative system to be changed, making it with a full-time dean. We would recommend on the basis of an election by the faculty.

In the area of extra-curricular activities, including both recreational ones, less than 5 percent of the graduates, 10 of the respondents, indicated the suitability of again undertaking excursions to picturesque places in Costa Rica, with other places of scientific value and the enjoyment of a few ballgames for the kids, including a swimming pool and a few other games appropriate to this student atmosphere.

in the student body, many of the graduates had had a
participation in a series of seminars which would discuss
the importance of the development of the country.
The majority of the graduates replied that they had not
been following the most important section of the problems. They
participated in a series of seminars which would be held by
the faculty of the institution. Only some "invited lec-
tures" were the ones which would require it.

Only 11.1 percent of the 1.8 respondents expressed
their opinion in respect to certain seminar that should be
held in the University of the Philippines. The
most important interest in such changes were those from
the industry and labor. It was by those from Economics
and Social Sciences and from the Faculty. The ones least
interested in such changes were those from Animal Industry.

In general, they asked for more timely attention to
students' financial problems; systems of simple information
in relation to students' monthly expenses; timely payment
of monthly dividends; and, to wit, "more consideration
and courtesy with the graduate students in the part of
executives and administrators from the administration."

With the financial mechanism of the IICA, the president-
ly was mentioned in relation to the study, or of not
taking them into account when a student did not have a
sufficient amount to pay them.

Four positive aspects were mentioned most frequently in
the University of the Philippines: 1) Improving and organizing

domestic services, including living facilities for married students; 1) extending the service of: 1) expanding and improving housing facilities for married students and their wives of Tashkent, especially during the evenings; 2) extending medical assistance for the members of the family; 3) extending assistance during vacations, including with him; and 4) formal confirmation of the service of the students from domestic duties (in a limited form) in the case of the students.

All of these changes were limited by the 47.7 percent of the graduates, among whom were included 1) of the 12 students from the industry and 3.5%; 2) of the 12 representatives from the science and technical sciences; 3) of the 12 graduates from the industry; and 4) of the 12 graduates from the industry.

Among the changes the graduates wished to see in the work of Student Affairs and Social Work was the establishment of student services with a personnel manager specialized in: 1) their after-school and social, cultural, and psychological problems.

In the publication work of the second principal, caused by the work of the committee of the graduates, the following was noted: 1) More personal contact between professors and students; 2) More concern and interest on the part of the professors in the student's educational and research problems; and 3) More attention to these problems on the part of every member of the committee.

and again it was interesting that the graduates from Animal Industry were at least interested in commenting on these problems. A number of the 13 fishermen replied. These most affected in this way seemed to be the students from Animal Industry and Chile and from Paraguay.

Concerning the status of the IICA graduate, all of the 13 respondents made recommendations or observations such as the following:

1) The title of "Magister" granted by Universidad Central de Chile seemed to be different from the "Masters" of American universities, but by no means inferior to the degree granted in the United States of America.

2) The institute should pay more attention when it comes to "selling" its graduates to governments and agricultural organizations in Latin America. Many respondents indicated that their knowledge and abilities had not been properly recognized in Bolivia, Chile, Ecuador, Peru, and other countries.

3) Others recommended that the IICA itself should better promote its own graduates. One of the respondents judged that the "Magister" should receive a better remuneration than that of a secretary.

The topic of follow-up studies in relation to the graduate seemed a great deal of enthusiasm among the respondents. Eighty-five of the 113 participants in the study, with percentages of more than 75 percent in each group, insisted in the form of the study on the greatest importance of the gradu-

and No. 1 (and the Institute in general) not losing contact with its graduates. There was also a wish to be in favor of the formation of an association of IIA graduates, with secretarial services provided by the Institute, along with the necessary facilities for the publication of a magazine, in which would be included all of the information coming from the graduates in respect to their new experiences, successes, difficulties, and all other information useful to them. Others emphasized the necessity of the Institute's making more frequent use of the possible influences the graduates could offer, in order to facilitate a better development of the Institute's activities in the member countries. There was also an idea recommended the institution of fellowships, such as the present, in a regular manner, including in them not only present students, but also those planning to enter the graduate school. This would have as its object bringing to more actively measure the final product of the graduate training, as a process of change. At any rate, all of the respondents stressed the necessity of maintaining at least a frequently simulated revolution. Annual meetings, seminars, and other means of human interaction were also mentioned with some frequency.

Appendix of Document and First Paragraph of the IICA Document on Instrumental Study

Another specific objective of this investigation was to study the relations that could exist between the graduate's department of specialization in Thordarha and his possible

graduate's views of other graduates, his expectancy, and his satisfaction. As problems indicated in the sample indicated by the graduate education received by the respondent.

The Method of Evaluation and Training observed that in regard to the extent of the so-called "subjective nature" of the respondent's own response "student's profile" as a criterion for measuring the teacher's success, and if subsequently approving the course effected in the person as a result of the educational program initiated by the institution in question. Following this line of thought, this investigation included some direct questions that were designed to determine the light of each aspect. In Table 25, 26, 27, and 28 the results obtained may be observed.

How did the graduates obtain their first job? What is the training received in the field?

This was one of the direct questions in this group. The results were included in Table 29 (p. 125).

This table shows that 61.4 percent of the graduates had been recruited by means of direct contacts established by the organization interested in employing them. The second alternative, which turned out to be more frequent, was based on the graduates' personal solicitation, which corroborates the respondents' report that the IICA attempt to inform the agricultural organizations of the continent as to the availability of specialized personnel. More evidence in the same report is obtained from when it is observed that only 5 out of the 118 participants mentioned the IICA as a

colleagues and recommendations for training their
employment.

Table 1

HOW THE I. A. WALKERS OBTAINED THEIR FIRST POSITION
AFTER GRADUATE FROM THE IALBA, BY DEPARTMENTS OF STUDY

Method of obtaining first position After graduation	Number of Informants by Departments				Totals of Alternatives	
	Ill. Ins. & S. Ills.	Ill. Ins. & S. Ills.	Forestry	Animal Indus- try	No.	%
Through personal supplication	16	1	2	5	24	22.7
Through a private employment agency	---	---	---	---	---	---
Through the IALBA recommendation	1	1	1	1	4	3.7
Through Civil Serv- ice examination	---	---	---	---	---	---
Through a contact friend	1	1	1	---	3	2.8
Through contact by an employer	1	3	11	7	22	20.3
Through a relative	1	1	---	---	2	1.9
Through a friend	1	1	---	1	3	2.8
Unknown	7	1	1	3	12	11.1
No response	7	1	1	1	10	9.3
Totals	61	13	19	19	112	100.0

WFO 15-688 N.I.I.

The Graduate's Expectations About His First Position

The educational process to which a graduate student is submitted has as its final goal the forging about of a change in his manner of thinking, feeling, and feeling about his future life. If this is true, it was assumed that that change would also come in the case of the Tumbalaca graduates, and that they would have already imagined the type of occupation that they would like to enter upon at the termination of their training.

The respondent was asked to indicate what his hopes were in regard to the employment that he would like to have after his graduation in Tumbalaca, while he still remained a student in the center; the results obtained are included in Table 16.

Table 16

THE GRADUATE'S EXPECTATION ABOUT HIS FIRST POSITION AND HIS TUMBALACA GRADUATE'S DEPARTMENT OF STUDY

Graduate's Expectation About Their First Position	Number of Informants by Departments				Totals by Alternatives	
	Field & Skills	Gen. & Soc.	Forestry	Animal Industry	No.	%
Good idea of what they would expect while at Tumbalaca graduate school	6	1	0	1	8	7.2
One was not as expected	11	4	0	1	16	14.1
One was somewhat as expected	15	1	0	0	16	14.1
One was just as expected	4	2	0	3	9	8.1
No answer	11	11	7	0	29	25.7
Totals	61	18	17	10	128	100.0

Only 7.8 percent said that they had no idea about their future job while they were at Turrialba. All of the others or the 92.2 percent said their jobs were just as they expected having so the opportunity to form their ways of thinking, acting, and feeling in respect to their future fields of specialization.

The Graduate's Job Satisfaction

The choice of an occupation for life can influence success or failure, although it is not doubted that additional factors may also affect that success or failure of the choice. Among the secondary factors that can determine the degree of success are effort, luck, the ability of the candidate to accomplish the tasks assigned him, and the greater or lesser degree of difference in the skills or abilities which should be employed. A position demanding the most frequent use of the knowledge, skills, abilities, and understanding of the individual will be increasing the probability of success from the person in his position, and at the same time, his greater or lesser degree of satisfaction in the position that he fulfills. That greater or lesser degree of fortitude in the strong points is largely the product of the education received by the individual.

For these reasons, it was believed convenient to analyze this degree of satisfaction in the Turrialba graduates. The results of such an intent are found included in Table 27 (p. 136). Only six of the 128 Turrialba graduates showed that they were

Table 12

DATA REPORTED FOR SATISFACTION, BY DEPARTMENTS OF STUDY

Degree of Job Satisfaction	Number of Informants by Department				Totals by All Informants	
	Engrs. & Archts.	Chem. & Phys.	Metallurgy	Animal Industry	No.	%
Like line of work, but don't like present position	8	5	5	1	19	14.7
Like present job, but don't plan to make it life's work	10	7	9	6	32	24.6
Don't like line of work, but will change when an available position	6	---	---	---	6	4.7
Don't like line of work, but will keep it because of the salary	---	---	---	---	---	---
It is fine, but it is too far from home	---	1	---	1	2	1.6
Like job, and plan to make it life's work	11	17	7	8	43	33.4
No response	---	1	---	---	1	0.8
Totals	34	38	29	19	120	92.5

Not included

discontented with the social situation that they and their sons and all of them belonged to. The department of Plant Industry and Cattle. Sixty-three respondents had been able to enter the profession which enabled them to utilize perhaps all of their specialized knowledge and skills and they, therefore,

indicated that they liked their specialization and their position, and that they were planning to make their present employment their life-work. There were, however, those who liked their specialization and their job, but were not planning to make it their life-work. In fact, the majority of them planned to continue their graduate studies in order to improve their knowledge, skills, and abilities even more.

It appears that only 10 of the graduates saw themselves doing a job that did not fit their field of specialization, or which was not their own. They continued liking the same thing despite the graduate work. In spite of the indication that they did not want to be specialists and do their work, we do not believe very highly, because they themselves were very far from such a view.

How Graduate Work Affects Attitudes in Their Fields of Specialization

In order to understand this area of research, it was also considered appropriate to measure the degree of familiarity with the graduate and experience in their fields of specialization. This intensity of interest produced by the graduate training can also be verified at the same time, with the degree of command of familiarity could also be affected by secondary factors, such as the necessity of doing any sort of work, with the object of providing the fundamental necessities of life.

Table 2

DEGREE OF PERMANENCY OF THE AGA GRADUATES IN THEIR
FIELDS OF SPECIALIZATION, BY DEPARTMENTS OF STUDY

Degree of Permanency in their Fields of Specialization	Number of Informants by Departments				Totals by Alternatives	
	Pl. Ind. & Soils	Enom. & S.S.	Fore- stry	Animal Indus- try	No.	%
After graduation from Tavrisia always been even working in the same field	18	11	11	10	50	70.6
Have been working sometimes in same line of speciali- zation	11	4	4	2	21	30.6
Have always been working in a dif- ferent line of work than former train- ing at IICA	4	1	---	---	5	7.2
Have discontinued	1	1	---	---	2	3.0
Have died	1	1	---	---	2	3.0
Totals	35	18	16	12	71	100.0
N = 9.01 N.S.						

In Table 2 it was found that 70.6 of the 1.6 graduates had always been working in the fields of specialization in which they had been trained in Tavrisia. This also affirms the degree of efficiency with which the graduate school has worked.

Perhaps, due to the reasons noted in the foregoing study, the persons interviewed stated that they had "sometimes" been working in their fields of specialization.

Only six of the 14 graduates could be considered less than satisfied with the general training received, since they were always working in different areas in which they could employ their knowledge, skills, and abilities. Five of these respondents belonged to the department of Plant Industry and Cattle Raising and one to the department of Economics and Social Sciences.

The IIA graduates' report on some of their personal and professional problems

The most specific objective of this study was that of finding out what were the most urgent problems that IIA graduates had to face, and how well they had not received training in terms of the required knowledge, skills, abilities, and understandings.

The questionnaire included two types of questions in regard to most this objective. One referred to an evaluation of the respondent's experience with training in his department of study. Such an evaluation was to have been made in terms of the degree of efficiency with which he was confronting his own problems in his field of work. The other direct questions attempted to measure the available facilities, the most limiting factor, and the most urgent problems that the respondent faced in his work position.

In Tables IV, V, VI, VII, and VIII the results corresponding to the first group of problems are tabulated, while the replies to the other set of questions are tabulated in Tables IX, X, and XI.

