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SETTING GUIDELINES FOR "AN ADMINISTRATIVE SUPPORT",  
TO CARRY OUT EXTENSION EDUCATION PROGRAM AT THE SCHOOL  
OF AGRONOMY OF THE FEDERAL UNIVERSITY OF CEARA - BRAZIL

by


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## AUTOBIOGRAPHICAL SKETCH OF THE AUTHOR

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## CHAPTER I

### INTRODUCTION

The appropriate functions for the School of Agronomy of the Federal University of Ceara are still under discussion. Teaching, research and extension have been determined by a new law related to university reform in Brazil. However, the first and second functions are considered as adequate to be carried out within those higher educational institutions. The Extension function, in large scale, is considered as supplementary or not totally adequate to be carried out.

Many factors have determined those attitudes in relation to Extension function within EAUFC and other colleges or universities within Brazilian environment.

### BACKGROUND OF THE PROBLEM

Extension as a function within Brazilian colleges and universities is quite new. Teaching and research have been performed as traditional functions within those educational institutions.

The Extension education program demands some modifications in terms of institutional values that force the establishment of a new and more actual administrative and educational policies within those higher educational institutions.

Haygood<sup>1</sup> points out "Conflicting demands made on the university by

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1. James A. Haygood, "Colleges and Universities," In: Handbook of Adult Education, New York, The MacMillan Press, 1970, p. 195.

the traditional activities of research and scholarship as opposed to adult education and community service."

If we consider such higher educational institutions as administrative units or organizations, each administrative unit has to work as "a structured system of roles and functional relationship."<sup>2</sup> On the other hand, the teaching, research and extension functions have to work together in order to achieve common goals of those higher educational institutions.

The basic problem of this study may be stated under the form of the two following questions:

- How to get Brazilian colleges and universities, which have traditionally been teaching and doing research, to understand and accept the need to carry out the extension education program?
- What additional administrative policy, structure and support must be developed or changed in order to incorporate this additional program (Extension) within those Brazilian colleges and universities?

An attempt to answer the above questions will be undertaken in the present study applying those questions, mainly the second one, to a specific case. The applicability is related to the School of Agronomy of the Federal University of Ceara, in Northeast of Brazil.

#### STATEMENT OF THE PROBLEM

Extension as a function within the School of Agronomy of the Federal University of Ceara (EAUFC) has existed since 1964-1965 (see notes in

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2. J. M. Pfiffner and R. Presthus, Public Administration, New York, Ronald Press, 1967, p. 7.



Appendix A).

The purpose of the extension function within EAUFC is "to disseminate information from accumulated knowledge and/or originated from research among the rural areas and larger population sectors."<sup>3</sup>

However, the extension education program within EAUFC has revealed many problems such as:

1. Inadequacy of an administrative support for developing a philosophy of the organization, planning, coordination, controlling, budgeting, among others. These and other administrative factors are not enough to fulfill the needs of the extension program.
2. The staff members of the EAUFC are reluctant to participate in extension program. Professors have traditionally considered this kind of activity as an inappropriate function to be performed. On the other hand, the professors of EAUFC do not receive enough stimulus in terms of remuneration and promotion for their participation within extension programs.
3. The general philosophy of programs of the Federal University of Ceara has considered the extension program within different schools and universities, including EAUFC, as a secondary level of priority.
4. Other agencies outside of the university complex, which work for specific development of the agricultural sector of the State of Ceara, do not understand what role should be performed by EAUFC in carrying out the extension education program. There is a

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3. EAUFC, Notes Informativas ao Corpo Discente. Fortaleza, Ceara, Setor Informativo da EAUFC, 1969, p. 2.

viewpoint among those agencies that extension activities have already been done by the Cooperative Extension Service (Associação Nordestina de Crédito e Assistência Rural - ANCAR).

5. The regional developmental agencies such as SUDENE (Superintendência do Desenvolvimento do Nordeste), INCRA (Instituto Nacional de Colonização e Reforma Agrária) and BNB (Banco do Nordeste) mainly, do not give much importance to extension as a function performed by EAUFC or the Federal University of Ceará. In general the extension program is viewed as a secondary or complementary function to teaching and research.

The President's Commission on United States Higher Education quotes that "The colleges and universities should elevate adult education to a position of equal importance with any other of their functions."<sup>4</sup>

The above statement is also true for the Brazilian colleges and universities, particularly concerning EAUFC.

The extension function at EAUFC has to be located as a primordial function within EAUFC along teaching and research functions.

In the present study, some directions that should help to elevate extension program within EAUFC have been described. The major point to be focused on here is the administrative one, especially focused on building an adequate administrative support.

#### OBJECTIVES OF THE STUDY

The general objective of this study is to establish the need for,

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4. Adult Education: Who's Responsibility? In: American Ideas About Education (1710-1951), edited by C. H. Grattan, New York, Columbia University, 1962, p. 130.



and an administrative policy based on adequate administrative support that should support the extension education program at EAUFC. This administrative approach should describe or give directions to planning, assembling resources, coordination, control and evaluation of all administrative activities related to extension program within EAUFC.

The specific objectives are:

1. To establish guidances for training and allocation of staff members of the EAUFC within extension program.
2. To specify certain forms of action such as appropriate process of communication required to fulfill the goal of carrying out the extension program.
3. To establish some specific direction for involvement of the other administrative units within and/or outside of the university complex in helping with extension program within EAUFC.

#### NEED OF THE STUDY

The extension function within EAUFC has the potential to improve the leadership role of EAUFC among other agencies and the local community.

There is a coordination of extension within EAUFC to develop the extension program in form of a "staff" administrative unit. However, the coordination of extension has a "staff" administrative function which works and "consists of helping an executive plan and/or supervising the activity of others,"<sup>5</sup> it does not have enough power and administrative

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5. William H. Newman, Administrative Action: The Techniques of Organization and Management, Englewood, New Jersey, Prentice-Hall, 1963, p. 2.



flexibility to establish extension program at EAUFC.

The administrative policy related to extension program of EAUFC needs some new directions which should overcome many obstacles to carry out extension activities. On the other hand, the EAUFC has not presently enough evidence to show the need for an adequate administrative approach to specific activities related to extension function.

The direction of EAUFC and other administrative units of EAUFC such as departments and coordinations of teaching, research and extension, do not feel specific needs for a study of that nature. This is because extension program is considered as a secondary or complementary function within EAUFC. A study approach of that administrative topic could help EAUFC in terms such as:

1. Showing many different aspects of administration action that involves extension program as a part of total activities within EAUFC;
2. Helping to establish an administrative policy in order to increase output and productivity within extension program of the EAUFC;
3. Giving a better idea about what must be considered as an extension program within EAUFC and its necessary adjustments to attain "public support";
4. Building a real need for an administrative approach or final guidelines to carry out the different functions and their relationship within EAUFC programs.

## PROCEDURES USED

The data and other information directly related to extension education program and other programs of EAUFC have been gathered from published and unpublished material of EAUFC. The personal experience of the writer of the present study has been the source of information, because he had occupied the coordinator function of extension of EAUFC for more than two years.

Pertinent library materials on the following subject matter areas also were reviewed:

1. Concepts, principles, and other matters relating to agricultural extension and university in general included, but not limited to philosophies, policies, organization and administration, and historical development in Brazil and in the United States and other countries.
2. Concepts, principles, models and other material related to administration as a major discipline dealing with extension program or activities.
3. Different views on the functions of colleges and universities; duties, powers and privileges of the faculty as well as of colleges and university administrations.
4. Concepts, principles and theories on agricultural and community development.

Program reports, theses and other unpublished sources related to the nature of the present study were also considered to get information.



DEFINITION OF TERMS

Guideline - desired condition necessary or appropriate to carry out specific tasks.

Administrative support - "philosophy and leadership, also suitable and adequate resources."<sup>6</sup>

Extension education program - the process of effective participation of EAUFC for the purpose of training technicians, farmers and agribusiness; the dissemination of results of agricultural researches, bringing technology to rural people to be adopted by themselves or through the help of other agencies such as the Cooperative Extension Service, Ministry of Agriculture and Secretary of Agriculture; the promotion of better understanding among different agencies which work in rural areas to increase efficiency in terms of cooperative work of development process of rural sector. In summary, extension activities or educational programs are understood here as extramural activities by EAUFC, besides teaching and research functions.

EAUFC - refers to School of Agronomy of the Federal University of Ceara, Brazil, a higher educational institution similar to college of agriculture within American universities. The EAUFC has to carry out teaching (undergraduate and graduate courses), research and extension as its normal functions.

Teaching - a dissemination process of general or specific knowledge and skills by formal ways among different areas or fields covered by the curriculum of EAUFC.

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6. Alton C. Johnson and Roy D. Cassel, Appraising Personnel in the Cooperative Extension Service, Madison, National Agricultural Extension Center for Advanced Study, 1964, p. 94.

Research - an approach based on scientific methodology to search or discover and improve knowledge, and practices.

Staff members - "are those that do not contribute directly toward the basic objective, but rather do so indirectly by facilitating and assisting in performance of line work."<sup>7</sup>

#### SCOPE AND LIMITATIONS OF THE STUDY

This study focuses primarily on the EAUFUC activities related to extension program. However, some information and ideas about extension function within Brazilian colleges and universities have been described in this study. It is in a form which the writer of this study considers as of departure leading to a better understanding about today's extension role and its potentiality within those higher educational institutions in Brazil. All basic concepts, information and analysis of this study is based on reviewed bibliographic material, courses of study at the University of Wisconsin and on the personal experience of the writer within the extension activities of EAUFUC.