The Training Received and Its Usefulness in Facing
Professional Problems

It could be observed in Table 19 that 51 students awarded the highest usefulness to the training received (in order to face their professional problems and to resolve them successfully).

Table 19

EVALUATION OF THE STUDENT'S TRAINING IN HIS DEPARTMENT
OF STUDY AS A HELP IN MEETING PROBLEMS IN HIS PROFESSION
BY DEPARTMENTS OF STUDY

Department of Study	Help in Meeting of Problems in the Profession						Total
	Almost Entire- ly	To a Large Extent	To Some Extent	Little	Almost None	No Res.	
Plant Industry	22	10	9	---	---	1	62
Economics & Social Sciences	21	14	2	---	---	1	38
Forestry	7	10	2	---	---	---	19
Animal Industry	11	6	2	---	---	---	19
Totals	51	60	15	---	---	2	128
$\chi^2 = 5.344$							

Another 60 students estimated that the training was useful to them to the degree of about 75 percent, or as they indicated, "to a large extent." When it could be observed that just 15 students granted an approximate 50 percent value to this aspect, the success achieved by the graduate school could be appreciated ever more. The interest aroused by the question

and the efficiency was obtained by the number of replies in minutes. Only the graduate students (approximately 10 percent) obtained from 100 percent. Of the 100 students who obtained a minimum efficiency of 100 percent (in order to discover the effect of the training on the efficiency) nine of them, or 9 percent, of the sample, belonged to the Department of Social Psychology and 11 percent to the Department of Psychology and Social Sciences. An ex-student from the Department of Psychology and Social Sciences and another from the aforementioned department did not answer the question. The maximum percentage of efficiency obtained in this study belonged to 11 graduates from the Department of Psychology and Social Sciences.

The calculated values of χ^2 did not reach significance. Therefore, there were not significant differences by departments of study.

The Training Received and the Degree of Efficiency
Received by the Graduate Students in the Social Field

In order to determine the degree of the L.E. respondents, affirmed in Table 1 (p. 100) that, thanks to the graduate training obtained in Psychology, they could make more efficient use

of their minds in the conception and resolution of the problems inherent in social psychology, and especially of the social psychological problems in daily life.

Another 10 individuals received a value equivalent to 100 percent, but assigned little value (approximately 10 percent), and three ex-graduate students obtained from an untrained background.

Table 1

RESULTS OF THE STUDENT TRAINING IN THE DEPARTMENT
OF THE ARMY IN THE DEPARTMENT OF THE ARMY
BY DEPARTMENT OF THE ARMY

Department of the Army	Degree of Efficiency in the Field						Total
	Lowest Efficiency	Low Efficiency	Medium Efficiency	High Efficiency	Almost None	None	
Department of the Army	12	12	12	12	---	12	60
Department of the Army	12	12	12	---	---	12	48
Department of the Army	12	12	12	---	---	---	36
Department of the Army	12	12	12	---	---	12	48
Total	48	48	48	12	---	48	204

NOTE: The above figures are based on the results of the training in the Department of the Army.

The results of the training in the Department of the Army were similar to those of the training in the Department of the Army, indicating that the results of the training in the Department of the Army were not significantly different.

The maximum percentage of efficiency in the training in the Department of the Army was 100 percent, which was obtained from the Department of the Army and the Department of the Army. The maximum percentage of efficiency in the training in the Department of the Army was 100 percent, which was obtained from the Department of the Army and the Department of the Army.

The results of the training in the Department of the Army were similar to those of the training in the Department of the Army.

Ninety-nine participants indicated that the training in the Department of the Army was similar to the training in the Department of the Army.

where $\mathbf{y}$ is the vector of observed values, $\mathbf{X}$ is the matrix of explanatory variables, β is the vector of parameters to be estimated, and ϵ is the vector of error terms. The error terms are assumed to be independent and normally distributed with mean zero and constant variance. The maximum likelihood estimates of the parameters are obtained by maximizing the log-likelihood function, which is given by:

[illegible]

THIS CASE IS BEING HANDLED BY THE NEW YORK OFFICE OF THE ATTORNEY GENERAL. THE NEW YORK OFFICE IS CURRENTLY REVIEWING THE MATTER AND WILL BE IN CONTACT WITH THE FBI OFFICE IN NEW YORK CITY.

Department or Activity	Extent of work in the Field during Four months of 1916						Total
	Almost entirely in field	Two thirds in field	One third in field	Little in field	Almost none	No work	
Forest Industry	1	1	11	4	---	1	18
Commercial and Industrial	2	11	1	---	---	1	15
Manufacturing	1	2	1	1	---	---	5
Animal Industry	1	1	1	---	---	---	4
Total	5	15	24	6	---	3	108

[illegible]

Twenty-one executives, or 44.1 percent of the 48
total, said that the program was "valuable to some extent"
in insuring the fulfillment of their work.
The other said that the attention received was of little value
to them. They preferred to stick to their answering.

The principal variables of "time of entry" and "time of exit" (Table 1) contributed to the remaining explained variance, as indicated by the F -tests in Animal Industry, 14 from 1 to 10 days, 11 from 11 to 15 days, 12 from 16 to 20 days, 13 from 21 to 25 days, 14 from 26 to 30 days, 15 from 31 to 35 days, 16 from 36 to 40 days, 17 from 41 to 45 days, 18 from 46 to 50 days, 19 from 51 to 55 days, 20 from 56 to 60 days, 21 from 61 to 65 days, 22 from 66 to 70 days, 23 from 71 to 75 days, 24 from 76 to 80 days, 25 from 81 to 85 days, 26 from 86 to 90 days, 27 from 91 to 95 days, 28 from 96 to 100 days, 29 from 101 to 105 days, 30 from 106 to 110 days, 31 from 111 to 115 days, 32 from 116 to 120 days, 33 from 121 to 125 days, 34 from 126 to 130 days, 35 from 131 to 135 days, 36 from 136 to 140 days, 37 from 141 to 145 days, 38 from 146 to 150 days, 39 from 151 to 155 days, 40 from 156 to 160 days, 41 from 161 to 165 days, 42 from 166 to 170 days, 43 from 171 to 175 days, 44 from 176 to 180 days, 45 from 181 to 185 days, 46 from 186 to 190 days, 47 from 191 to 195 days, 48 from 196 to 200 days, 49 from 201 to 205 days, 50 from 206 to 210 days, 51 from 211 to 215 days, 52 from 216 to 220 days, 53 from 221 to 225 days, 54 from 226 to 230 days, 55 from 231 to 235 days, 56 from 236 to 240 days, 57 from 241 to 245 days, 58 from 246 to 250 days, 59 from 251 to 255 days, 60 from 256 to 260 days, 61 from 261 to 265 days, 62 from 266 to 270 days, 63 from 271 to 275 days, 64 from 276 to 280 days, 65 from 281 to 285 days, 66 from 286 to 290 days, 67 from 291 to 295 days, 68 from 296 to 300 days, 69 from 301 to 305 days, 70 from 306 to 310 days, 71 from 311 to 315 days, 72 from 316 to 320 days, 73 from 321 to 325 days, 74 from 326 to 330 days, 75 from 331 to 335 days, 76 from 336 to 340 days, 77 from 341 to 345 days, 78 from 346 to 350 days, 79 from 351 to 355 days, 80 from 356 to 360 days, 81 from 361 to 365 days, 82 from 366 to 370 days, 83 from 371 to 375 days, 84 from 376 to 380 days, 85 from 381 to 385 days, 86 from 386 to 390 days, 87 from 391 to 395 days, 88 from 396 to 400 days, 89 from 401 to 405 days, 90 from 406 to 410 days, 91 from 411 to 415 days, 92 from 416 to 420 days, 93 from 421 to 425 days, 94 from 426 to 430 days, 95 from 431 to 435 days, 96 from 436 to 440 days, 97 from 441 to 445 days, 98 from 446 to 450 days, 99 from 451 to 455 days, 100 from 456 to 460 days, 101 from 461 to 465 days, 102 from 466 to 470 days, 103 from 471 to 475 days, 104 from 476 to 480 days, 105 from 481 to 485 days, 106 from 486 to 490 days, 107 from 491 to 495 days, 108 from 496 to 500 days, 109 from 501 to 505 days, 110 from 506 to 510 days, 111 from 511 to 515 days, 112 from 516 to 520 days, 113 from 521 to 525 days, 114 from 526 to 530 days, 115 from 531 to 535 days, 116 from 536 to 540 days, 117 from 541 to 545 days, 118 from 546 to 550 days, 119 from 551 to 555 days, 120 from 556 to 560 days, 121 from 561 to 565 days, 122 from 566 to 570 days, 123 from 571 to 575 days, 124 from 576 to 580 days, 125 from 581 to 585 days, 126 from 586 to 590 days, 127 from 591 to 595 days, 128 from 596 to 600 days, 129 from 601 to 605 days, 130 from 606 to 610 days, 131 from 611 to 615 days, 132 from 616 to 620 days, 133 from 621 to 625 days, 134 from 626 to 630 days, 135 from 631 to 635 days, 136 from 636 to 640 days, 137 from 641 to 645 days, 138 from 646 to 650 days, 139 from 651 to 655 days, 140 from 656 to 660 days, 141 from 661 to 665 days, 142 from 666 to 670 days, 143 from 671 to 675 days, 144 from 676 to 680 days, 145 from 681 to 685 days, 146 from 686 to 690 days, 147 from 691 to 695 days, 148 from 696 to 700 days, 149 from 701 to 705 days, 150 from 706 to 710 days, 151 from 711 to 715 days, 152 from 716 to 720 days, 153 from 721 to 725 days, 154 from 726 to 730 days, 155 from 731 to 735 days, 156 from 736 to 740 days, 157 from 741 to 745 days, 158 from 746 to 750 days, 159 from 751 to 755 days, 160 from 756 to 760 days, 161 from 761 to 765 days, 162 from 766 to 770 days, 163 from 771 to 775 days, 164 from 776 to 780 days, 165 from 781 to 785 days, 166 from 786 to 790 days, 167 from 791 to 795 days, 168 from 796 to 800 days, 169 from 801 to 805 days, 170 from 806 to 810 days, 171 from 811 to 815 days, 172 from 816 to 820 days, 173 from 821 to 825 days, 174 from 826 to 830 days, 175 from 831 to 835 days, 176 from 836 to 840 days, 177 from 841 to 845 days, 178 from 846 to 850 days, 179 from 851 to 855 days, 180 from 856 to 860 days, 181 from 861 to 865 days, 182 from 866 to 870 days, 183 from 871 to 875 days, 184 from 876 to 880 days, 185 from 881 to 885 days, 186 from 886 to 890 days, 187 from 891 to 895 days, 188 from 896 to 900 days, 189 from 901 to 905 days, 190 from 906 to 910 days, 191 from 911 to 915 days, 192 from 916 to 920 days, 193 from 921 to 925 days, 194 from 926 to 930 days, 195 from 931 to 935 days, 196 from 936 to 940 days, 197 from 941 to 945 days, 198 from 946 to 950 days, 199 from 951 to 955 days, 200 from 956 to 960 days, 201 from 961 to 965 days, 202 from 966 to 970 days, 203 from 971 to 975 days, 204 from 976 to 980 days, 205 from 981 to 985 days, 206 from 986 to 990 days, 207 from 991 to 995 days, 208 from 996 to 1000 days, 209 from 1001 to 1005 days, 210 from 1006 to 1010 days, 211 from 1011 to 1015 days, 212 from 1016 to 1020 days, 213 from 1021 to 1025 days, 214 from 1026 to 1030 days, 215 from 1031 to 1035 days, 216 from 1036 to 1040 days, 217 from 1041 to 1045 days, 218 from 1046 to 1050 days, 219 from 1051 to 1055 days, 220 from 1056 to 1060 days, 221 from 1061 to 1065 days, 222 from 1066 to 1070 days, 223 from 1071 to 1075 days, 224 from 1076 to 1080 days, 225 from 1081 to 1085 days, 226 from 1086 to 1090 days, 227 from 1091 to 1095 days, 228 from 1096 to 1100 days, 229 from 1101 to 1105 days, 230 from 1106 to 1110 days, 231 from 1111 to 1115 days, 232 from 1116 to 1120 days, 233 from 1121 to 1125 days, 234 from 1126 to 1130 days, 235 from 1131 to 1135 days, 236 from 1136 to 1140 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The Training Received and the Degree of Ability
as an Educator Perceived by the Graduate

Eighty-three graduates (128 less 45 who were not working as teachers), considered that in one form or another they were performing services as educators. Sixty-eight of these graduates indicated that the training received in Turrialba was of "almost entirely" and "to a large extent" helpful to them in increasing their abilities as educators (Table 32).