The administrative approach was selected as the most appropriate among other factors necessary to improve the extension program within EAUFUC. This is because the change in administration through the establishment of new directions is faster and more effective than other kind of action.

Those suggestions made within this study are not necessarily the only ones that might be considered as guidelines by the administration of the EAUFUC.

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7. Edwin B. Flippo, Principles of Personnel Management, New York, McGraw Hill, 1961, p. 7.



On the other hand, this kind of study has to be considered as a preliminary tentative to improve administrative support for extension program. This study should be taken as a starting point for a deeper search into the improvement of the extension program.

Those guidelines described by this study should be implied for a certain period to support extension program, feedback on their usefulness will help to build the necessary adjustments of the administrative approach for extension education program.



CHAPTER II

REVIEW OF LITERATURE

The major focus of this chapter is to review literature related to the role of colleges of agriculture and universities in developing countries and concepts about extension and what is understood by administrative support necessary to carry out the extension function. This is established in order to develop a better understanding of potential functions within Brazilian colleges and universities and, consequently, EAUFCA.

THE ROLE OF COLLEGES OF AGRICULTURE AND UNIVERSITIES  
IN DEVELOPING COUNTRIES

A description of colleges of agriculture and universities in developing countries must take into account societal and environment factors. On the other hand, their roles are in accordance with the stage of social-economic development which those countries have achieved.

Economic, social, cultural and political elements are important determinants of all higher educational institutions structure, philosophy of action and established aim.

Often the roles of higher educational institutions in developing countries should be different than those established in developed countries. Hardin<sup>1</sup> noted this when he stated that "I hope that I never

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1. Clifford Hardin, The University's role in Agricultural Education, In: Agriculture and the University, New York, Council on Higher Education in the American Republics, Institute of International Education, 1965, p. 11.

hear another United States educator say that the teaching, research and extension relationship that has served us so well must be employed in all other countries. It is always possible that there is another way that will work more effectively in a particular country with its own special background and unique traditions." Other writers such as Castronovo<sup>2</sup> emphasize the same opinion, considering those institutions as a result of the environmental structure of the society which they belong.

In general, the roles within colleges of agriculture and universities in developing countries should be divided in two types: (1) traditional--based on doing its normal functions without any linkage to local problems and their solutions; (2) renovational or active--based on involvement of their normal functions with local problems and their solutions. The last role is considered as the most adequate for those higher educational institutions within developing countries. Benjamin<sup>3</sup> is among many writers that recognizes a renovation of role for those higher educational institutions such as a creative insight into the needs of the people, with administrative efficiency and with instructional competence.

This renovation of role for those colleges and universities in developing countries has to be stated as a potential force to carry out changes in values, to develop new aspirations and elevate the living standards of the people. The colleges of agriculture and universities within those developed countries have exercised this type of renovation

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2. Alfonso Castronovo, Integrating Teaching, Research and Extension, In: Agriculture and the University, New York, Council on Higher Education in the American Republics, Institute of International Education, 1965, p. 57.
  3. Harold R. W. Benjamin, Higher Education in the American Republics, New York, McGraw-Hill, 1965, p. 200.



role as Ribeiro<sup>4</sup> described: "The economic and social process of the fully developed nations was brought about by constant interaction between a body of scientific and technological knowledge on the one hand, and the nation's productive activities on the other." However, this renovation or active function within colleges of agriculture and universities in developing countries has to be a specific set of functions.

Hannah<sup>5</sup> has suggested that effective higher learning institutions in agriculture within underdeveloped countries must perform functions in order to educate for service; try to solve real problems; conduct Extension work concerning problems and consummate solutions; and engage in public service, so the leadership in agriculture will learn to respect them and look to them as guidance and help. A publication from UNESCO<sup>6</sup> described the role of higher educational institutions such as an obligation to raise the intellectual standard of the population, to improve the quality of education at all levels and to provide training to meet the country's need. Emphasis should accordingly be placed, described initially upon providing:

1. Intensive courses for training of teachers.
2. Pre-service and in-service training for the planners, the executive personnel and the managerial staff required in the public and private sectors of the economy.

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4. Darcy Ribeiro, Universities and Social Development, In: Elites in Latin America, edited by Seymour M. Lipset and Aldo Socari, London, Oxford University, 1969, p. 351.
  5. H. W. Hannah, Recourse Book for Rural Universities in the Developing Countries, Urbana, Illinois, University of Illinois Press, 1966, p. 13.
  6. UNESCO, Education and Agricultural Development, Paris, United Nations Educational, Scientific and Cultural Organization, 1964.

3. The preparation of doctors, engineers, agriculturalists, nurses and other technicians for the rapid social and economic development of the country.

However, those above described functions for higher educational institutions could be understood as broader than specific ones. In order to describe more specific functions for those colleges of agriculture and universities, the following are suggested based on Coombs'<sup>7</sup> point of view.

--The first of these functions is to provide an adequate supply of leadership and specialized personnel to meet the varied manpower requirements for economic growth and social development. This primarily involves The University's Teaching Role.

--The second function is to create new knowledge and to help the world's storehouse of existing knowledge and technologies to local development needs. This is the University's Research Role, including both fundamental and applied research.

--The third function, a special aspect of the second, is to contribute to a deeper and clear understanding of the nation's development needs and problems and to strengthening the means for meeting these. This is the University's Public Service Role.

--The fourth function, too often forgotten, is to provide top leadership and practical help for strengthening the educational system as a whole. This is the University's Educational Leadership Role.

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7. Philip H. Coombs, Programming Higher Education within the Framework of National Development Plans, In: Higher Education and Latin American Development, Assuncion, Paraguay, Inter-American Development Bank, 1965, pp. 16-17.



Beers<sup>8</sup> points of view about the ten roles for agricultural universities are described by Baradas: (1) college teachers; (2) teacher outside the walls (Extension); (3) producer of knowledge (research); (4) public servant; (5) clinic for solving problems; (6) standard setter; (7) organization model; (8) strengthener of family life; (9) guardian of scientific freedom; (10) source of inspiration.

The role of the colleges and universities in developing countries must be dynamic, flexible and appropriate to local conditions and needs of the people.

#### CONCEPT OF EXTENSION

The Webster's New International Dictionary describes Extension as a form of extending of, or a service or system that extends the advantages often specially the instructional advantages of an institution as university, library or church, to persons unable to avail themselves of them in the regular manner.

Many writers are in accordance that Extension is a common educational process which receives different denominations.<sup>9</sup> However, other writers have established certain division for different educational processes considered as Extension. Among those major divisions for Extension are the general extension and the agricultural extension.

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8. Howard W. Beers, The Role of Agricultural Faculties in Developing Countries, In: Maximo Baradas, Development of Some Guidelines for the Extension Education Program of the University of Philippines, College of Agriculture. Thesis for Master's Degree at the University of Wisconsin, 1968, p. 21.
  9. Wayne L. Schroeder, Adult Education Defined and Described, In: Handbook of Adult Education, New York, The MacMillan Comp., 1970, pp. 25-40. Paulo Freire, Extension o Comunicacion? Santiago del Chile, ICIRA, 1969. Edwin Townsend Coles, Adult Education in Developing Countries, London, Pergamon Press, 1969, pp. 4-14.



In this study, the last division will be considered as the most appropriate as a tentative to establish a better understanding of extension within a specific college of agriculture (EAUFC).

#### GENERAL EXTENSION

Also the Webster's New International Dictionary gives a good understanding of general extension: originally as extramural instruction, primarily for the working classes, conducted by a university or college; now, broadly, any similar instruction, as by a state board of education for the general public.

McDermott<sup>10</sup> states that extension means literally an extension of the campus functions to the needs and problems of a society, and in the beginning these functions were extended by the same persons who were doing the teaching and the research.

Extension or general extension or university extension has been defined by Leagans<sup>11</sup> as "an applied science consisting of relevant content derived from researches in physical, biological, and social sciences, and its own processes, synthesized into a body of concepts, principles, and procedures oriented to providing noncredit out-of-school education largely for adults."

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10. J. K. McDermott, Extension Institutions, In: Institutions in Agricultural Development, edited by Melvin G. Blase, Ames, Iowa, The Iowa State University, 1971, p. 153.
  11. J. Paul Leagans, Extension Education and Modernization, In: Behavioral Change in Agriculture--Concepts and Strategies for Influencing Transition, edited by J. Paul Leagans and Charles P. Loomis, Ithaca, New York, Cornell University, 1971, pp. 106-107.

The term university extension has strong connotation with the American universities' context such Shannon and Schoenfeld<sup>12</sup> identify as an institutional state of mind which views the university not as a place but as an instrument.

Based on American environment Shannon and Schoenfeld described that university general extension has the following functions:

1. Primary Functions

- a) Direct transmission of regular university course study to people who, for whatever reason cannot come to the campus but who seek academic credits.
- b) The transmitting of regular university instruction into patterns tailored to meet the intellectual, cultural or vocational needs of youth and adults.
- c) The placing of university departments and schools into a direct and essentially consultative relationship with secondary schools, libraries, state and federal agencies, organizations, groups, communities, industry, unions, countries--the gamut of public associations.
- d) The actual creation of new, substantive agencies within the university, sharply attuned to emerging public needs, and the creation or encouragement of new agencies outside the university, focused on public problem.