Table 32

EVALUATION OF THE HELP OF STUDENTS TRAINING IN HIS DEPARTMENT
OF STUDY IN TEACHING (IF HE WORKED AS A TEACHER)

Department of Study	Help in Teaching Abilities						Total
	Almost Entire- ly	To a Large Extent	To Some Extent	Little	Almost None	No Tea- ching	
Plant Industry	9	14	6	3	---	10	62
Economics & Social Sciences	8	13	1	---	---	6	28
Forestry	7	5	2	---	---	5	19
Animal Industry	3	9	3	---	---	4	19
Totals	27	41	12	3	---	45	128

$\chi^2 = 20.783$ N.S.

Only 12 graduates felt that their efficiency as educators was augmented to the degree of 50 percent and three said that the help received from the graduate training was very slight in perfecting their educative abilities. The other 45 respondents indicated that they were not teaching.

Although the calculated value of χ^2 was not significant at the level of five percent, it was nonetheless possible to observe a strong tendency to reach significance, which would be demonstrated in the form of a certain inclination on the part of the respondents to report their opinions according to the department of study to which they belonged.

The Training Received and the Degree of Efficiency
in the Administrative Procedures by the Students

The corresponding results were included in Table 17.

Table 17

EVALUATION OF THE STUDENTS' OWN TRAINING AS A HELP MEASURED
IN ADMINISTRATIVE PROCEDURES (IF 13 WORKS AS SUCH)
BY DEPARTMENTS OF STUDY

Department of Study	Help in Your Administrative Procedures						Total
	Almost Entirely Yes	To a Large Extent	To Some Extent	Little	Almost None	No Ans.	
Plant Industry	4	1	4	0	0	14	19
Chemicals & Soda	3	0	1	1	1	5	11
Forestry	1	3	1	1	---	7	14
Animal Industry	1	0	0	0	1	4	6
Totals	19	4	11	2	2	30	68

$\chi^2 = 15.17$

The calculated value for χ^2 turned out to be highly significant at the level of one percent, which indicated that there was a significant relation between the informant's

department of study and the value that he assigned in the five-point scale referring to his efficiency as an administrator. The majority of the graduates performed administrative functions. Forty-four of the 78 administrators agreed in recognizing that the school helped them resolve their administrative problems either "to a large extent" or "almost entirely." However, there were 13 graduates who recognized "little value" or "almost none" in respect to the Turrialba training, as far as it related to the administrative process.

The students from Plant Industry, with 15 of the 23 respondents, were those who determined the results obtained. The Forestry graduates were those who assigned the greatest value to the Turrialba training (in relation to these topics).

Available Facilities for Current Development of
their Present Jobs

Table 34 (p. 147) shows that 69 of the 128 respondents classified the available facilities as "better than average" or as "excellent."

Nevertheless, there were 29 participants who still had not received complete attention on the part of their organizations and still reckoned with work facilities that they classified between "average" and "very poor."

Although the calculated value of χ^2 was not significant at the level of five percent, it was nonetheless possible to observe a strong tendency on the part of the participants in the investigation to reflect a relation between their

classification of the existing facilities and the specialization in which they were working.

Table 34

CLASSIFICATION OF AVAILABLE FACILITIES BY DEPARTMENT
BY DEPARTMENTS OF STUDY

The Available Facilities Are:	Number of Informants by Department				Totals by Alternatives	
	Pl. Ind. & Soils	Econ. & S. Sc.	Forestry	Animal Industry	No.	%
Excellent	7	1	8	1	20	15.6
Better than average	26	7	4	12	49	38.3
Average	15	6	1	3	25	19.5
Under average	6	7	5	2	20	15.6
Very poor	4	1	1	1	7	5.4
No response	1	1	---	---	3	2.3
Totals	62	28	19	19	128	100.0

$\chi^2 = 27.795$ N.S.

Except for the graduates from Economics and Social Sciences, it is possible to observe that there were more than 50 percent of the participants from every department who classified the working conditions as very good or excellent.

The Most Limiting Factor in the UICA Graduate's Present Job

In Table 35 is included the analysis of responses to the direct question: What is the most limiting factor in

y to present work period. With the desire of obtaining maximum
insight in this area, the person responding was given five
different alternatives and the open alternative for other
possible limitations, to make the whole course.

Table 11

THE "MOST LIMITING FACTOR" IN THE CIVIL ADVANTAGES PERCENTAGE OF
BY DEPARTMENT OF STUDY

The Most Limiting Factor in their Department	Number of Informants by Department				Totals by Alternatives	
	El. Ind. N C. Ind.	Man. N C. Ind.	Forest- ry	Animal Indus- try	N.	%
lack of materials and supplies	1	1	1	---	3	3.4
lack of equipment	1	1	1	1	14	11.9
lack of personnel	11	7	6	9	43	34.7
lack of transportation facilities	1	1	---	1	3	4.7
lack of money	8	6	1	1	16	12.8
other limitations	6	1	6	1	14	11.0
No response	11	1	1	1	14	11.0
Totals	61	18	16	14	118	100.0

x = 1.0/7% N.D.

If the alternatives are seen and observed with a bit of care,
many of them are in agreement that they-- in the majority of
them-- should be resolved on the basis of money. However,
there were occasions in which the graduates indicated that
there was money but that, for example, a deficient adminis-

reason was the lack of their speaking at on the lack of personnel. In addition, 60.5 percent of the participants in this study recognized the lack of personnel as being the most limiting factor. Many of these professional men who were grouped under the item of "other limitations" complained about a deficient administration. Nineteen graduates emphasized the lack of money as the most limiting factor in the carrying out of their functions. The alternatives which were least mentioned, "lack of transport and facilities" and "lack of materials and supplies," did not worry to any great extent the vast majority of the respondents.

Table X-3: Urgent Problems in the IMA Graduates' Activities

Summarizing the information furnished in Table 30 (p. 15) and the statement only to appraise the urgent problems which the graduates themselves are faced with, but also that it served to indirectly measure their professional attitude toward the specialization in which they had received training at Tonaluba.

In fact, 34 graduates, or 17.5 percent of the participants were very interested in continuing their graduate studies in order to in that way "increase their knowledge."

The learning process does not include only the knowledge, but it also refers to the skills, abilities, attitudes, understandings, and motivation of the learner. If this concept

of learning is applied to the contents of Table 31, it will be observed that the sum of the first four alternatives, and

Table 4

THE MOST URGENT PROBLEMS PRESENTED IN THE IICA GRADUATES
PRESENT POST-GRADUATE DEPARTMENTS OF STUDY

The Most Urgent Problems in the Present Post-Graduate Departments	Number of Informants by Department				Totals by Alternatives	
	Pl. Ind. 3 Soils	Ench. 4 S.Sc.	Forestry	Animal Indus- try	No.	%
To increase his proficiency in his job	11	9	4	4	31	22.7
To increase his knowledge	10	5	10	10	48	37.5
To increase his skills and abilities	2	2	---	---	5	3.9
To increase his understandings about his specialization	1	1	---	---	5	3.9
To secure the type of job for which he is prepared	5	1	4	2	12	9.4
To get a feeling of security in his job	5	2	1	1	9	7.0
To get recognition for his job's performance	3	3	---	---	6	4.7
No response	7	3	---	2	12	9.4
Totals	62	28	19	19	128	100.0
xxx 23.6-1						

even the fifth. is useful in finding that IICA graduates wanted to continue their educations in one form or another, in order

to "increase their degree of work efficiency" (31 participants), or "to increase their knowledge, skills, abilities, and understandings" (58 participants), or "to obtain the type of work for which they feel qualified" and in which they could professionally grow and learn, on the basis of daily experience.

It is probable that there could be other problems in the daily life of the "Magister." If that were true, the structure of the question could not have been the most adequate to measure which were the two most urgent problems that they found themselves faced with. Nevertheless, it must be mentioned that this question included an open alternative in which the graduate was invited to indicate if he had other problems more urgent than those indicated in the other seven alternatives which are found in Table 36.

In agreement with the above, only nine participants reported an interest in obtaining a feeling of security in their work, and another four were concerned with obtaining recognition from others toward the carrying out of the responsibilities belonging to their work. These are alternatives which could, perhaps indirectly, point to failings of variable degree in the training received, although they could certainly also be due to many other factors.

Other Valuable Information for the IICA Graduate School

So that this study could offer the greatest profit to the administrators of the graduate school, another objective

was indicated (see p. 11). When asked to find evidence concerning what would be the most serious problems that the graduate student was facing while he was still staying in Trinidad.

In Table VI (p. 12) were indicated the four different types of problems (academic, health, financial, and personal) and their degree of seriousness (which are discussed below), as appraised by a group of students.

Financial problem.

Financial problems were to be taken most seriously and rated the greatest number of graduates. Thirty-two graduates indicated that the lack of sufficient money in Trinidad was a very serious problem for them; nevertheless, the group did not express that this aspect was not a problem for them. As to the students considered in a minor problem, the group related to the same principal factor (money received in the scholarship). Of ex-students indicated that their major problem was the lack of sufficient money to cover their own expenses and those of their families. On the other hand, there were 13 students who did not consider this a problem, while another 26 graduates considered it a minor problem.

Within the same group of problems, the graduates classified the fact that their governments, and more precisely, the employment agencies, had not given them any additional money aid apart from the scholarship received, as a major problem. As to the 26 persons interviewed did not consider

Table 1

TABLE 1. TYPES OF PROBLEMS AND DEGREE OF SELF-CONSCIOUSNESS AMONGST
STUDENTS WHOSE NAMES WERE ON THE LIST OF STUDENTS AT THE TIME

Types of Problems	Degree of Self-Consciousness				Total
	Value	Mean	Std. Dev.	Significance	
<u>Academic Problems</u>					
a. Organization & presentation of his work materials	18	4	61	9	1.8
b. Seeking information as to what was expected of student	11	11	61	13	1.8
c. Finding a comfortable place for study	10	11	81	8	1.8
d. Lack of extra-curricular activities	8	18	71	11	1.8
<u>Personal Problems</u>					
a. Adjustment to life in a foreign country	11	11	91	13	1.8
b. Adjusting to life in a military facility	17	3	67	11	1.8
<u>Financial Problems</u>					
a. If enough money assigned for his scholarship	11	15	91	7	1.8
b. Lack of economical help from his government agency	11	11	71	11	1.8
c. If enough money to pay family & personal expenses	17	16	98	17	1.8
<u>Health Problems</u>					
a. Adjusting to a new environment	11	14	61	17	1.8
b. Adjusting to a new climate	11	11	81	11	1.8
c. Adjusting to a new diet	11	11	81	17	1.8
d. Adjustment to life in a new country	11	11	98	11	1.8

*X² was significant at 1% level.

that this had been a problem for them perhaps because these respondents did have the feeling of receiving the aid in question. In this same aspect, 22 graduates affirmed that the lack of economic aid from their employment agencies was a minor problem for them. As Table 40 indicates, this financial problem was significant at the level of five percent, which means that the null hypothesis for the two variables considered, was rejected.

Academic programs

The arrangement of their services was mentioned by 11 participants as a major problem; while 31 considered it a minor problem. In the other group, 64 ex-students indicated that this aspect was not a problem for them.

Within the same group of problems, only 17 graduates considered the available dormitory facilities a serious problem. As many ex-students considered these facilities a minor problem. A large number of 70 graduates did not consider this aspect to be a problem within their student life.

Academic programs

In its order, the "organization and presentation of the educational material" was a major problem for 18 students. While it was a minor problem for 22 respondents. Sixty-~~two~~ ex-students reported that this was not a problem for them.

The other problems mentioned, especially the last two, in this group, were not considered by 81 and 71 graduates,

respectively. Just 16 respondents said that "finding an adequate place to study" was a major problem for them, and eight considered that the "lack of extra-curricular and recreational activities" was also their greatest problem.

Personal Problems and Some Additional Comments

"Adjusting personal behavior in order to live with another student," "Adapting yourself to live with other people," "Amorous relations," and "the prohibition of living in the neighboring town" (to the graduate school), were not considered problems in nearly every case, by the majority of the students.

The great majority of the graduates (89 of the respondents), in spite of the extensiveness of the questionnaire used for this investigation, accompanied their replies with letters in which they expressed their point of view toward Turrialba as a graduate center. No single negative criticism was received in that number. To quote all of the respondents who expressed their opinions would be inadvisable. By way of a few simple examples, however, some of the commentaries of two graduate students are cited. Both of them are at the present time continuing their graduate studies toward the Ph.D. in American universities. One affirms that:

"My evaluation in favor of the IICA graduate school is decidedly favorable, because personally I acquired a new professional mentality, when I had the opportunity to grasp the new (to me) concept of research, which orientated my life towards research. Professionally, Turrialba is an educational center where nearly always many of the most capable professional men are concentrated. These

professional men always return more skilled and prepared to their countries, not only in the technical aspects of their specialties, but also in their sensitivity as citizens to discover more general problems in the total atmosphere of the country, an area in which we have developed very little in Latin America. Politically, I observe that the Turrialba alumni, as all good democratic leaders, have directed and do direct important processes in the agricultural development of my country.... With the beneficiaries of the graduate training at Turrialba being very few, the so notable results of their action do not achieve the impact that our countries demand."

The other student, who also is pursuing doctoral studies in one of the universities in the United States, says:

"My present graduate studies in an American university show me that the orientation and quality of the academic courses in Turrialba do not have to be envious of these here!... I carried the great majority of the courses in Turrialba at the same level."

Although the design of this study does not contemplate the inclusion of opinions given by the IICA graduates' employers, the author had an opportunity to carry on an informal conversation with the director of a technological institution at the university level in Mexico (which is at the present time offering courses at the graduate level). The director affirmed that, comparing the professional behavior of his professors with advanced degrees above the "ingenieros agrónomos," with those with a Masters who came from Turrialba, he tends to favor the latter. The reason is that, aside from the knowledge, skills, and abilities, which are about the same in both groups of professional men, those from Turrialba have the advantage of a better understanding of the Latin American conditions of development that concern them in the carrying out and fulfillment of their functions.

Translation by the author. The content of the quote was made purposely for obvious reasons.

This educational authority terminated his explanation indicating that he has a Turrialba graduate as the boss in one of the departments in his center for graduate studies, and that he finds himself amply satisfied with the extraordinary dynamism and efficiency with which that department works.*

Although these findings fail to reveal gross differences among graduates from different nationalities toward the IICA graduate school, however, it is concluded that similarities among nationality groups of the graduates trained at Turrialba, are more significant and numerous than the differences between them.

*This authority is also a Master from an American university.

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CHAPTER VII

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This research proposed to make a full wrap study of the graduates of the IICA graduate school during the past 10 years, in order to measure the accomplishment of the objectives of this Institution in the field of graduate training in agriculture and its related fields.

In order to reach this purpose some general and specific objectives were set, as well as the means through which to accomplish them. So, in the methodology, the basic data for this research were derived directly from interviews and questionnaires returned by 118 IICA graduates out of a total

of 157 persons who received the instrument and graduated from this Institution. The collected information was grouped in a total of 158 variables directly related with the study objectives. Chi square (χ^2) was selected as the statistical tool to measure the significance of collected information and the possible degree of relationship between the graduates' opinions and their department of study.

The most important findings were related with the high value awarded by the respondents to the graduate school, to the content and objectives set by the center and its degree of accomplishment, the value of the academic program, strengths and weaknesses, faculty merits, amongs that the IICA graduates

would like to see and other related matters which are included in Chapter VI.

The remainder of this chapter deals with some of the most important findings which were secured, as well as some conclusions and/or recommendations about how to strengthen and improve the present graduate school program. These recommendations, if any, stem from the findings that have been drawn from the data, as well as from the researcher's philosophical point of view.

Major Findings of the Study

Statements of the IITA graduate school objectives were submitted to be evaluated, as to agreement or disagreement, by 112 respondents. The following results were obtained:

1. There were more than 50 percent of the graduates who were in agreement with all the six objectives set by the Tharaka graduate school:

2. A majority of respondents felt that each of the six objectives has been accomplished by more than 50 percent. The most positive response was given "to develop an adequate capacity of scientific research in relation with rural life problems"; 70 respondents felt it had been more than 50 percent accomplished. The most favorable response was given to the "giving the student the opportunity to relate the results of agricultural research to the practical problems of his specialty"; 111 respondents felt that this objective had been more than 50 percent accomplished.

4. One hundred and twenty-three graduates, or 90.1 percent agreed that the Tarralpa faculty had a positive attitude toward the graduate school and its educational functions.

5. One hundred and eleven respondents (87 percent), agreed that the behavior of more than 50 percent of the faculty at Tarralpa reflected high ideals.

6. One hundred and fifteen graduates sustained the appraisal that academic leadership was a characteristic in more than 50 percent of their professors in all the matters concerning planning of the students' own work, or in checking students' progress, according to 147 votes cast by the respondents.

7. Fourteen out of 17 graduates who held their Ph.D. or who were in a process of obtaining it, reported that their "Magister Agriculturae" or "Magister Scientiae" degrees, were completely accepted by American Universities, as a partial requirement toward the Philosophy Institute.

8. Twenty-five out of 30 graduates who were pursuing an advanced degree elsewhere, agreed in recognizing that knowledge, skills, abilities, and understandings received by them at Tarralpa were of "very much" or "almost complete value" in dealing with their academic programs.

9. The respondents further recognized that the strengths which Tarralpa presented as an educational institution at the graduate level were: "a center with an ideal combination of learning and research," "Very good library facilities,"

"faculty with scholarship and Ph.D.'s," and "very good environment, facilities, and scientific attitude to carry on research and teaching in tropical agriculture, agricultural extension, and animal husbandry, with organized programs of research study and analysis of the Latin American problems."

9. "Direct access to reading materials," "appropriate number of bibliographical references required for course readings, and individual research work," "appropriate instruction about library's usage," and "convenient reading timetable" were recognized as the most common features of the Turrialba "Orten" Memorial Library.

10. One hundred and twelve out of 118 participants would recommend the IICA graduate school to those friends or relatives looking for advanced graduate training in those fields offered by the center.

11. One hundred and seven respondents, in a hypothetical situation, would choose the same department of study, if they were in a position to start their graduate education again.

12. The academic and research programs, as well as the extra curricular activities, including recreation, were the areas where the graduates reported they would like to see changes adopted by the administrators of the graduate school. Also, areas like the follow-up studies, fellowship programs, and the status of the IICA graduates, were others considered important for study and change in any working plan toward the strengthening of the center endeavors.

When the graduates evaluated different areas dealing with their present professional experience--like job satisfaction, stability, employment, status, and related areas--the following results were obtained:

1. Only six graduates were completely dissatisfied with their chosen fields of specialization at Turrialba;

2. Ninety out of the 128 respondents had a high degree of permanence or stability in their respective specialized occupations;

3. Not a single graduate, including one who partially lost his sight, reported himself to be a victim of total unemployment;

4. Nearly 20 percent of the respondents was occupying prestigious positions of an international scope, and 78 of them reported their services as being in different branches of government agencies, including universities and other educational institutions;

5. One of the most favored aspirations of the graduates were: "increasing their efficiency in the fulfillment of their present occupations" (31 participants), by way of expanding their knowledge (48 participants), skills, abilities, and understandings (10 participants);

6. The most limiting factors that the IICA graduates reported encountering were: "the lack of qualified personnel to work with" (43 participants), "lack of money" (19 participants), and "the lack of equipment, materials, and supplies" (10 graduates);

7. Among the majority of individual cases (between 75 and 80 percent of the respondents), the training received at Turrialba has reportedly prepared them: "to face the daily problems of their profession with complete success" (111 out of the 128 graduates), "for a most adequate performance in their work" (80 participants), and "for an efficient use of their minds" (81 of them).

Moreover, that training was reported to have given them the knowledge, skills, and abilities to work as educators in the fields of their specialties (68 out of 83 people, who in some way exercise this function).

Summary of Findings and/or Recommendations Related to the Study Conducted at TCR

1. The most important conclusion encountered throughout the entire study was the high value accorded by the graduates to the Tropical Center of Graduate Training and Research, established by the IAC's Inter-American Institute of Agricultural Sciences, in Turrialba, Costa Rica. Turrialba, due to its educational facilities and faculty was highly recommended by its graduates. The graduates awarded the highest value to all of the educational objectives set by the graduates council in unequivocal form, and at the same time, they affirmed that the institution had met these objectives. This affirmation was certain regardless of the academic aspect considered in the department of study to which the graduate belonged. As it occurs in similar investigations, there was always a dissatisfied minority that could have blamed its

perception did not seem any that no one always remains in the same kind of mental and intellectual state as the one being analyzed.

11. The returned and twelve of the 112 graduates who participated in the study received a highly favorable evaluation of the IICA graduate school. Without exceptions and despite their studies, the graduates affirmed that they recommended this study center to their relatives and friends, if they were in the process of continuing their graduate training. This evaluation was also highly positive when they indicated that: "If they had to again begin their graduate education at the Master's level, they would again choose the same government of study from where they first came." These results were quite similar to those found by Ernest Ravenhill.²

12. The respondents further recognized that the strengths which Universidad presented as an educational institution at the graduate level were: "an ideal combination of teaching and research" and was with "very good library facilities," "flexibility with Ph.D.'s and scholarship," "very good environment, facilities, and scientific equipment to carry on research and training in tropical agriculture, agricultural extension, and animal husbandry, with organized programs of research, study, and analysis of Latin American problems."

13. The graduates recognized a very high level of academic competence in the therapy, which forms the center. These respondents indicated that this was characteristic in between 75 percent and 100 percent of the cases. Just nine ex-students

approximately minute value, and it expressed a value equivalent to 1 percent. This finding justified the conclusion that the reliability and the effectiveness of the faculty were significant values in the institution.

Again, as in any school's evaluation, the graduates also mentioned the presence of a few professors with "poor teaching methodology" as being a weakness in Turinópolis. Such an observation suggests that the graduate school's administration is concerned with determining the symptoms which were responsible for that poor teaching methodology.

Efforts should be made to achieve the elimination of this negative characteristic. Since there were no anterior studies that indicated which were the educational values that could receive common acceptance among both professors and students of the school, it would be recommended that studies along such lines be carried on.

Finally, this survey found that approximately 11 percent of the Turinópolis graduates (see Table 17) had succeeded in continuing advanced studies toward the doctorate. Although the number is less than the percentage of Ph.D.'s reported by Robert H. Vincent,¹⁷ and although there was no evidence that all of them had successfully completed their doctoral studies, it was nevertheless important to note this phenomenal data. The first was that of 17 graduates was found themselves in the process of earning their Ph.D.'s or who had already started them. It was not without complete acceptance of the title granted by Turinópolis as being the equivalent

their "Masters" required by the American University. The reason was that the field residents perceived that the training received in Turin was of great value to them, and served them completely in the process of their education to which they had submitted themselves.

These results furnish the basis of this study to draw conclusions concerning the suitability of disseminating the necessary information among the IICA graduates of the long-term training courses of rural studies, especially in American universities in which the value conferred by Turin has been generally accepted as being valid and reliable.

Furthermore, it would be fundamental that the IICA administration be especially aware of the possibility of running its numerous courses which would permit the institution to administer a number of different levels of program. Such a program would be designed to increase the number of graduates capable of disseminating rural studies, in order to supply the urgent necessities in the material of a capable human element at each level, which the numerous countries of the OAS have placed at the promotion of agricultural development in Latin America. The Institute should at least contemplate, with application of the methods, the possibility of organizing its own "university program" in the area of scholarships for graduates, providing the necessary economic aid so that the best student from each discipline of study existing in the graduate program could obtain the recipient of a scholarship, in order to continue and complete even studies.

c. From the graduates' point of view, the Organization of American States, as much as the Institute's own administrative and academic agencies, is willing in setting the graduate school's educational objectives. Of the six objectives that were analyzed in the questionnaire of the graduates, the one which reached the greatest degree of agreement among the respondents (with all points in favor) was the one which refers to "giving the student the capacity to relate the results of agricultural research to the practical problems of his specialty." Following in importance (within the graduated degree of agreement) was the objective "to give emphasis to the development in the student of the capacity to plan scientific research." This objective was favored by 80 percent of the graduates.

In third place, the graduates (80.5 percent of them) were in agreement with the third objective of the IICA, referring to "developing in the student an adequate capacity for scientific research in relation to agriculture."

The objective which least attracted the students in their degree of agreement is the one which refers to "developing an adequate capacity for scientific research in relation to the problems of rural life." The results of the statistical analysis indicated that there was a highly significant difference between the department in which the respondent studied and his manner of thinking in respect to the utility of this objective. While the graduates from the department of Economics and Social Sciences were in 100 percent agree-

and which is only 44.4 percent from the department of Forest Industry and Wildlife Conservation, objective as being a worthy one. The graduates from Animal Industry and Forestry, with respective percentages of 69.4 percent and 69.4 percent, were in agreement with this objective.

The results obtained led to thinking about the suitability of strengthening the education of human and scientific relations within the graduate course. It is of no interest to me a disclosure of the intrinsic values of the social sciences as being basic in any study relative to human relations. The social sciences are concerned with the experimentation, measure, and discovery of means which permit the amplification of the frontiers of knowledge in relation to man and his environment. Thanks to the social sciences, it has been possible to reach a better understanding of the ways of living of human beings; of man's basic necessities; of the activities which he undertakes in order to fulfill these necessities; and of the institutions that he has developed toward the same objective. So there was enough reason for the graduate school to incorporate as a fundamental objective that of "developing in the student an adequate capacity for scientific reasoning in relation to the problems of rural life," since only in that way, and on the basis of realizing the objective from reality, would it be possible to prepare the students who are urgently required to promote change and to accelerate Latin American development.