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12. Theodore J. Shannon and Clarence A. Schoenfeld, University Extension, New York, p. 2.



2. Supporting Functions

- a) Reconnaissance--Through a variety of devices organized and informal, Extension serves as the eyes and ears of campus, ferreting out public problems, deducing public needs, verbalizing public aspirations and transmitting these impulses back to the university, where they form the basis for new directions in research and teaching.
- b) Program Development--The utilitarian university is sensitive to the felt needs of its constituency, but programming does not wait passively upon requests for service.
- c) Applied Research--Before it has viable data to extend, Extension must frequently find the facts.

The instruments used by the university to carry out general or university extension, are among others: correspondence teaching, lecture services, extension classes, press and publication services, evening schools, library material lending services, audio-visual aid services, conferences, institutes and short courses, broadcasting services, special service activities, and articulated instruction media.<sup>13</sup>

The relationship of difference between general extension and rural extension is established by Shannon and Schoenfeld,<sup>14</sup> when they described that extension is divided into the following types:

1. Geographic Extension--Sometimes called "Extension Education" or "Extramural Work." This type of extension involves the provision

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13. Theodore J. Shannon and Clarence A. Schoenfeld; op. cit. pp. 28-75.

14. Ibid., pp. 3-4.

beyond campus walls of some of the credit-bearing educational opportunities. This is done by off-campus classes, correspondence instruction and radio-television instruction.

2. Chronological Extension--Sometimes called "Continuing Education" or "Higher Adult Education." This type of education involves educational opportunities for adults who have completed formal schooling in an attempt to improve their vocations or professions. This is done by methods such as: conventional classes, occasional lectures, instruction by correspondence, short courses, radio and TV programs, residential seminars, and other continuing-education configurations.
3. Functional Extension--Sometimes called "Educational Services," "Community Development" and "Applied Research." This involves action off-campus in order to involve youth and adults based on their needs and interests. It depends on their age, sex, religion, political affiliation or educational experience. This is rural extension with all particular methods appropriate to improve local conditions.

All characteristics described above by Shannon and Schoenfeld are based on American context. However, Sanders and Maunder<sup>15</sup> describe extension education in developing countries as those that have the following characteristics:

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15. H. C. Sanders and A. H. Maunder, Why an Extension Service Today?  
In: The Cooperative Extension Service, edited by H. C. Sanders,  
Englewood, New Jersey, Prentice Hall, 1966, p. 9.





1. It must be largely informal and designed to bring understanding and knowledge to millions of people of all classes.
2. It must bring recognition and understanding of problems to be solved, if political, economic, and social goals are to be achieved.
3. It must bring immediate satisfaction to individuals as well as contribute to the achievement of long-term national goals.
4. It must, in most situations, contribute to improvement in rural living with which the majority of people are concerned.
5. It must start in most developing countries with improvement in agricultural productivity as a basis for further economic and social progress (the ultimate goal of better living for the populace must always be kept in mind).
6. It must inspire and assist individuals and groups to develop and carry out programs to achieve goals they act for themselves.

The Extension mission, in essence, is to bring campus and community into fruitful juxtaposition, thereby immeasurably enriching the life of both.<sup>16</sup>

#### AGRICULTURAL EXTENSION

An AID publication<sup>17</sup> describes:

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16. Theodore J. Shannon and Clarence A. Schoenfeld; Op. cit., p. 2.
  17. Agency for International Development; Extension in the Andes, Washington, Bureau for Program and Policy Coordination, Agency for International Development, April 1971, p. 24.

"Agricultural Extension refers to an organized process of extending agricultural information; from whatever its source, to farmers who can use it, through channels other than the formal schooling system. Extension is conceived as supplementing the latter; reaching farmers who no longer are or never were vocational students. In developing countries, where few farmers participate in vocational agriculture studies, Extension is by definition the only channel available to the majority for getting advice that they can't get from their neighbors."

Mosher<sup>18</sup> described agricultural extension as a "distinctive group of teaching methods" based on principles, such as:

1. It must go to farmers where they are.
2. It must be specific to farmers' present interest and needs.
3. It must respect the fact that farmers are adults.
4. It must be fitted into times when farmers are not too busy.
5. The unit of instruction for teaching and learning must in most cases be a particular new or changed practice.
6. It must be accompanied by immediate opportunities for farmers to try out the new methods taught.
7. Each new or changed practice proposed must be technically sound and economically profitable.
8. Farmers need encouragement to experiment.

Those teaching methods used in agricultural extension include: conversations during farm and home visits, methods demonstrations, result demonstrations, group meetings, farm tour, exhibits and fairs.<sup>19</sup>

Savile<sup>20</sup> keeps our attention about what agricultural extension is

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18. A. T. Mosher, Getting Agriculture Moving, New York, The Agricultural Development Council, 1966, pp. 129-136.
  19. Ibid.
  20. A. H. Savile, Extension in Rural Communities, London, Oxford University Press, 1970, p. 2.



when he states: "Agricultural Extension should not be confused with the original concept of agricultural advisory service, designed to assist farmers to increase their productivity. It is an evolution of the advisory service which can be regarded as a form of community development with an agricultural bias and an educational approach to the problems of rural communities."

Agricultural extension is carried out by college or university for rural people or Cooperative Extension Service or Ministry of Agriculture, in underdeveloped countries.

The Cooperative Extension Service performs its assigned mission by helping people to help themselves in attaining more efficient farms, better homes, higher incomes, richer living and increased competency in group action.<sup>21</sup>

McDermott<sup>22</sup> describes that agricultural extension through the Extension Service has the following functions:

1. Leadership development--This happened through such organizations as 4-H clubs, home demonstration clubs, local sponsoring agencies, numerous commodity producer associations, and the myriad of activities which might be called community development for want of a better name.
2. Related to leadership is the effect the Extension Service had on attitudes and in particular, the high value that rural people have come to place on science and rationality in farming.
3. Organization of local committees that administered many other

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21. Theodore J. Shannon and Clarence Schoenfeld, op. cit., p. 44.

22. J. K. McDermott, op. cit., pp. 154-155.

governmental programs through stimulation and coordination of activities within many public agencies and even of private enterprise.

4. Compensating for almost any kind of inadequacy that existed in the organization serving rural life.

Mosher<sup>23</sup> summarizes the essence of extension as:

The essence of the extension process, then, is that of working with rural people through out-of-service education, along those lines of their current interest and need which are closely related to gaining a livelihood improving the physical level of living or rural families, and fostering rural community welfare.

McDermott<sup>24</sup> describes the importance of the agricultural extension when he states that the role that extension played in maintaining relevance in research and the teaching functions of the agriculture colleges. Savile<sup>25</sup> shows that an effective extension service acts as a connecting link between research and farmers' experience.

Leagans<sup>26</sup> describes the importance of extension when he emphasizes that extension involves the process through which farmers can learn the reasons for change, the value of change, results that can be achieved, the process through which change is achieved, and uncertainties inherent in change. It can be the primary source of a farmer's ability to analyze alternative actions and choose from among them the most desirable. In short, the extension education process effectively administered, reduces delays in transmitting research findings into action.

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23. A. T. Mosher, The Extension Process, In: Selected Readings to Accompany Getting Agriculture Moving, Vol. I, edited by Raymond E. Borton, New York, The Agricultural Development Council, 1966, p. 300.
  24. J. K. McDermott, op. cit., p. 153.
  25. A. H. Savile, op. cit., p. 4.
  26. J. Paul Leagans, op. cit., p. 108.



Peterson<sup>27</sup> compares General and Agricultural Extension: "General Extension covers the whole field of human knowledge and is organized formally, according to disciplines or professions. In contrast, Agricultural Extension is informal and problem oriented."

#### ADMINISTRATIVE SUPPORT TO CARRY OUT EXTENSION FUNCTION

Shannon and Shoenfeld<sup>28</sup> describe that the crucial elements for successful Extension programs are: stimulation, coordination, management and continuity. They include as major components, within the general administrative operations of extension function, the following points:

1. Executive management--Broad planning, supervision, control, reports, personnel relations.
2. Administrative support--accounting, registration, recording, public service.
3. Instruction--informal consultative relationship and formal types of teaching.
4. Program development, promotion and evaluation--determining interests and needs of clientele and utilization of university resources effectively.
5. Liaison--with campus, colleges, schools, departments, offices and faculty members; and with off-campus individuals, groups, organizations, and agencies.

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27. Maurice L. Peterson, Trends and Problems of U. S. Agricultural Education, In: Agriculture and the University, New York, Council on Higher Education American Republics, Institute of International Education, 1965, p. 55.

28. Theodore J. Shannon and Clarence A. Schoenfeld, op. cit., pp. 26-27.

6. Instructional resources--duplicating, printing, editing, tests, audiovisual materials, library services.
7. Logistics--management of facilities, stocking of supplies, fiscal control.
8. Applied research--surveys, field investigations and so on, concerning public problems.
9. Institutional studies--self-analysis, formal or informal, designed improving Extension operations.
10. Basic research--fundamental investigation, principally in areas of psychology, sociology, and education, designed primarily to explore the phenomenon of adult learning.