11. It was inferred from the survey and analysis in relation to the graduates that the IIA graduates recommended, as it were, from the survey in which they were found working. This change in the graduates' work was perceptually necessary, just as it came with university education in any part of the world. The pressures of the current living system, the students' demands, the Latin American society's demands, and the urgency of forthcoming development were powerful factors compelling the suitability of making substantial revisions in the curriculum and in the research program. Apart from the graduates' many reasons for recommending a change in their work, it was interesting to call attention to Table 1. Making all possible combinations according to the activities that the respondents were undertaking, it was observed that 14 of them practiced some type of research, 11 dedicated their efforts to teaching (along with cultural projects in some sort of cultural extension work), and 10 graduated functioned as administrators.

From results concerning thinking of the suitability of studying and introducing the most adequate changes so that the future graduates could depend on all of the knowledge, skills, abilities, and understandings that their professional careers require in order that they may act as leaders capable of taking the most suitable decisions in the areas pointed out. Since 75 of them needed to know the educational process in order to function as teachers or extension workers, it would accordingly be assumed that any curriculum revision or any

the possibility of cultivating the student's independence for the Tarrifican graduate to be able to rely on such training.

A similar study should be made in administration. Very important areas which should be considered in such a study would be: the organization and administration of institutions of higher education, including all of the specialized fields that related to research, making decisions, finances, building, physical plant maintenance, and student services, as well as the organization, administration, and coordination of certain specialized institutional activities related to publications, applied work, extension, culture, and forestry activities.

It has been traditional in Latin America to think that administration can be done by "trial and error," without any previous training. Many of the institutional failures in underdeveloped countries find their explanation through such symptoms. If the IMA graduate school was established as a model institution of this type, it would be very recommended that the possibility be studied of introducing some general courses in order to prepare the future "Managers" in the theoretical procedures of this discipline.

In relation to the necessary program, many of the ex-students referred especially to the lack of timely distribution of the results obtained in research; and to the lack of specialized bibliographies and of any other bibliographic material to break the isolation in which the graduates live when graduated from Tarrifican.

It could be probable that the process of communication between the graduate school and the ex-students deserves a careful study. When they referred to the area of follow-up studies, they again complained about the total absence of contact between the center and its graduates. Eighty-five of the 128 graduates would like to receive some communication originated by either the Institute or the graduate school. In the aspects of research and follow-up studies, the following would be considered as possible solutions: refresher courses, national or regional reunions of ex-students, a specialized magazine for them, or at least some form of periodical newsletter to inform them about research innovation, the school's educational undertakings, the activities and movements of the graduates, and in short, about any aspects that might achieve the maintaining of close contact between the institution and its ex-students.

3. Another critical area in which the graduates recommended an important change was the one relative to the scholarship program for recruiting students. The ex-students mentioned two important factors: a) the number of available scholarships, and b) a possible modification of the present structure established by the IAS for the administration of its Scholarship Program.

In the first place, the graduates noted that one weakness of the graduate school was the mathematic "unpleasant" relation; another was the small number of available scholarships per year; and yet another was the insufficient time of

Unfortunately, the economic resources of the institution were not sufficiently adequate so that its action of change could create the thousands of Latin American professional men who will be needed in the immediate future.

Moreover, the physical conditions existing in Turrialba were neither sufficient, nor adequate, according to the graduates' opinions. Many of them demanded housing facilities for married students, and a considerable improvement in the other dormitories.

All of these factors constitute points of strangulation, which do not allow the breaking of the vicious circle that has been formed. There was academic excellency enough to train 300 or 400 students yearly, but there were not physical facilities to house them, nor were there sufficient funds to support that number of students. It could be consequently recommended that the administrative leadership of the institution concentrate its efforts towards the suitable solution of these problems. The "Alliance for Progress," or any other program of agricultural modernization in the continent, can not move without the prepared human capital to make the most advisable decisions in the different fields of agricultural activity.

9. The graduates wanted to see a more dynamic system adopted in the process of student admissions. The present process may be a consequence of the limitations mentioned in number nine. If the funds for a scholarship program were to be increased and if the present structure of the CAS

the training program were to be refined, it would be hardly necessary to think in terms of systems of recruiting, with a view to understanding of the comparative educational principles. In order to better evaluate the students coming from the different Latin American countries. If the graduates of the training program were to be really effective, the institutions would be advised that the most qualified students will be admitted. The Terralita faculty and the professional personnel in the Hospital Clinic would offer the minimum commitment to the graduates enrolled in the institutional program and recommend of outstanding professional students not only give the security that they will pass their courses and will graduate, but also that they will become future leaders in their fields of endeavor.

10. Also, one of the areas in which the graduates of the program were important, was in the careful study on the part of the school's authorities. It was not advisable to terminate this part of the study without making reference to the very important aspects of the Terralita graduates' studies.

The IIIC graduates were asked for change in the IIIC graduates' studies included in the form or manner of the law schools that they received; they lamented the lack of training on the part of Terralita in the placement of the graduates in the countries from where they came, and what were the important, they said, is that the school will solve these problems, because they have learned the importance of the IIIC in providing "high quality and unqualified"

discrimination" in the results of his own "Magister".
The conclusion that they draw from the different classification and lower remuneration that had been assigned to the Tarifa-like graduates in the institution itself. Many of them have even concluded that their greater scholarship and preparation in the specialized areas of their graduate training had not meant any greater income to them, which would permit them to adequately attend to the fundamental necessities of their lives. They showed frustration and finding out that the efforts towards educational advancement have been in vain, fruitless, because the value of the time received and the usefulness of their new knowledge, skills, and abilities, has not been recognized in their remuneration in their employment agencies. In synthesis, they have not been satisfied with their economic remuneration. In some cases they reported that their salaries remained the same as those which they had been receiving at the time of leaving to study in the graduate school. This symptom is particularly marked among the professional men from Bolivia, Haiti, Ecuador, and Peru.

Although it is not insinuated that the Institute should convert itself into an "employment agency," it is nevertheless believed appropriate to recommend the suitability of establishing some sort of placement bureau. An organization such as this one should attempt to place the graduates in an intelligent manner; it should collect information in the member countries of the AD, seeking to evaluate the school's

training programs, training for research and planning of com-
paigns, and determining the success of policies. It would also
be a IICA graduate.

A service such as this would help to maintain and
promote of innovation, to provide a system and could
provide a service to help the Latin American agricul-
tural organizations to utilize the human resources prepared
by themselves in their entire capacity.

Summary of the Main Findings of the Evaluation of
the IICA Graduate

1. In spite of all the limitations to which the Territorial
graduates are subjected, the various surveys during their
life after graduation were, especially low in number. Only
six graduates were distributed with the specialization of
and the six working in the department of Rural Industry
and Sales.

The most distributed graduates were those from the depart-
ment of Economics and Social Sciences, and the least satisfied
were those from Forestry.

2. The degree of the graduates' satisfaction was main-
ly determined by the degree of permanence or stability that they
experienced in their respective specialized occupations.
Thirty of the 42 participants (71.4 percent) had been con-
tinuously working in their occupation since their graduation
from Territorial. These results demonstrate that the knowledge,
skills, attitudes, and understandings that they possessed
enabled them to continue with a high degree of efficiency in the
fulfillment of their professional functions.

4. The questionnaire indicated that the graduates were well employed. Nevertheless, 22 of the graduates (except the two who are between 20 and 25 months unemployed) reported that they could not have obtained their jobs if not for the course.

5. In respect of the agencies employing the graduates, 78 percent were employed in different branches of government, including civil service; 14 percent in private organizations; and 8 percent in international organizations. Nearly all graduates of the IMA graduates were occupying positions as assistants of an international course, which generally demands a high caliber on the part of the professional personnel.

6. The principal motivation of the graduates were to be able to use their efficiency in the fulfillment of their present assignments (100 participants), by way of expanding their knowledge (47 participants), skills, abilities, and understandings (40 participants). Eighty-nine graduates are continuing to continue their graduate studies by way of obtaining a qualification which would permit them to function as international officials. These results again confirmed the high caliber in respect of their job satisfaction. Many of them did not expect to obtain their present positions without the IMA course to give them a better training and studies toward the I.M. (see Tables II and III).

7. Because of the facilities that they were had available for the fulfillment of their functions it was not surprising that the graduates had demonstrated efficiency and had won the confidence of their employers. Seventy-nine of them

indicated that they had excellent or better than average qualifications for the military activities. As there is graduated and average qualifications toward the same end.

7. As in every case in the process of a simulation, the most limiting factor was the IIR graduates themselves. The lack of qualified personnel (12 respondents), the lack of money (12 respondents), and the lack of equipment, materials, and supplies (12 participants).

8. By analyzing Tables 1, 2, 3, and 4 it was estimated that the students apparently had no difficulty that may result from defective training received in Thailand. On the contrary, in the great majority of the cases (between 75 and 100 percent of them) the training was from the reportedly prepared them: to direct the daily conduct of their operations with complete success (11 of the 12 respondents); to the most successful performance in their work (10 of the 12 respondents); and for the satisfaction of their minds (11 of the 12 participants). However, that training was reported to have given them the knowledge, skills, and abilities to work as educators in the training of their specialization (10 out of 12 people who in some way exercise the function of teachers).

These results tend to be obtained in the previous analysis with a very high degree in the favor of the IIR graduates. Although it is excepted that there could always be the lack of a few or a few dissatisfied people, the contrary was always demonstrated as evidence. In every case there were

and the majority (85 percent) in agreement with the results of the study; all of them, including all, demonstrated that they were guided by the same goals and objectives in their work. In fact, many of them indicated that there were two well-defined steps in their professional lives: "before Tumbalá, and after Tumbalá."

Other Studies

1. Similar studies could be made in the other graduate schools which were functioning at the time of this study in some Latin American countries, especially in the graduate schools of "Engineering," in Mexico; "In Mining," in Lima, Peru; "In the Sciences," in Montevideo, Uruguay; and the "Faculty of Education of the State of Minas Gerais," in Viçosa, Minas Gerais, Brazil. The conclusions which could be obtained from such studies will serve to relate them with the present study, and thus serve for a better foundation for graduate studies in Latin America.

2. Since this study is the first of its type, it was very extensive in the number of areas that it covered. Many of these areas were covered superficially. It could be recommended that studies be made in depth to cover such aspects as: personality and effectiveness of the faculty, the administrative system, the research program, and, in the area of follow-up studies themselves, sectors in which it would be required to determine the possible determinants that obligated

the respondents to reply in accordance with the departments of specialization in which they had studied.

3. It could be also recommended that studies in depth be made to evaluate the success or failure of the IICA graduates, in accordance with the opinion their present employers have of them. The relative strengths or weaknesses that the Turrialba graduates could present constitute a point of special interest, looking to correct or reinforce such findings.

4. It is recommended that the area relative to "job satisfaction" be further probed relating it to the aspects inherent to "job performance" and to economic retribution, in order to find out which could be the factors that were responsible for the low salaries of nearly a third of the population of the IICA graduates.

5. Since the graduate school's objectives should be in the last instance destined to accelerate the processes of change in the agricultural segments, and especially, in the traditional rural societies of Latin America, it could be recommended to advance studies which would permit new cases for curriculum structure and operation to be found; in order to amplify, intensify, or diversify the present areas of graduate teaching.

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1538 E University Village
East Lansing, Michigan

Dear Mr. Tarnietzen :

The purpose of the enclosed questionnaire is to secure information from you in order to carry out a follow-up study on the "Magister Agriculturae" or "Magister Scientiae" from the International Institute of Agricultural Sciences of the Organization of American States.

We wish to gain insight into the value of your graduate school experience during the time of your attendance as well as during the period following graduation from IICA until December, 1961. Your responses will help guide us in our effort to make graduate school experience more meaningful for students currently enrolled, as well as for those who will enroll in the future. Besides, your very frank cooperation will be of great value to the present IICA administrators in their efforts to improve the Graduate School.

We are sorry to take your valuable time in the answering of this questionnaire, but will appreciate the return of the instrument at your earliest convenience.

Many thanks in advance.

Yours truly,

Gerardo Naranjo

A FILLING IN: Summary of IITCA Questionnaire

Instructions:

Very Important Announcement:

Your information will be STRICTLY CONFIDENTIAL.