Colvard<sup>29</sup> establishes that administrators of higher education institutions have the following tasks:

- a) To recognize the peculiar characteristics of their investigations;
- b) To understand the philosophy of higher education in general;
- c) To articulate the specific objectives of the individual institution, college, school or department;
- d) To mobilize the diverse talents found on the campus;
- e) To organize a group of specialists in business management and in personnel policies so as to maximize economic efficiency; and
- f) To strive for effective communication with the multiplicity of publics such as trustees, alumni, faculty, students, press, legislators, benefactors, parents, commodity groups, and professional societies.

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29. D. W. Colvard, Administration of Teaching, Research and Extension at Land-Grant Institutions, Madison, National Agricultural Extension Center for Advanced Study, University of Wisconsin, 1965, p. 57.



He emphasizes that in administration the things that are most important are: a clear set of objectives, a competent and motivated staff, adequate support and equipment, and freedom to work. He suggests that coordination of research, of extension and teaching in agriculture begins with clear objectives, proper training, and an understanding of the relationships of each function to the institution and the public it seeks to serve.

On the other hand, Myers<sup>30</sup> establishes that administrators in higher education must have certain responsibilities in order to carry out the extension function. Those responsibilities are, among others:

1. To foster the idea of "oneness" of the total program of the College of Agriculture and Home Economics.
2. To continue to demonstrate democracy in the administration of the Extension program and at the same time, through inspired leadership, give direction and meaning to this useful work.
3. To insure continuing cooperation with all agencies concerned with improvement of the rural environment and people.
4. To be public relations men par excellence.

He gives emphasis to two points within any college or university administration: academic qualities of the faculty and lack of communication.

Those points above are very important aspects within administration of colleges and universities in underdeveloped countries.

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30. Harold E. Myers, Expanding Responsibilities of Administrations, In: Administration in Extension, edited by Robert C. Clark and Roland H. Abraham, Madison, National Agricultural Extension Center for Advanced Study, 1960, p. 20.

SUMMARY

This chapter has set forth a description of the role of colleges of agriculture and universities.

The necessity for colleges and universities to identify their needs from within local environment has been emphasized. The higher educational institutions in developing countries, in general, should be divided in to major roles: traditional and renovational or active. The traditional role is based on carrying out the normal functions without involvement with social-economic-local problems and their solutions. On the other hand, the renovational role is a total involvement of those institutions within those problems and their solutions.

Different proposals based on different writers for adequate roles for colleges of agriculture and universities were described too.

A concept about Extension and types of division within it is shown as the second part of this chapter.

General or University Extension is understood as any extramural educational activities by higher educational institutions. The clientele for General Extension is as broad as its programs and goals.

Agricultural Extension has farmers and their families as its main clientele. The methods applied within Agricultural Extension show different approaches used within General Extension.

Agricultural Extension is a more common form that has been used within developing countries. However, the General Extension has a potential to be carried out within those higher educational institutions in those developing countries.

The extension function to be carried out by colleges and universities



needs a certain degree of administrative support. Many factors such as personnel, philosophy of action, supplementary support, etc., have been described as the third point of this chapter.

The ideas within this chapter are important for better understanding the potential function of Brazilian colleges and universities, and more specifically, EAUFC.

CHAPTER III

EXTENSION AS A FUNCTION WITHIN BRAZILIAN COLLEGES AND UNIVERSITIES

For readers to get a better understanding about how Extension works as a function within Brazilian colleges and universities, some information such as basic data about Brazil, historical background and today's Brazilian colleges and universities structure must be described. This is a major aspect within Chapter III of the present work.

BASIC INFORMATION ABOUT BRAZIL

Brazil is the largest Latin American country, occupying almost half of the total area of South America. It touches all of the South American countries except Chile and Equador filling a perimeter of 14,373 miles of which 4,604 miles make up the Atlantic coastline.

Brazil has five geographic regions (North, Northeast, Southwest, South and Center-West), with twenty-two states, four territories and the Federal District (capital of the country--Brasilia).

The 1970 census recorded the population of Brazil as 93,000,000 in that year and an estimated population of 121,574,000 for 1980.<sup>1</sup>

Brazilian regions show significant differences in terrain and climate thus affecting the adaptation of the people to their environment and influencing the spatial distribution of population. The national life depends on systems of transportation and communication which are in varying stages of development.

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1. Socio-Economic Progress in Latin America, Interamerican Development Bank, 10th Annual Report, 1970, Washington, 1971.



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Economically, Brazil remains an agricultural country and a sizable percentage of its industry was based on the processing of agriculture products. Among the geographic regions of Brazil, the northeast (which is the focus of the present study), is the poorest one. Sugar, cotton, cocoa, beans and cattle are the major economic support of this region. The region's population is 27,000,000 and it is beset with the following problems: low income, poor nutrition, high rate of illiteracy, custom and tradition. The state of Ceara (where EAUFC is located) is included in northeast of Brazil, also with cotton and cattle as its economic support. Agriculture is the lever for economic and social development of this state as well as for the whole region.

#### HISTORICAL BACKGROUND OF HIGHER EDUCATION IN BRAZIL

Brazil was one of the last Latin American countries to have higher education. This is because the Portuguese settlers had established a policy of keeping knowledge far away from the colonial land. (The first higher educational institutions were established when it became necessary to transfer the Portuguese crown from Portugal to Brazil during the Napoleonic War [1808].) Courses in surgery, anatomy and medicine were established in Rio and Bahia between 1809 and 1813, and the beginning of training of doctors on Brazilian soil. A chair for the teaching of economics was found in Bahia in 1808; a course in agriculture in 1812; in chemistry in 1817 and in technical designing in 1818. The Royal School of Science, Arts and Professions was founded on August 12, 1816; it functioned under that title until 1820, when the name was changed to the Royal Academy of Painting, Sculpture and Architecture.<sup>2</sup>



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2. Robert J. Havighurst and J. Roberto Moreira, Society and Education in Brazil, Pittsburgh, University of Pittsburgh Press, 1965, pp. 61-62.

Before the Portuguese crown came to Brazil, any Brazilian who sought higher education, besides that offered through high school (known as colleges in Brazil) maintained by the Jesuits--usually went to the University of Coimbra in Portugal or to the University of Montpellier in France.<sup>3</sup>

In 1822 when Brazil became an empire independent of Portugal, a provision providing specifically for universities was submitted to the Constitutional Convention. In 1834 the Constitution was amended to reserve for the Central Government the right of legislation in the field of higher education. In 1827 courses in juridical and social sciences were established at Olinda in the state of Pernambuco and at Sao Paulo. At the end of the empire, in 1889, there were Faculties of Law at Sao Paulo and Recife, Faculties of Medicine at Bahia and Rio de Janeiro, a polytechnic school at Rio de Janeiro and a school of mines at Ouro Preto.<sup>4</sup>

With an aristocratic social structure and an agricultural society based on slave labor, the principal social function of higher education was to give a few professional skills to a small group of individuals who would become merchants, bankers, lawyers, doctors, priests and government officials.

Higher education has been, since empire time, highly theoretical. It tends to follow the "dictation" method--read-a-line--copy-a-line. Learning by doing has not been present. This kind of approach is what McNeil calls the "aristocratic" orientation to education in Brazil.

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3. Malvina R. McNeil, Guidelines to Problems of Education in Brazil, A Review and Selected Bibliography, New York, Teachers Colleges Press, 1970.

4. Harold R. W. Benjamin, Higher Education in the American Republics, New York, McGraw-Hill Book Company, 1965, pp. 32-33.



The republican constitution of 1891 gave power to the states to establish higher educational institutions, although the Federal Government still maintained power to establish higher education.

In the first decade of the Republic, private higher educational institutions were established with Faculties of Law at Bahia, Rio de Janeiro and Minas; Schools of Engineering at Recife and Sao Paulo (Mackenzie); Politechnic Schools at Bahia and Sao Paulo and a Faculty of Medicine at Porto Alegre.<sup>5</sup>

During the 1920's there was a movement in Europe and the United States for educational reform that stressed two quite different and possibly contradictory aims. One was to form education around the interests of the individual who would "learn by doing" (Dewey's philosophy). The other was to use the school as means of social, political and rural reconstruction so as to realize a higher measure of democracy.

In the 1920's the first Brazilian universities based on the French model were organized. The University of Rio de Janeiro was the first in the country by combining the existing Rio de Janeiro Politechnic School, the Faculty of Medicine, and a private Faculty of Law. In 1927 the State University of Minas Gerais was set up by grouping faculties of law, medicine and engineering.<sup>6</sup>

Between 1920 and 1940 the universities developed slowly. In 1938 the University of Rio de Janeiro was absorbed into the University of Brazil, and in 1934 the University of Sao Paulo was organized through a

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5. Ibid, p. 33.

6. Harold R. W. Benjamin, op. cit., p. 33.

combination of existing universities.<sup>7</sup>

In 1968 there were forty-eight Brazilian universities with 158,000 students and 397 isolated faculties with 120,000 students. This total, 278,000 was divided among the following types of institutions:

TABLE 1: Types of Higher Educational Institutions

TYPE OF INSTITUTION	NUMBER	ENROLLMENT	
		1968	PERCENT
Foundation	7	12,532	7.9
Federal University	18	89,556	56.7
State University	3	16,446	10.4
Private University	5	8,584	5.4
Município University	1	3,051	1.9
Catholic University	10	25,306	16.0
Rural University	4	2,625	1.7
	48	158,100	100.0

Source: John M. Hunter, Economic Aspects of Higher Education in Brazil, East Lansing, Michigan, Latin American Studies Center, Michigan State University, January 1961, p. 28.

On the other hand, the 397 faculties show the following distribution:<sup>8</sup>

7. Robert J. Havighurst and J. Roberto Moreira, op. cit., p. 197.

8. John M. Hunter, Economic Aspects of Higher Education in Brazil, East Lansing, Latin American Studies Center, Michigan State University, January 1971, pp. 28-29.



TABLE 2: Sponsorship of Faculties

<u>SPONSORSHIP</u>	<u>NUMBER OF PROGRAMS</u>	<u>ENROLLMENT</u>
Federal	40	5,917
State	155	14,675
Município	96	9,297
Private	<u>613</u>	<u>90,300</u>
	904	120,189

Source: John M. Hunter, op. cit., p. 29.

The Ministry of Education of Brazil, Jarbas Passarinho<sup>9</sup> describes that in 1969 there were close to 17,000,000 students in Brazil, in the following distribution:

TABLE 3: Distribution of Students Enrollment

<u>LEVEL OF EDUCATION</u>	<u>ENROLLMENT</u>	<u>PERCENT</u>
Primary	13,000,000	77
Secondary	3,600,000	21
Higher Education	<u>335,000</u>	<u>2</u>
	16,935,000	100

Source: Jarbas Passarinho, Mundo Economico, Vol. IV, No. 5, June 1971, p. 7.

The University Federal of Ceara was established on December 16, 1954,

9. Jarbas Passarinho, No Início da Grande Jornada, In: Mundo Economico, Vol. IV, no. 5, June 1971, pp. 6-8.

with a School of Agronomy, Faculties of Medicine, Odontology and Pharmacy, Economics and Law. Later on, new schools, faculties and institutes came in to enlarge the university. In 1968, the University Federal of Ceara had 6,931 enrollment (ninth among Brazilian universities), 40 courses and 1,222 professors.<sup>10</sup>

The School of Agronomy of the University Federal of Ceara was established in 1918, and in 1968 had one course (Engineering-Agronomy), 84 professors and 532 enrollment.<sup>11</sup>

#### THE MAJOR FUNCTIONS WITHIN BRAZILIAN COLLEGES AND UNIVERSITIES

The Brazilian colleges and universities were established within an "academic" approach, with a major aim of forming classic or liberal professionals (lawyers, mainly). Teaching was the major and the only function within these institutions.

In 1931, the first law was established (called Francisco Campos Law), which gave new structure to Brazilian universities. The major new aspect of the law was to establish the Faculty of Education, Science and Letters, as a multifunctional institution with the goal of establishing university integration. Through doing teaching (mainly in preparing teachers for higher schools) and pure research. That new institution began in 1934 with the name of Faculty of Philosophy, Science and Letters.<sup>12</sup>

The Faculty of Philosophy, Science and Letters sacrificed some of its goals. This is because the traditional approach of the Brazilian colleges

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10. IBGE, Anuario Estatístico do Brazil, Ensino Superior, 1970, pp. 683-692.

11. Ibid.

12. Newton Sucupira, Aspectos da Reestruturacao da Universidade Brasileira, In: Corrientes de la Educacion Superior in America, Washington, OEA, 1966, pp. 66-67.



and universities was stronger than the new approach. The research function was established since 1951 with specific institutions outside of the universities. The National Research Council was created by the Federal Government. The Council has government funds to support scientific and technological research to pay foreign professors and scientists for work in Brazil and to pay stipends to postgraduate research scholars. The Agricultural Research Institute at Campinas, Sao Paulo, the Engineering Research Institute at Sao Paulo City, and the Technological Institute of Aeronautics in the state of Sao Paulo, were among specific institutions to carry out a research function in Brazil.<sup>13</sup>

In 1958 the National Campaign for Improvement in Personnel on the Higher Level (CAPES) was established in order to improve specialization through postgraduate studies and training personnel necessary to fulfill the new needs of the Brazilian public and private agencies. Through the Commission on Technological Institutes (COSUPI) that had been established in the 1960's Federal funds came to universities and technological institutes for doing research.<sup>14</sup> Teaching and research became potential functions for Brazilian colleges and universities.

In December 1961, the Law of Directives and Bases (Lei de Diretrizes e Bases) was enacted and allowed universities and professional schools to adopt their own rules and regulations, subject only to review by the Federal Council of Education.

In 1961 with the University of Brasilia came a new and different structure and function within Brazilian colleges and universities. The

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13. Robert J. Havighurst and J. Roberto Moreira, op. cit., p. 198.

14. Ibid.

University of Brasilia has a structure based on central institutes and faculties, with specific goals. The institutes must do basic teaching and research and the faculties prepare the professional training of the new B.S. necessary to Brazil needs. The central institutes were: mathematics, physics, chemistry, biology, human sciences, geo-science, letters and arts.

The institutes have departments that form the basic units of teaching and research. The teaching function was divided in the following types:

1. Introductory courses--to all students of the university, with the goal of establishing some basic scientific and intellectual knowledge necessary to apply on learning within professional teaching (faculties).
2. Complementary courses--to students who are going to teach mathematics, physics, chemistry, biology, etc., in higher schools.
3. Graduate courses--in sciences, letters and arts to students who show skills to do research and original studies.
4. Postgraduate courses--M.S. and Ph.D.

The University of Brasilia was divided within double diversification:

Vertical--a) Basic courses;

b) Graduate (undergraduate) courses;

c) Postgraduate (graduate) courses.

Horizontal--a) Resident teaching and research;

b) Professional and technological activities.<sup>15</sup>

In 1968 a task force was established by the Federal Government in order to study a new structure for Brazilian colleges and universities.

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15. Newton Sucupira, op. cit., p. 71.



The Federal law n.5.540/1968 gave a new structure to Brazilian higher education based on the University of Brasilia model and experience.

The major points with new Brazilian higher education law are:

1. Teaching and research have to be established in each institute, school or faculty.
2. Basic studies have to be concentrated in specific units (institutes).
3. Professional studies are specific and located at specific professional schools or faculties (law, agronomy, etc.).
4. The supervision of all universities activities has to be located at the top of administrative level.<sup>16</sup>

Today's Brazilian colleges and universities have to look for an integration with local communities and with local, regional and national problems. Consequently, besides teaching and research, public activities or extension activities were incorporated within these higher educational institutions.

#### EXTENSION FUNCTION WITHIN BRAZILIAN COLLEGES AND UNIVERSITIES

The extension function within Brazilian colleges and universities is to understand community development action, in general. For example, the Federal University of Ceara states in its statute that extension is:

"Extender a comunidade, sob forma de cursos e servicos especiais, o exercicio das funcoes de ensino e pesquisa."<sup>17</sup>  
(To extend, to the community, specific courses and services through teaching and research.)

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16. Ibid., p. 74.

17. Estatuto da Universidade Federal do Ceara, Fortaleza, Ceara, Imprensa Universitaria da U.F.C., 1971, p. 2.

In general, today's extension function in Brazilian colleges and universities, is divided in two types of action such as:

1. CRUTAC--Centro Rural de Treinamento e Acao Comunitaria  
(Center of Rural Training and Community Action).
2. Campus Avancados--Advanced campus.

The CRUTAC has the following objectives:

1. To help train graduate students through professional activities in specific rural areas. Students are required to spend a specific amount of time working in rural areas learning first hand about rural problems and gaining experience in helping to solve them.
2. To prepare rural population to become incorporated within the regional and national process of development.<sup>18</sup>

The CRUTAC experience started in August 1966, in the state of Rio Grande do Norte (northeast of Brazil) by the Federal University of Rio Grande do Norte. The CRUTAC programs have to be completed in all states of the northeast until 1973 within all universities existent there.

The Campus Avancados--"Campi" (Advanced Campus) have the following objectives:

1. To help change local conditions in order to establish development roles.
2. To establish basic education.
3. To give the students opportunity for practical training through doing specific works.

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18. CRUTAC, Universidade Federal do Rio Grande do Norte, Maio 1971, p. 9.



- 4. To build up environment in order to adequate professional staff at local conditions of living and work. On the other hand, to try to fix professional individuals at rural or disadvantaged areas as appropriate areas to do professional work.
- 5. To cooperate with private agencies with forms of projects, studies, research and services in order to establish specific programs to develop local integration.

In general, the "Campi" are units of actions from universities at south of Brazil, located at north, northeast and center-west regions of the country. Until now there are the following "Campi" distribution:

TABLE 4: Sponsorship of Advanced Campus (Campi)

SPONSORSHIP	CAMPI	POSITION
Federal University of Santa Maria	Boa Vista	Established
Federal University of Juiz de Fora	Tefe	"
Federal University of R. G. do Sul	Porto Velho	"
Federal University of Santa Catarina	Santarem	"
Federal University of State of Guanabara	Parintins	"
State University of Sao Paulo	Maraba	"
State University of Campinas	Cruzeiro do Sul	"
Higher Schools of Ribeirao Preto	Rio Branco	"
Higher Schools of Uberaba	Altamira	"
Federal University of Minas Gerais	Barreiras	In process of being
Federal University of Espirito Santo	Irece	"
Federal University of Parana	Imperatriz	"

TABLE 4 (continued)

SPONSORSHIP	CAMPI	POSITION
Federal University of Goias	Picos	In process of being
Catholic University of Porto Alegre	Benjamin Constant	"
Higher Schools of Bauru	Humaita	"
	15	9 established 6 in process of being

Source: Federal University of Goias, Campi Avancados, Extensao da Universidade Para Integracao Nacional, Undated, insert.