1. Your Present Employment Status

1. Are you employed at the present time? Yes ___ N ___
(If your answer is NO please fill in position No. Number 1.)

2. If you are employed, please indicate whether you are: Self-employed ___ or Employed by an organization. ___

1. If self-employed, please fill in the following:

a. Date of employment in this position. _____
b. Please describe the nature of your work _____

2. If employed by an organization, please fill in the following:

a. Date of employment: _____
b. Name of the organization: _____
c. Nature of the business of your organization _____
d. Position held: _____
e. Please describe the nature of your work _____

3. If employed by an organization, please indicate how you obtained your first position after graduation from IITCA. (Please check the most important one of the following alternatives.)

a. Through personal application _____
b. Through a private employment agency _____
c. Through the IITCA recommendation _____
d. Through Civil Service examination _____
e. Through a letter of merit _____
f. Through contact by an employer _____
g. Through a relative _____
h. Through a friend _____
i. Other means: which one, please _____

4. If you are unemployed, please indicate the reason why you are unemployed:
- a. Unable to find a position _____
 - b. Preparing for placement examination _____
 - c. Preparing to continue graduate studies _____
 - d. Other reasons_____. Please explain_____
5. Please give us your feelings about your present job. Check one, please.
- a. You like your line of work, but you don't like this particular position _____
 - b. You like the present job, but you do not plan to make it your life's work _____
 - c. You do not like your line of work and you will change as soon as it is possible _____
 - d. You do not like your line of work, but you will keep it because of the good salary_____
 - e. Your job is fine, but it is too far from your home _____
 - f. You like the job, and you plan to make it your life's work _____
 - g. Other alternative or your comment, please _____
6. Please check the box after the statement which represents the exact situation:
- a. After graduation from Turrialba you always have been working in the same field in which you received training _____
 - b. You have been working sometimes in the same line of your studies at Turrialba _____
 - c. You have always been working in a different line of work than your former training at Turrialba _____
 - d. Other alternative: which one, please_____
7. How do you consider the available facilities for current development of your present job? Check one box, please:
- a. Excellent _____
 - b. Better than average _____
 - c. Average _____
 - d. Under average, like regular _____
 - e. Very poor _____
 - f. Other; which one, please:_____

d. Which one of the following statements do you consider to be the most limiting factor in your career? It is money. Why so:

- a. Lack of materials and supplies _____
- b. Lack of equipment _____
- c. Lack of personnel _____
- d. Lack of transportation facilities _____
- e. Lack of money _____
- f. Other limitations; which ones, please _____

e. The problems we now face many people today. Indicate by checking the ix which are the most urgent problems for you. (Check in order of importance, please.)

- a. To increase your proficiency in your job _____
- b. To increase your knowledge, including skills, abilities and understandings in your specialization _____
- c. To secure the type of job for which you are trained _____
- d. To get the feeling of security in your job _____
- e. To get recognition for your job's performance _____
- f. Others; which ones, please _____

II. Your Past Employment:

A. This part of the questionnaire seeks information on your employment since IITC graduation, and up to the present position. Please complete the following starting with your first position after Thielcke graduation. (If you have total or partial unemployment, please fill in Section C.)

1. From _____ month & year _____ month & year
- a. Employed by an organization _____
 - b. Self-employed _____
 - c. If employed by an organization, please name the organization _____
 - d. Title or position in the organization _____

2. Please check the statement which indicates what you expected your first job after graduation was going to be like while you were at Thielcke Graduate School:

- a. It lived up to what you expected while you were at IITC _____
- b. Your job was not as you had expected _____
- c. Your job was somewhat as you expected _____
- d. Your job was just as you expected _____

c. Give me your employment history, including your present position:

1. From _____ to _____
month & year month & year
- a. Employed by an organization _____
- b. Self-employed _____
- c. If employed by an organization, please name the organization _____
- d. Title of your position in the organization _____

2. From _____ to _____
month & year month & year
- a. Employed by an organization _____
- b. Self-employed _____
- c. If employed by an organization, please name the organization _____
- d. Title of your position in the organization _____

d. Please give us your unemployment periods after Tennessee graduation:

1. First period from _____ to _____
2. Second period from _____ to _____
3. Third period from _____ to _____
4. Other periods _____

D. In the following lines, please give us a short comment on all your employment positions or jobs which have been confirmed or part-time employment, or seasonal jobs, during the 12-month period commencing from your graduation from Tennessee and December, 1961. You may fill in the same position as before in April and May.

iii. Knowledge of Basic Graduate Training at Tennessee

A. List below the two courses or subjects in each category which were of most value and of least value in your preparation for your career:

- | 1. Courses of Most Value | | 2. Courses of Least Value | |
|--------------------------|---------------------|---------------------------|---------------------|
| a. Basic Subjects | b. Applied Subjects | c. Basic Subjects | d. Applied Subjects |
| 1) _____ | 1) _____ | 1) _____ | 1) _____ |
| 2) _____ | 2) _____ | 2) _____ | 2) _____ |

D. Did you do any independent study? If so, why? _____

E. If you were to receive graduate training, would you do so in the same department? Yes ___ No ___ If no, why? _____

F. List below what you think were the three greatest strengths of the Turrisiba Graduate School:

1. _____
2. _____
3. _____

G. List below what you think were the three weaknesses of the Turrisiba Graduate School which needed to be strengthened:

1. _____
2. _____
3. _____

H. Would you recommend Turrisiba Graduate School to your friend or relative if the courses he or she desired were available? Yes ___ No ___ If no, why? _____

IV. Recommendations Made by You in Your Department of Study

A. As you recall studying and working with the Turrisiba faculty, indicate the extent to which they, as a group, seemed to possess the qualities or behavior listed below by checking the appropriate box. (You are asked to check only one box in the corresponding line of each statement.)

<u>The Faculty in Your Department</u>	<u>Almost All the Time</u>	<u>About 75%</u>	<u>About 50%</u>	<u>About 25%</u>	<u>Almost None</u>
1. Demonstrated scholarship	___	___	___	___	___
2. Had a broad rather than a departmental view of the U. S. and its educational function	___	___	___	___	___
3. Behavior reflected high ideals	___	___	___	___	___
4. Had students take responsibility for:					
a. Planning their own work	___	___	___	___	___
b. Checking their progress	___	___	___	___	___
5. Interacted pleasantly	___	___	___	___	___

V. Graduation from the Graduate School

A. Please check the columns which indicate the extent to which your university graduate training was helpful:

	Not at all	Little	Some	Quite a bit	Very much
	1	2	3	4	5
1. Preparation of you in research?	_____	_____	_____	_____	_____
2. Knowledge of laws in your profession	_____	_____	_____	_____	_____
3. Understanding of community health	_____	_____	_____	_____	_____
4. In performing your job with:					
a. knowledge	_____	_____	_____	_____	_____
b. skills, including abilities and understanding	_____	_____	_____	_____	_____
5. In your teaching abilities (if you work as an educator)	_____	_____	_____	_____	_____
6. In your administrative abilities (if you work as an administrator)	_____	_____	_____	_____	_____
7. In your technical writing	_____	_____	_____	_____	_____
8. In other areas; what are these: _____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

VI. Graduation from the Graduate School Objectives

A. This part of the questionnaire seeks information regarding the accomplishment of the LHA Graduate School objectives. After a careful consideration of the following statements, please check in the following circles the degree to which you are in agreement with the objectives, and the possible degree to which each objective was achieved in accordance with your expectations:

Degree of
Agreement
with the
Statement

Degree of Agreement
with the Statement

A-
Agree
completely

Dis-
agree
completely

Don't
know

AL-
Agree
almost
completely

A-
Agree
completely

A-
Agree
completely

A-
Agree
completely

AL-
Agree
almost
completely

1. The development of
the nation

a. The development of
the nation is
the most important
thing in the world
today

1) The development of
the nation is
the most important
thing in the world
today

2) The development of
the nation is
the most important
thing in the world
today

b. The development of
the nation is
the most important
thing in the world
today

1) The development of
the nation is
the most important
thing in the world
today

2) The development of
the nation is
the most important
thing in the world
today

c. The development of
the nation is
the most important
thing in the world
today

1) The development of
the nation is
the most important
thing in the world
today

2) The development of
the nation is
the most important
thing in the world
today

d. The development of
the nation is
the most important
thing in the world
today

1) The development of
the nation is
the most important
thing in the world
today

2) The development of
the nation is
the most important
thing in the world
today

e. The development of
the nation is
the most important
thing in the world
today

1) The development of
the nation is
the most important
thing in the world
today

2) The development of
the nation is
the most important
thing in the world
today

2. The development of
the nation is
the most important
thing in the world
today

a. The development of
the nation is
the most important
thing in the world
today

1) The development of
the nation is
the most important
thing in the world
today

2) The development of
the nation is
the most important
thing in the world
today

b. The development of
the nation is
the most important
thing in the world
today

1) The development of
the nation is
the most important
thing in the world
today

2) The development of
the nation is
the most important
thing in the world
today

[illegible]

Degree of
Agreement
with the
OBJECTIVES

Degree of Accomplishment
of the Objectives

	<u>A-</u> <u>agree</u>	<u>Disa-</u> <u>agree</u>	<u>Don't</u> <u>Know</u>	<u>AL-</u> <u>most</u>	<u>A-</u> <u>out</u>	<u>I-</u> <u>out</u>	<u>A-</u> <u>out</u>	<u>AL-</u> <u>most</u>
				<u>100%</u>	<u>75%</u>	<u>50%</u>	<u>25%</u>	<u>0%</u>
3) Curriculum Improvement	—	—	—	—	—	—	—	—
4) Interchange of professors	—	—	—	—	—	—	—	—
5) Innovation of teaching methods	—	—	—	—	—	—	—	—
6. Other objective; which one, please:	—	—	—	—	—	—	—	—

VI. Student Personal Services

- A. Graduate students face many problems and need help from many persons. Please check the box in the column of statements which indicates the persons who helped you most often with each of these problems:

	<u>Academic</u> <u>Problems</u>	<u>Personal</u> <u>Problems</u>	<u>Financial</u> <u>Problems</u>	<u>Health</u> <u>Problems</u>
1. A classmate in the same department	—	—	—	—
2. The student group leaders	—	—	—	—
3. Your adviser	—	—	—	—
4. Another professor	—	—	—	—
5. The registrar	—	—	—	—
6. The head of your department	—	—	—	—
7. The business administrator	—	—	—	—
8. The dean and director of the Center	—	—	—	—
9. The IUSA director general	—	—	—	—
10. Other; which one, please:	—	—	—	—

1. Indicate the extent to which each of the items listed below was a problem for you while you were in Germany:

Major Minor Not a
Problem Problem Problem

1. Academic Problems

- | | | | |
|--|-------|-------|-------|
| a. Unavailability of material presentation of your material and material | _____ | _____ | _____ |
| b. Lack of information as to what was expected of you as a student | _____ | _____ | _____ |
| c. Finding a comfortable place to study | _____ | _____ | _____ |
| d. Lack of extracurricular activities | _____ | _____ | _____ |
| e. Other; which one, please | _____ | _____ | _____ |

2. Adjustment Problems

- | | | | |
|--|-------|-------|-------|
| a. Adjusting to a new service | _____ | _____ | _____ |
| b. Adjusting to your new military facilities | _____ | _____ | _____ |
| c. Other; which one, please | _____ | _____ | _____ |

3. Financial Problems

- | | | | |
|---|-------|-------|-------|
| a. Lack of money needed in your new country | _____ | _____ | _____ |
| b. Lack of financial help from your government agency | _____ | _____ | _____ |
| c. Lack of money to pay your family expenses including your personal ones | _____ | _____ | _____ |
| d. Other; which one, please | _____ | _____ | _____ |

4. Personal Problems

- | | | | |
|------------------------------------|-------|-------|-------|
| a. Adjusting to your room-mates | _____ | _____ | _____ |
| b. Adjusting to other people | _____ | _____ | _____ |
| c. Your own affairs | _____ | _____ | _____ |
| d. Finding a place to live in town | _____ | _____ | _____ |
| e. Other; which one, please | _____ | _____ | _____ |

1. As you think of your use of the library, think to
 yourself the following: Give your response to each
 statement. Was there:

	<u>Yes</u>	<u>No</u>	<u>Don't Know</u>
1. Since I began my education, study?	___	___	___
2. Efficient access to your materials?	___	___	___
3. Enough reference materials for your courses, including the re- search program?	___	___	___
4. Efficient service from circulat- ion desk?	___	___	___
5. Efficiency and kindness serv- ice by staff?	___	___	___
6. Appropriate reading areas for you?	___	___	___
7. Notification to you when the books arrived?	___	___	___
8. Enough instruction to you on the use of the library?	___	___	___
9. Do you have some comment? _____			

VII. Please Circle Yes, No, or Would Be Recommended for the Graduate School

- A. In order to improve Terricola Graduate Training Program
 list the important change in each of the following areas
 that you think the ILA should do in order to improve
 its efficiency:

1. In the admission of student's procedures: _____
2. In the academic program: _____
3. In the research program: _____
4. In the business administration of the Graduate
School: _____
5. In the general administration of the Graduate
School: _____
6. In the extracurricular, including recreational
activities: _____
7. In the fellowship program: _____
8. In the area of student services: _____
9. In the area of student counseling and guidance: _____
10. In the status of the ILA graduates: _____
11. In the official value of the "Magister Agricul-
turae" or "Magister Scientiae" degree: _____
12. In the area of follow-up activities: _____
13. In other areas; which ones, please: _____

VIII. Give Additional Information

- A. Check each box which indicates what you think contrib-
 uted to any academic difficulty which you faced at
 Terricola:

1. Your main difficulty or difficulty _____
2. Difficulty in understanding what was expected of you in particular courses _____
3. You would like many more _____
4. Your difficulty in following a formula _____
5. Too many distractions including noise in residence hall/library _____
6. Difficulty in reading the available material _____
7. Difficulty in organizing or reading material _____
8. Difficulty in taking your notes _____
9. Other; what are they? _____

10. Please give us some details about the following items:

1. Your present mailing address, please: _____
2. Your country of origin: _____
3. Date of your graduation at IICA: _____
4. Your studies at IICA were financed by: _____
5. Your ing. eng. or equivalent training was done at: _____
6. In your opinion, what is the most important book that you have read during the last six months?
 - a. Name of book: _____
 - b. Author or authors: _____
 - c. Publisher: _____
7. Do you maintain a subscription to some scientific journal? Yes ☐ No ☐ If yes, which one do you consider the most useful one?
 - a. Name: _____
 - b. Address: _____
8. What is the most important problem in which you are actually working?
 - a. Name of the problem: _____
 - b. Please give some details about it: field, importance and the like: _____

11. Income

1. Please indicate, in an approximate way, your gross income during 1964. (Your numbers should include main job's income and part-time or secondary job's income.) In the same way it must include an approximation of fringe benefits, like: house, electricity, services, water, income tax exemptions, custom duties, vacations, insurances, sabbatical leaves, and so forth. Finally, please indicate the currency units in which you are giving the information: American dollars, US centimes, pesos, sucres, and so forth.
2. Your gross yearly income in 1964 was: _____
3. Your average monthly income during 1964 was: _____
4. Some observations or comments: _____

I. How did you become an ILCA member?

You may, if you wish, write any additional comments.