Besides the above specific activities of extension within Brazilian universities, there are others included as extension activities. The other activities include short courses, promotions and publications. These are more in common among isolated or individual schools or faculties. For example, the School of Agronomy of the Federal University of Ceara (EAUFC) during the year of 1971 had done the following activities as extension:<sup>19</sup>

19. Plano de Trabalho da Coordenacao de Extensao 1971, Fortaleza, Escola de Agronomia da Universidade Federal do Ceara, 1971, pp. 1-6.



TABLE 5: Types of Extension Activity within EAUFC

TYPE OF ACTIVITY	TITLE	CLIENTELE	ENROLLMENT
Short courses	Elaboration and Evaluation of	Agronomist,	20
	Field-Cattle Raising	Veterinary and Economist	
	Agricultural prices	Agronomist,	20
		Veterinary and Economist	
	Photopedology	Undergraduate	15
		Students	
	<u>Tropical fruit industrialization</u>	Agronomists	<u>15</u>
	4		70

Source: EAUFC, Plano de Trabamo de Coordenacao do Extensao, 1971, pp. 1-6.

The extension functions within Brazilian colleges and universities show variation in terms of administrative positions, resources available and staff training. In general, the extension function as a new function within Brazilian colleges and universities show many major problems in terms of having an administrative support in order to carry out the goals.



A description about basic data of Brazil, concerning the historical development of higher education, the major functions of Brazilian colleges and universities, and the most important aspects of extension function were the main aspects of this chapter.

Brazil, the largest nation in Latin America, with more than 90 million people, wide mineral resources and potential economic development, still depends upon agriculture as the principal element for its total development.

The higher education in Brazil was established later, in relation to the other Latin American countries. The French model was taken in the first stage and today's American influence are the most important factors, aside the economic development carrying changes in values, needs and aspirations of the people.

The teaching function has been the main aspect of Brazilian colleges and universities. However, later on, the research function aside from extension, started as required additional functions, after the new law (1968) which established new structures for those higher educational institutions.

The extension function is the newest function within Brazilian colleges and universities and has been performed as experimental projects (CRUTAC, Campus Avancados) and through promotions of specific activities (short courses, seminars, etc.).

In summary, today's Brazilian colleges and universities still seek new forms of action within social-economic and cultural problems and their solutions within Brazilian environment.



CHAPTER IV

AN APPROACH FOR EXTENSION FUNCTION WITHIN BRAZILIAN

COLLEGES AND UNIVERSITIES

A description of the potential functions (teaching, research, extension, and coordination) of the Brazilian colleges and universities is stated here. However, the extension function will be the main focus in the present chapter.

THE POTENTIAL FUNCTIONS OF THE BRAZILIAN COLLEGES AND UNIVERSITIES

The statute of the Federal University of Ceara<sup>1</sup> enroll the following functions which would also be applied to the other higher educational institutions in Brazil:

1. To teach in order to maintain and develop the knowledge necessary to improve technical activities and culture.
2. To do research and to stimulate the creation of rich knowledge and techniques among different sectors which are working for the university.
3. To extend to the community, under the form of courses and special services, all activities done within teaching and research functions of the university.

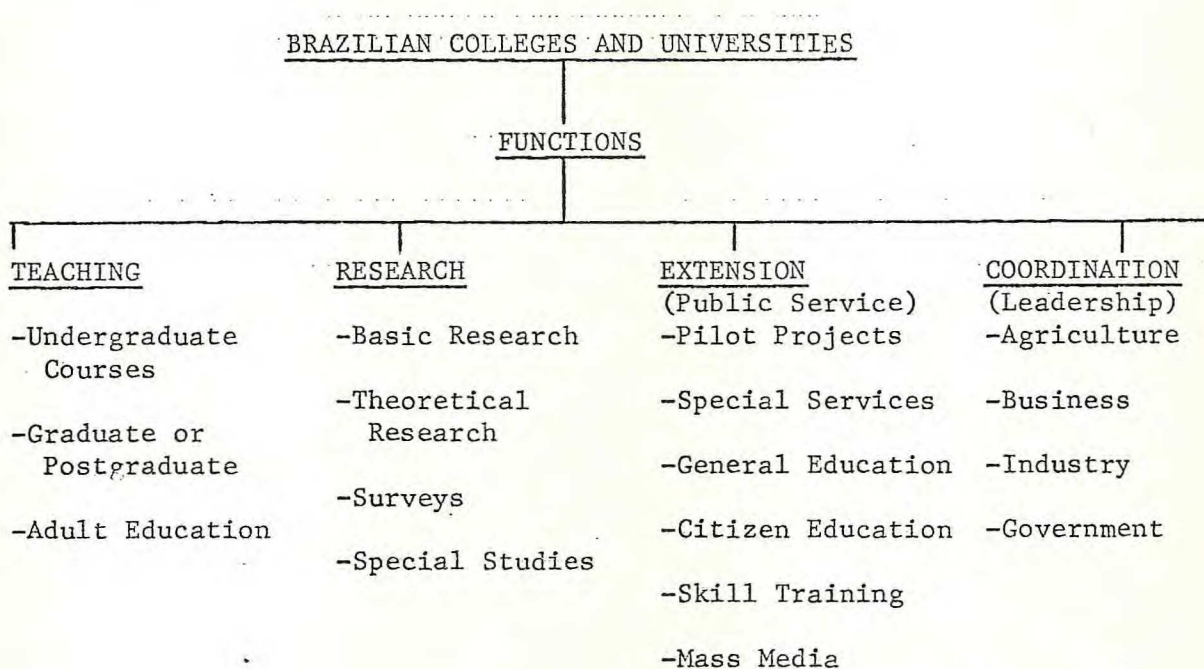
However, the potential functions of higher education institutions in Brazil could be much broader. It is because in developing countries such

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1. UEC, Estatuto da Universidade Federal do Ceara, Capitulo I: Objectivos e Funcoes, Fortaleza, Imprensa Universitaria da U.F.C., 1971, pp. 1-2.

as Brazil the higher educational institutions must exercise leadership in order to improve social, economic, cultural and political conditions.

The Brazilian colleges and universities have, at least, four potential functions such as shown by the following diagram:



The potential teaching function should cover three levels: undergraduate, graduate and adult education. The teaching function of Brazilian colleges and universities at the undergraduate level should teach different fields or areas of study in order to prepare large numbers of undergraduate students to direct or improve those sectors of the teaching process.

In spite of that, certain specific sectors need more urgently to improve the present social-economic conditions of the country, such as agriculture, health, communication and transportation, and education which could be given priorities in order to increase enrollment and teaching facilities. Graduate or postgraduate courses must be established



in order to prepare researchers, decision makers and specialists or technicians necessary to diversify the Brazilian economy and culture or to help new areas of knowledge and culture.

Adult education, mainly in relation to preparing teachers for secondary level or special literacy programs, new programs or skillful adult programs, has to be done by Brazilian colleges and universities. This adult education area has to cover the higher level of training and knowledge necessary for specific tasks.

Research has to reach a big area of activity of Brazilian colleges and universities. A scale of priority must be established in order to avoid dispersion of resources and waste of time.

Areas of basic research that must have priority are those related to improvement of agriculture and health standards and an increase of productivity.

Theoretical research should be considered necessary to build up new knowledge, skills and techniques necessary and adaptable to the Brazilian situation and regional differences within the Brazilian environment.

Economic, social, cultural and political surveys necessary to understand Brazilian conditions, improve specific programs or activities, and establish new activities, have to be carried out by higher educational institutions in Brazil.

Special studies which are related to specific situations, for example the national security or national perspective, should be carried out by Brazilian colleges and universities. The reason for this is because the higher educational institutions have personnel with specific background, knowledge and experience, specific material resources and facilities, and supplementary supports necessary to execute those specific studies.

A coordination function or leadership role must be carried out by higher educational institutions in Brazil. These organizations have to work in order to integrate agriculture, business, industry and government agencies or institutions in order to build up a "pool" of national organizations working together to solve problems, and improve the social, economic, cultural and political conditions within the country. Additionally the above described agencies must work together to improve decision making processes in regard to national problems and development.

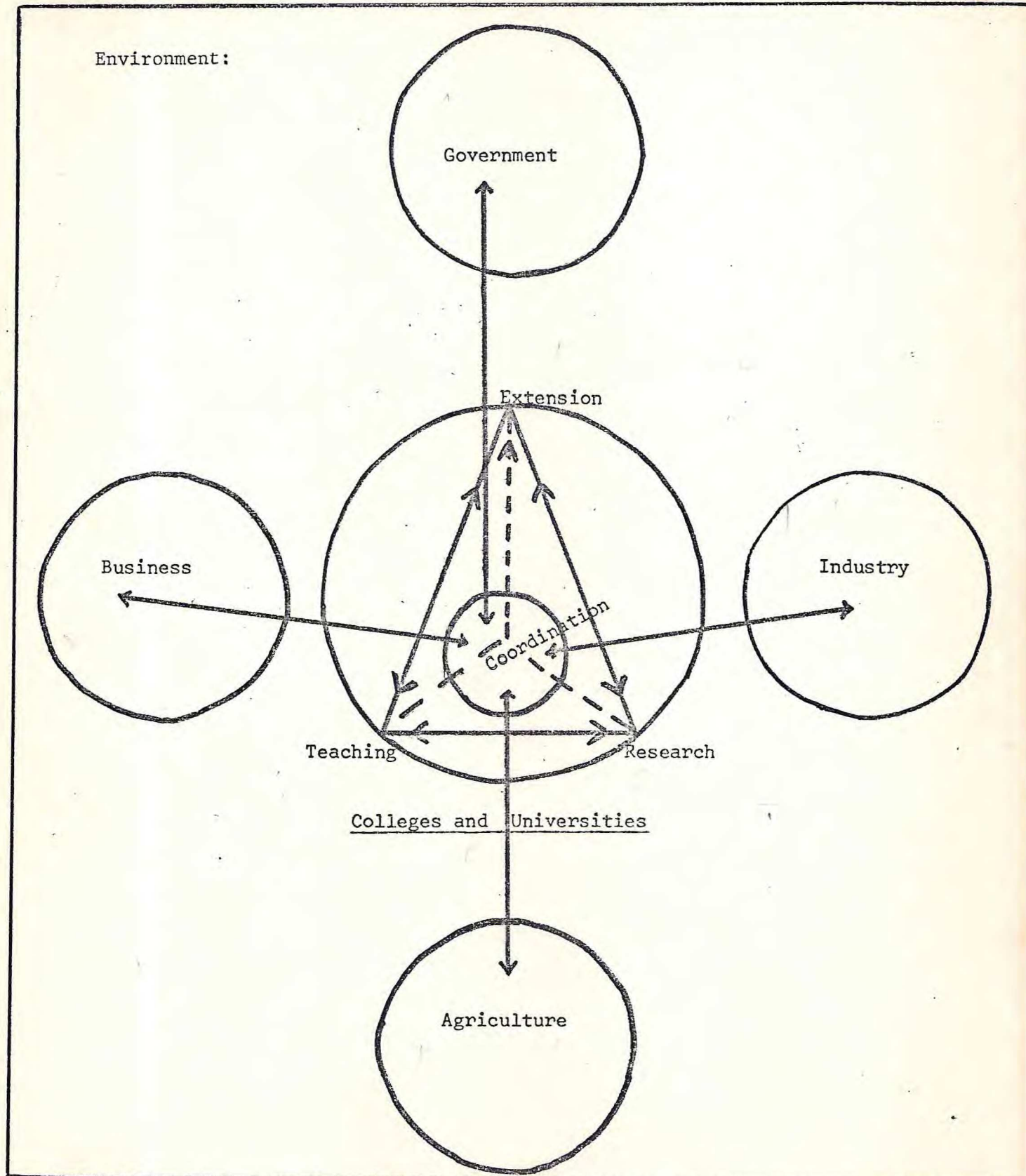
The Brazilian colleges and universities, located at different geographical areas of the country, are natural institutions for coordinating regional and national agencies. It is because these institutions have different and available potential resources. These institutions have personnel, knowledge, skills and experience, besides material facilities, appropriate for carrying out the specific functions of leadership. Therefore these higher educational institutions are, by their nature of action and function, the only agencies with all the necessary preconditions in order to carry out coordination among different sectors of activity. This function of Brazilian colleges and universities involve facts, broad knowledge, skillful involvement, and strong administrative support.

The function of coordination or leadership of Brazilian colleges and universities, involves teaching, research and extension functions. Since those functions are only peculiar within higher educational institutions, the Brazilian colleges and universities are the appropriate institutions for doing it. In the following model, is summarized the idea concerning this coordination function:



AN APPROACH FOR THE FUNCTIONS OF BRAZILIAN COLLEGES AND UNIVERSITIES

Environment:



Graph 1

In this coordination function of higher educational institutions with government, industry, business and agriculture, there must be established two-way channels of communication. This coordination or leadership function of colleges and universities has to be exercised in a "democratic atmosphere." "Democratic atmosphere" is understood here as equal participation among those agencies. This participation is related to establishment of decision making process for all necessary tasks, mainly to carry out the extension program. All participants involved in that coordinated action have some contribution to offer, some resources to give, some experience, background or specific knowledge or skill.

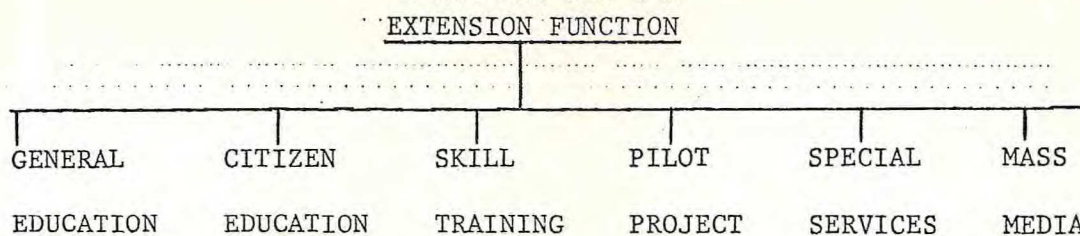
All efforts have to be carried out in order to cooperate in solving problems, in making clear decisions, in improving conditions and in accelerating multiple development (social-economic and cultural-political).

An important point to be considered here is that all sectors; including higher educational institutions, are limited by the same environmental elements. The Brazilian cultural components, economic, social and political facts will be represented within those decisions involving this coordination function. This is one more point to emphasize the place of Brazilian colleges and universities for carrying out this type of function.

#### THE POTENTIAL EXTENSION FUNCTION OF THE BRAZILIAN COLLEGES AND UNIVERSITIES

The potential extension function of the Brazilian colleges and universities should be considered such as:





General education could be all education activities established in order to improve study for adults; for example, helping to plan, supervise, and evaluate literacy programs.

Citizen education includes all involvement or participation of higher educational institutions in adult education under the form of informal activities. It is an important activity and should receive a large share of the resources available within higher educational institutions.

Skill training includes all forms of training that involves special or specific skills necessary for a specific activity or form of employment. Here, are included all forms of training necessary to improve productivity within agriculture, industry, business or government sectors. The colleges and universities in Brazil have a particular responsibility for these types of training, especially those colleges or schools of agronomy.

Pilot projects are specific tasks designed for specific areas in order to solve or improve social, economical and cultural conditions. The CRUTAC experience in the northeast of Brazil, and Advanced Campus--are examples of experiences that should be included in this type of extension function (see Chapter III For more information about those experiences in Brazil today).

Special services are activities that involve more skillful involvement, more sophisticated techniques, better trained staff, and shorter time. For

example, an industry needs some advice to help solve specific complex aspects of production. On the other hand, an agricultural cooperative needs more information about specific administrative problems in order to increase its output. Those special services, in general, involve research support, better understanding between sectors or areas of higher education and, sometimes, cooperation from outside the colleges and universities.

Mass media has to be used mainly for diffusing new knowledge or skills that come from research--as an essential function within Brazilian colleges and universities. Radio, TV, newspapers and magazines must be used in large scale by higher educational institutions in Brazil, in order to narrow or decrease the gap between new knowledge and skills and their application.

The extension function within Brazilian colleges and universities as described above is much more enlarged. It is a real public service by higher educational institutions in order to involve these institutions described above in solving Brazilian problems. The extension function within Brazilian colleges and universities will be to help establish a better understanding between the community, its problems, needs, and aspirations, and higher educational institutions.

The extension function within Brazilian colleges and universities should be stated as: a process that involves higher educational institutions within social, economical, cultural, and political problems of the local community, regional needs and national aspirations. Extension aids Brazilian colleges and universities to improve general education; build up real Brazilian citizenship; train skillful men necessary for national development; apply