II. Indicate the ILCA Degrees to which you are a Candidate

A. Please check the degree of help received from your education and training at ILCA graduate school, in your doctoral studies:

- 1. My "Master's" degree was completely recognized _____
- 2. The university only recognized _____ credits for the ILCA course work. _____
- 3. No benefit was recognized _____

B. How did ILCA help you if your experience as an ILCA graduate, including knowledge, skills, abilities, and understandings, were:

- 1. Almost complete help _____
- 2. Very much _____
- 3. Some but limited _____
- 4. Very little help _____
- 5. No help _____

C. Please name the graduate schools you have attended since ILCA: _____

D. Indicate additional degrees you have earned, if any: _____

Thanks very much for your kind cooperation! Please return this form by registered mail.

UN ESTUDIO DE PROLONGACION DE CONTACTO CON LOS GRADUADOS DEL INSTITUTO
INTERAMERICANO DE CIENCIAS AGRICOLAS DE LA O.E.A.

Enero de 1.965

I. SU PRESENTE POSICION COMO EMPLEADO:

Está Ud. empleado a la presente fecha? Si__; No__

A. Si su respuesta es negativa, sírvase llenar la pregunta B, No.9

B. Si Ud. sí esta empleado, sírvase indicarnos si Ud. está:

Empleado para sí mismo,__ o, Empleado para una Organización,__

1. Si Ud. está empleado para sí mismo, sírvase contestar lo
que sigue:

a. Fecha en que comenzó su auto-empleo:_____

b. Sírvase describir la naturaleza de su trabajo en éste
empleo:_____

2. Si Ud. ha sido empleado por una organización, sírvase con-
testar lo que sigue:

a. Fecha en que fue empleado por esta organización:_____

b. ~~Nombre~~ Nombre la organización que le emplea:_____

c.Cuál es la naturaleza de las actividades de su organi-
zación?_____

d.Cuál es su posición dentro de ésta organización? _____

e. Sírvase describir la naturaleza de su trabajo en éste
empleo:_____

3. Si está empleado por una organización, sírvase indicarnos
como obtuvo Ud. su primer empleo, después de su graduación

en el IICA. (Sírvese indicarnos, unicamente, las más importante de las siguientes alternativas):

- a. Por medio de una solicitud personal suya, _____
 - b. Por medio de una agencia privada de empleos, _____
 - c. Por medio de una recomendación del IICA, _____
 - d. Por medio de un examen rendido ante el
Servicio Civil, _____
 - e. Por medio de un concurso de merecimientos, _____
 - f. Por medio de contactos personales establecidos
por el empleador, _____
 - g. Por medio de las influencias de un familiar, _____
 - h. Por medio de las influencias de un amigo personal,
sonal, _____
 - i. Por otro medio; cuál, por favor: _____
4. Sírvese indicarnos su manera de pensar acerca de su presente empleo.* Marque, unicamente, una sola alternativa, por favor:
- a. A Ud. le gusta su especialización, pero no le gusta su actual empleo, _____
 - b. A Ud. le gusta su presente empleo, pero no piensa desempeñarlo toda su vida, _____
 - c. A Ud. no le gusta su empleo y lo cambiará tan pronto como pueda, _____
 - d. A Ud. no le gusta su empleo, pero lo conservará por el buen sueldo, _____
 - e. A Ud. le parece aceptable su empleo, pero está muy lejos de su casa, _____

- f. A Ud. le gusta su empleo y piensa convertirlo en la especialización de su vida, _____
- g. Tiene Ud. otra alternativa o, su comentario, por favor: _____

5. Sírbase marcar el espacio cuya frase representa el caso de su situación:

- a. Después de su graduación en Turrialba, Ud. siempre ha estado trabajando en la misma especialización en la que recibió educación y adiestramiento, _____
- b. Ud. ha estado trabajando en su especialización, únicamente, algunas veces, _____
- c. Ud. siempre ha estado trabajando en distintas especializaciones a la suya, _____
- d. Tiene Ud. otra alternativa? Cuál, por favor: _____

6. Cómo califica Ud. las facilidades disponibles para el normal desarrollo de su trabajo, en su presente empleo? Sírbase llenar, únicamente, una casilla:

- a. Excelentes, _____
- b. Mejores que el promedio, _____
- c. Son promediales, _____
- d. Estan por debajo del promedio; son regulares, _____
- e. Muy pobres, _____
- f. Otra alternativa? Cuál, por favor: _____

7. Sírbase señalar UNA de las siguientes frases que Ud. la considera el factor más limitante en su actual empleo.

Elija solamente una, por favor:

- a. Falta de materiales y abastecimiento diario, _____
- b. Falta de equipo, _____
- c. Falta de personal, _____
- d. Falta de medios de transporte, _____
- e. Falta de dinero, _____
- f. Otras limitaciones; cuáles, por favor: _____

8. Los problemas que mencionamos a continuación son encarados, diariamente, por mucha gente. Sírvase indicarnos cuáles DOS de los enumerados, son sus problemas. (Por favor, márquelos en orden de importancia, siguiendo ésta regla;
1=problema más importante; 2=problema menos importante, pero si urgente):

- a. Incrementar su eficiencia en su presente trabajo, _____
- b. Incrementar:
 - 1) Sus conocimientos, _____
 - 2) Sus destrezas, incluyendo habilidades, _____
 - 3) Su comprensión de su trabajo, _____
- c. Conseguir un tipo de trabajo para el cual está Ud. pre-
parado, _____
- d. Alcanzar un sentimiento de seguridad en su actual empleo, _____
- e. Alcanzar reconocimiento por su desempeño en su empleo, _____
- f. Tiene Ud. otros problemas? Cuáles, por favor: _____

9. Si Ud. está sin empleo, sírvase indicarnos la razón de su desem-
pleo: _____

- a. Ud. ha sido incapaz de encontrar un empleo, _____
- b. Porque Ud. se está preparando para rendir un examen para
un empleo, _____

- c. Porque Ud. está continuando sus estudios graduados, _____
- d. Porque Ud. se está preparando para continuar estudios graduados, _____
- e. Por otras razones, ____; Sírvase explicarlas: _____

II. INFORMACION ACERCA DE SUS EMPLEOS PASADOS, PERO DESPUES DEL IICA.

A. Esta parte del cuestionario confía recoger información acerca de su carrera profesional después de su graduación en el IICA y, hasta su anterior posición a su presente empleo. Sírvase pasar a la sección III. si su presente empleo es la misma posición desempeñada por Ud. desde su graduación en el IICA o, si Ud. ha permanecido, totalmente desempleado, por favor conteste la sección C en la página 6 utilizando, unicamente, el espacio C₁. Si Ud. ha tenido otros empleos, anteriores a su presente posición, sírvase llenar los numerales que siguen:

1. Empleado desde, _____ hasta, _____
 (mes y año) (mes y año)
 - a. Empleado por una organización, ____; b. Empleado a sí mismo, ____
 - c. Si empleado por una organización, sírvase darnos el nombre de ella: _____
 - d. Título de su empleo o posición dentro de la Organización: _____
2. Sírvase señalar la frase que nos indique cuáles eran las esperanzas para su primer empleo después de su graduación en el IICA, mientras estuvo como estudiante graduado:
 - a. Ud. no tenía ni la más remota idea acerca de su empleo, mientras estuvo en el IICA, _____
 - b. Su empleo no fue como Ud. lo esperaba, _____
 - c. Su empleo fue tal cual, como Ud. lo esperaba, _____
 - d. Su empleo fue parecido en algo, a lo que Ud. esperaba, _____

B. Sírvese informarnos de sus otros empleos, pero sin incluir al presente:

1. Empleado desde, _____ Hasta, _____
(mes y año) (mes y año)

a. Empleado por una organización, ____: B. Empleado a si mismo

c. Si empleado por una organización, sírvase darnos el nombre
el ella:

d. Nombre o título de su empleo o posición en ella: _____

2. Empleado desde, _____ Hasta, _____
(mes y año) (mes y año)

a. Empleado por una organización, ; B. Empleado a sí mismo

c. Si empleado por una organización, sírvase darnos el nombre de ella:

d. Nombre o título de su empleo o posición en ella: _____

C. Sírvasen indicarnos sus períodos de desempleo después de su graduación en el IICA:

1. Primer período desde: _____ Hasta, _____
(mes y año) (mes y año)

2. Segundo período desde: _____ Hasta: _____
(mes y año) (mes y año)

3. Tercer período desde, _____ Hasta, _____
(mes y año) (mes y año)

4. Otros períodos,

D. En las líneas que siguen sírvase darnos una corta descripción acerca de otros empleos simultáneos que Ud. los haya desempeñado como empleos parciales o secundarios, durante el período completo comprendido después de su graduación en el IICA y Diciembre de 1.964. Si desea, Ud. puede seguir un diseño similar al incluido en A¹, B¹, y B².

III. EVALUACION DE SU EDUCACION Y ADIESTRAMIENTO GRADUADOS EN EL IICA:

A. Enumere a continuación y, en orden de importancia, los dos cursos o materias en las categorías que se indican, que fueron de MAYOR y MINIMO valor en su educación y adiestramiento, para su actual especialización:

1. Cursos de MAYOR valor:

a. En el área de los cursos básicos:**

1) _____ 2) _____

b. En el área de los cursos graduados:***

1) _____ 2) _____

2. Cursos de MINIMO valor:

a. En el área de los cursos básicos:

1) _____ 2) _____

b. En el área de los cursos graduados:

1) _____ 2) _____

B. Sírvase indicarnos cuál fue su Departamento de Estudio en el IICA:

C. Si Ud. tuviera que repetir su educación y adiestramiento graduados escogería el mismo Departamento para sus estudios? Si __; No, __; Si No, Porqué? _____

D. Sírvase indicarnos a continuación cuáles son, en su opinión, los TRES PUNTOS MAS FUERTES que presenta la Escuela para Graduados del IICA?:

1. _____

2. _____

3. _____

E. Sírvase indicarnos a continuación cuáles son, en su opinión, los TRES PUNTOS DEBILES que pueden ser mejorados por la Escuela para Graduados del IICA?: 1. _____

2. _____

3. _____

F. Recomendaría Ud. la Escuela para Graduados del IICA a su amigo o pariente, si los cursos que el o ella desean, estuvieran disponibles? Si, __; No, __; Si es No; Porqué?: _____

IV. EVALUACION DEL PROFESORADO EN SU DEPARTAMENTO DE ESTUDIO DE LA ESCUELA GRADUADA:

A. Confiando en sus recuerdos de estudiar y trabajar con los profesores de su Departamento de estudio en la Escuela para Graduados del IICA, sírvase indicarnos hasta dónde ellos, como grupo de trabajo, parecían poseer las cualidades o el comportamiento que se detalla a continuación. Señale por favor, el espacio que corresponda (dentro de la escala de cinco puntos), para cada una de las alternativas que se enumeran a continuación:

El Profesorado de su Departamento:	Casi todo el profesorado:	Cerca del 75 por ciento:	Cerca del 50 por ciento:	Cerca del 25 por ciento:	Casi Ninguno:
1. Demostró competencia académica,	_____	_____	_____	_____	_____
2. Tenía un amplio punto de vista acerca de la Escuela, incluyendo su valor educativo,	_____	_____	_____	_____	_____
3. Su comportamiento reflejó grandes ideales,	_____	_____	_____	_____	_____
4. Dejó a los estudiantes tomar la responsabilidad de:					
a. Planear su propio trabajo,	_____	_____	_____	_____	_____
b. Verificar su progreso,	_____	_____	_____	_____	_____
5. Otras características?: Cuáles:	_____	_____	_____	_____	_____

V. EVALUACION DE SU EDUCACION Y ADIESTRAMIENTO EN SU DEPARTAMENTO DE ESTUDIO:

A. Sírvase indicarnos en las columnas que correspondan, hasta dónde considera Ud. que su educación y adiestramiento le fue útil:

Casi completamente:	En gran parte:	En cierta manera:	Muy Poco:	Casi Nada:
---------------------	----------------	-------------------	-----------	------------

- | | | | | | |
|---|-------|-------|-------|-------|-------|
| 1. Para descubrir los problemas en su especialidad, | _____ | _____ | _____ | _____ | _____ |
|---|-------|-------|-------|-------|-------|

A. Esta parte del cuestionario busca información que se relaciona con el cumplimiento de los objetivos de la Escuela para Graduados del IICA. Después de una cuidadosa consideración de los siguientes objetivos, sírvase marcar en los espacios que correspondan A LAS DOS ESCALAS, su grado de acuerdo con tales objetivos y si Ud. está de acuerdo con ellos, el posible grado en que Ud. piensa que tales fines han sido conseguidos, de acuerdo con su propia experiencia.

	Grado de ACUERDO con los OBJETIVOS:	Grado de ALCANCE o CUMPLIMIENTO de los OBJETIVOS:
1. En su <u>adiestramiento personal</u> :	De acuerdo:	En desacuerdo: Casi 100%: Un 75%: Un 50%: Un 25%: Casi Nada:
a. Desarrollar una adecuada capacidad de razonamiento científico en:		
1)Relación con Agricultura,		

2)Relación con
los problemas
de la vida ru-
ral, — — — — —

b. Dar énfasis al
desarrollo de su
capacidad en el
planeamiento de
la Investigación
Científica, — — — — —

c. Dar capacidad
para relacionar
resultados de la
Investigación con
los problemas prác-
ticos de su espe-
cialidad, — — — — —

d. Desarrollar su:
capacidad de
pensar, — — — — —
capacidad de
actuar, — — — — —

e. Otro Objetivo;
Cuál? — — — — —

2. En relación con
las necesidades de
América Latina, re-
lacionadas con la
agricultura y la vida

rural:

a. Motivar, incluyen-
do promoción, el
desarrollo de las
Ciencias Agrícolas,
en las Repúblicas
Americanas, mediante:

1)Investiga-
ción, — — — — —

2)Educación — — — — —

3) Comunica-
ción de la
teoría, — — — — —

- 1

VI. EVALUACION DE LOS SERVICIOS PERSONALES ESTUDIANTILES:

- A. Los estudiantes graduados confrontan muchos problemas y necesitan ayuda de muchas personas. Sírvese marcar los espacios que correspondan en las columnas de problemas, de acuerdo a las personas que se enumeran, indicándonos así quienes le ayudaron a Ud. MAS AMENUDO con esos problemas. (Observe que solo habrá una persona elegida para cada problema).

	Problemas Académicos	Problemas Personales	Problemas financieros	Fi-Problemas de salud
1. Un compañero en el mismo Departamento,	—	—	—	—
2. Las secretarías,	—	—	—	—
3. Su Consejero Principal,	—	—	—	—
4. Otro profesor,	—	—	—	—
5. El Secretario de Enseñanza,	—	—	—	—
6. El Jefe de su Departamento,	—	—	—	—
7. El Decano y Director del Centro,	—	—	—	—
8. El Director General del IICA,	—	—	—	—
9. Otra persona; Cúal, por favor:	—	—	—	—

- B. Sírvese indicarnos hasta qué punto, las frases que siguen fueron problemas para Ud. mientras su permanencia en la Escuela para Graduados del IICA:

	Problema Mayor=3	Problema Menor=2	No fue problema=1
1. <u>Problemas Académicos:</u>			
a. Organización, incluyendo presentación, de su material educativo,	—	—	—
b. Obtención de información acerca de lo que se esperaba de Ud. como estudiante	—	—	—
c. Encontrar un lugar adecuado de estudio,	—	—	—
d. Falta de actividades extra-curriculares o recreativas,	—	—	—

2. Problemas de Salud:

- | | | | |
|--|-----|-----|-----|
| a. Adaptación al servicio de comedor, | ___ | ___ | ___ |
| b. Adaptación a sus facilidades de dormitorio, | ___ | ___ | ___ |
| c. Otro problema; Cuál, por favor: _____ | ___ | ___ | ___ |

3. Problemas Financieros:

- | | | | |
|--|-----|-----|-----|
| a. Falta de suficiente dinero asignado en su beca, | ___ | ___ | ___ |
| b. Falta de ayuda económica de parte de su organización empleadora, | ___ | ___ | ___ |
| c. Falta de dinero para cubrir sus gastos familiares, incluyendo los personales suyos, | ___ | ___ | ___ |
| d. Otro problema? Cuál, por favor: _____ | ___ | ___ | ___ |

4. Problemas Personales:

- | | | | |
|---|-----|-----|-----|
| a. Adaptación a sus facilidades de dormitorio | ___ | ___ | ___ |
| b. Adaptación a otra gente, | ___ | ___ | ___ |
| c. Sus relaciones amorosas, | ___ | ___ | ___ |
| d. Prohibición a vivir en el pueblo, | ___ | ___ | ___ |
| e. Otro problema; Cuál, por favor: _____ | ___ | ___ | ___ |

C. Tanto como le sea posible recordar de su uso personal de la biblioteca, sírvase marcar el espacio que corresponda en la columna que de respuesta a cada una de las siguientes alternativas:

- | La Biblioteca tenía: | <u>Si</u> | <u>No</u> | <u>No Se</u> |
|---|-----------|-----------|--------------|
| 1. Espacio adecuado para su estudio confortable, | ___ | ___ | ___ |
| 2. Acceso directo a sus materiales de estudio, | ___ | ___ | ___ |
| 3. Suficientes materiales de referencia para sus cursos, incluyendo su problema de investigación. | ___ | ___ | ___ |
| 4. Un servicio eficiente de escritorio circular, | ___ | ___ | ___ |

5. Eficiencia demostrada a Ud. por el personal, — — —
6. Cortesía demostrada a Ud. por el personal, — — —
7. Horario de servicio apropiado para Ud., — — —
8. Notificación adecuada de los nuevos libros
llegados, — — —
9. Le dieron suficiente instrucción sobre el uso
de la Biblioteca, — — —
10. Tiene algún comentario adicional que hacer? — — —

VII. POSIBLES CAMBIOS QUE UD. RECOMENDARIA PARA LA ESCUELA PARA GRADUADOS:

A. Con miras a mejorar el programa de educación y adiestramiento graduado de la Escuela para Graduados del IICA, sírvase enumerar en las áreas que le interesan, un cambio importante en cada uno de los campos que se mencionan y que Ud. piensa que el IICA debiera introducirlo para mejorar su eficiencia:

1. En el proceso de Admisión de Estudiantes: _____
2. En el programa acedémico: _____
3. En el programa de investigación: _____
4. En el programa de becas: _____
5. En la administración general de la Escuela para Graduados: _____
6. En la administración de negocios de la Escuela para Graduados: _____
7. En las actividades extracurriculares, incluyendo las recreativas: _____
8. En el área de los servicios estudiantiles: _____

9. En el área de guía y consejo para los estudiantes: _____
10. En el "status" o posición de los graduados del IICA: _____
11. En el valor práctico del título de "Magister," otorgado por el IICA: _____
12. En el área de prolongación de contacto con los egresados ("follow-up"): _____
13. En otras áreas; Cuáles, por favor: _____

VIII. ALGUNA INFORMACION ADICIONAL:

- A. Sírvese marcar en la(s) casilla(s) correspondiente (s) la(s) frase(s) que nos indique(n) lo que Ud. cree que fue una o más dificultades académica (s) encarada(s) por Ud. en el Centro:

1. Ud. no tuvo ninguna dificultad, _____
2. Tuvo dificultad de entender lo que se esperaba de Ud. en ciertos cursos, _____
3. Ud. tuvo que trabajar muchas horas, _____
4. Tuvo dificultad en seguir sus horarios de clase, _____
5. Hubieron muchas distracciones, incluyendo el ruido en el dormitorio, _____
6. Tuvo dificultad para leer su material educativo, _____
7. Tuvo dificultad para organizar su material de lectura, _____
8. Tuvo otras dificultades? Cuáles, por favor: _____

- B. Sírvese proporcionarnos algunos detalles acerca de los siguientes puntos:

1. Su presente dirección completa, por favor: _____

2. Su país de nacimiento: _____
3. Fecha de su graduación en el IICA: _____
4. Sus estudios en el IICA, fueron financiados por: _____
5. Sus estudios para el grado de ing. agr. o, título equivalente, Ud. los hizo en: _____
6. En su opinión, cuál es el libro más importante que Ud. ha leído en los pasados seis meses?: _____
 - a. Nombre del libro: _____
 - b. Autor o, Autores: _____
7. Mantiene Ud. suscripción a algunas revistas científicas? Si, __; No, __; Si su respuesta es positiva, cuál es la más importante revista que Ud. recibe?
 - a. Nombre _____
 - b. País de origen de la revista: _____
8. Cuál es el problema más importante en el que Ud., actualmente, trabaja?:
 - a. Nombre del Problema: _____
 - b. Importancia del Problema: _____
 - c. Objetivos: _____

 - d. Estado de progreso y posibles limitaciones: _____

IX. SUS INGRESOS ECONOMICOS:

- A. Sírvase indicarnos, en forma aproximada, cuáles fueron sus ingresos brutos durante 1.964. (La cifra que Ud. nos de, debe incluir su remuneración por la ocupación o empleo principal y, las otras ocupaciones o empleos secundarios. Debe incluir también, un cálculo aproximado de posibles beneficios personales adicionales como: casa de habitación, servicios de agua y luz, exención de impuestos, exención de derechos aduaneros, vacaciones, seguros, viajes de

vacación, etc. Finalmente, sírvase indicarnos, la unidad monetaria en la que nos esta informando: dólares americanos, pesos mexicanos, cruzeiros, colones, pesos colombianos, sucres o soles, etc.)

1. Sus ingresos anuales brutos en 1.964 fueron de: _____
2. Sus ingresos promedios mensuales, durante el mismo año fueron:

3. Alguna información o, comentario?: _____

X. ALGUNOS COMENTARIOS PERSONALES ADICIONALES:

- A. Si asi lo desea, le agradeceremos cualquier comentario adicional de su parte. (Si le falta espacio, sírvase escribir en páginas adicionales). _____
- _____
- _____

XL. SECCION DEDICADA A LOS TENEDORES DE UN DOCTORADO (Ph.D. u otro) Y PARA CANDIDATOS DOCTORALES:

- A. Sírvase indicarnos el grado de ayuda que le significó su educación y adiestramiento en la Escuela para Graduados del IICA, en sus estudios doctorales:

1. Me reconocieron el título de "Magister", completamente, _____
2. Unicamente me reconocieron _____ créditos por los cursos
(cuántos) tomados, _____
3. No me reconocieron ningún beneficio, _____

- B. Nos agradecería conocer si su experiencia previa como estudiante graduado del IICA, incluyendo conocimientos, destrezas, habilidades y comprensión, le fueron:

1. De completa ayuda, _____
2. De mucha ayuda, _____

3. De limitada ayuda, _____

4. De muy poca ayuda, _____

5. De ninguna ayuda, _____

C. Sírvese indicarnos las Escuelas Graduadas atendidas por Ud. después del IICA: _____

D. Sírvese indicarnos algunos grados o títulos adicionales adquiridos por Ud.: _____

MUCHISIMAS GRACIAS POR SU AMABLE COOPERACION!!!!...

Le suplicamos regresar este cuestionario por correo certificado, si le es posible.

* El vocablo "empleo" para el propósito de esta investigación es equivalente a ocupación especializada, en la que se requiere del funcionario que la desempeña, ciertos conocimientos, destrezas, habilidades y entendimiento de los propósitos perseguidos por tal empleo.

** Cursos Básicos: Son aquellos que incluyen conocimientos que suplen el vacío traído por el estudiante graduado a su ingreso a la Escuela para Graduados tales como: Química Orgánica, Matemáticas, Estadística, Redacción Técnica e Inglés.

***Cursos Graduados: Son aquellos cuya orientación y contenido incluyen conocimientos, destrezas, habilidades y comprensión propias de un determinado campo de estudio en la Agricultura o, en las Ciencias Sociales aplicadas a ella.

Tambien le suplicamos se sirva disculparnos por las muchas faltas gramaticales que presenta el cuestionario. Nos fue imposible encontrar una eficiente mecanógrafa bilingüe.

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-
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