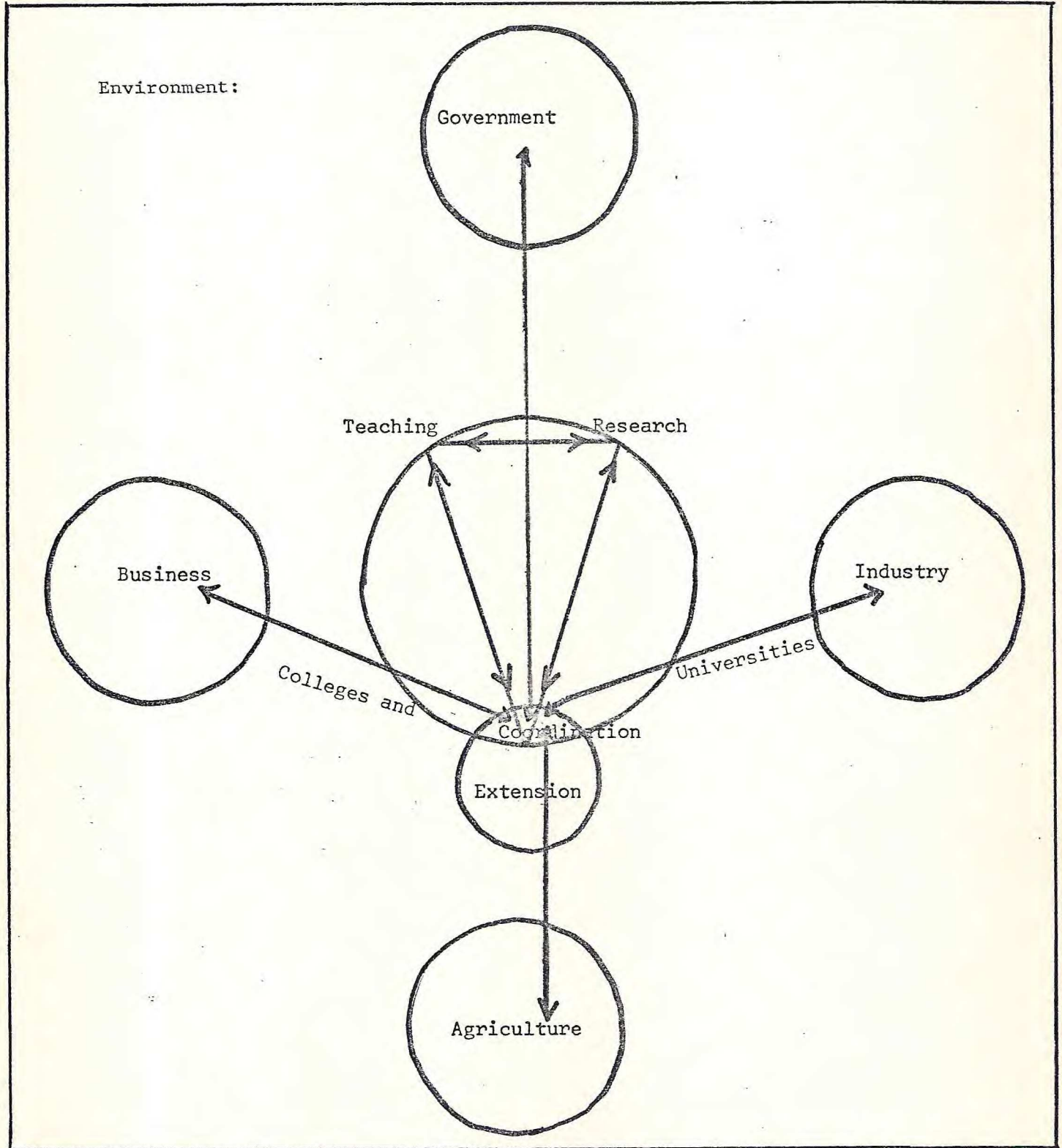
higher educational resources in solving practical problems, cases and studies; and disseminate in large scale all new knowledge and skills from research among different sectors of national activity.

The Extension Sector of the Brazilian colleges and universities could take, in some instances, the responsibility of carrying out the coordination function within those higher educational institutions.

In this specific case, series of factors should be considered, such as resources available (mainly the personnel), administrative support, cooperation among different areas or sectors, within and outside of the university, and local environmental conditions.

If the Extension Sector of Brazilian colleges and universities carries out the coordination function among those sectors previously described, the approach or model that had been shown should be seen as the following:

AN APPROACH FOR EXTENSION AND COORDINATION FUNCTIONS COMBINED WITHIN  
THE BRAZILIAN COLLEGES AND UNIVERSITIES



Graph 2



The extension function within Brazilian colleges and universities has, in summary, multiple aspects, strong potentiality and available applicability within Brazilian conditions. However, for each particular geographical region of Brazil, some adjustments, scale or stage of implementation, and primarily some orientation to a true philosophy of the extension function, have to be considered within the administrative levels of these institutions. Those adjustments have to be established in accordance with resources available, training staff members and level of social-economic development of the local community.

Other point to be taken under consideration is that, in some instances, it is better to start Extension activities within colleges as isolated units than within the university as a whole. This is because the personnel of colleges could work within specific programs or tasks for a certain time in order to get familiarity with Extension activities. However, when it is possible to combine a large number of units within universities, it may be better to work within this larger framework.

Training staff members for the extension function, to build up good administrative support and flexible policy within the programs, based on a standard philosophy of action, are the major aspects to be considered at all stages in development of Extension within Brazilian colleges and universities.

#### SUMMARY

A description of potential functions for Brazilian colleges and universities were described within the present chapter. The major points focused on teaching (undergraduate, graduate or postgraduate and adult education), research (basic, theoretical, surveys, special studies),

Extension or public service (general education, citizen education, skill training, pilot projects, special services, and mass media), and coordination or leadership functions.

The teaching function has to improve in order to increase the quality of teaching process and pick up new fields of knowledge, mainly for help research and extension functions.

The research function has to establish new knowledge and skills; help to state basic information for the Extension program; and carry out specific types of surveys necessary for better understanding of the Brazilian problems and their solutions.

The coordination function has to build up a "national pool" between Brazilian colleges and universities and those agencies which work to improve agriculture, business, industry, and government. This is in order to increase output and productivity within Brazilian social, economical and cultural process of development.

An approach or model that involves all described functions was also developed.

The extension function had special analysis, because it is the major aspect of this study, and a model or approach which combined the extension and coordination functions was described.

Considerations were made about implications of the extension function as a major element within Brazilian colleges and universities.



CHAPTER V

SETTING GUIDELINES FOR AN ADMINISTRATIVE SUPPORT TO  
CARRY OUT EXTENSION PROGRAMS WITHIN EAUFC

The key factor which could help to carry out the extension function within Brazilian colleges and universities, is that of administrative support.

Administrative support is understood here as a broad area of administration which covers a range of functions from policy, personnel, planning, allocation of financial support to program evaluation.

In the specific case of the EAUFC the administrative support is a very important element for carrying out Extension programs. Therefore this chapter is concerned with an administrative support to carry out Extension activities within EAUFC.

Guidelines are understood as adequate, appropriate, necessary conditions to do something better. Consequently, guidelines for an administrative support are statements which describe appropriate, adequate or necessary administrative conditions in order to carry out the Extension programs within EAUFC. In spite of that, guidelines are not exclusive or isolated or the only solutions to help those Extension activities within EAUFC. Setting guidelines for an administrative support are important elements among other factors. The guidelines established here are a result of the familiarity of the writer of the present study regarding the administrative problems in carrying out the extension function within EAUFC. Additionally, new knowledge of administration obtained subsequently has emphasized administrative support as a key

element for Extension. The guidelines established here are not given in order of their priority or importance.

The major guidelines to carry out Extension programs within EAUFC are:

GUIDELINE 1: Planning Extension Programs Based on Available Resources  
Within EAUFC and Other Agencies

The planning stage of Extension program is important in improving Extension activities.

An analysis of the real situation is the first step in planning. The analysis must involve data about:

1. The personnel available, mainly staff members, to execute programs within Extension.
2. The amount of financial support to be applied in Extension programs.
3. The nature of programs including subject matter, location of activities, timetable, number of potential clientele, type of clientele and goals.
4. The degree of cooperation from other agencies within or outside of the university.
5. The needs and aspirations of potential clientele.
6. The governmental order of priorities for certain educational activities and their correlation with those established Extension programs.
7. The precise determination of the objectives and goals established in those Extension programs.

The planning of Extension programs within EAUFC has to be done by each department of EAUFC, with broad participation of staff or professors,



at the first level. After that all ideas come from departments have to be considered in order to build up a common Extension program.

The planning of programs has to be established in accordance with a uniformity of planning and action. This helps the establishment of a better understanding regarding the major problems, needs and support of those Extension programs.

GUIDELINE 2: Coordination Among Different Units Within EAUFC and Other Agencies

Coordination is an important point to be considered within Extension programs. This coordination must involve certain elements such as:

1. Coordination among different units (departments) of the EAUFC. Professors have to be informed about different ideas, material and financial support and other available resources which exist for Extension. The heads of departments have to establish a better way to develop understanding between staff members who have more emphasis with teaching and research and those who are involved in Extension activities. Planning, implementing and evaluating Extension programs cooperatively are good measures for improving coordination among staff members at different departments of the EAUFC.
2. Involving different agencies, such as other university units or units from outside the university, is important form of coordination. This coordination has to be based on equal participation in terms of analyzing problems, establishing common goals and carrying out specific tasks. Another point to be considered here is that of compensation. When an agency gives

financial or personnel support to Extension programs within EAUFC some special type of coordination has to be established.

3. The final draft of Extension programs has to be considered by the heads of departments, coordinators or heads of teaching, research and Extension, the director and vice-director of the School of Agronomy and others directly responsible for Extension programs. The final common ideas which came up during discussion of Extension programs are very important to improve cooperation and coordination.
4. Coordination must be established between EAUFC and other available agencies which help carry out Extension programs. They should share in the processes of planning, exchanging ideas, and evaluating all Extension programs to be carried out. Formal and informal coordination have to be established among those agencies and EAUFC. Among these important points, better coordination has to be established between EAUFC and other agencies in regard to staffing, planning and budgeting. A final report of the results of programs with other agencies should be provided by EAUFC in agreement with those agencies.
5. The central coordination of Extension programs within EAUFC should be centralized within the coordination of Extension. This is because the coordination of Extension has as its own objectives and administrative capacity for doing it. However, a strong administrative policy based on flexible and adequate budget is the indispensable condition to that coordination.



GUIDELINE 3: Two-Way Communication (Horizontal and Vertical) Among Those Responsible for Planning and Implementing Extension Program

Good communication among staff members of departments, communication between extension and teaching, and research, and communication with supplementary services (experimental farms, informative sector, etc.) within EAUFC is very important and a necessary point to be carried out for Extension programs within EAUFC.

The communication process should be established under the following forms:

1. Through a horizontal communication among staff members, departments, coordinations, at the same administrative level, in order to improve coordination and common action. This horizontal exchange of information should be carried out under simple forms, clear understanding and fast cooperation among those parts involved with Extension programs.
2. Through a vertical communication between direction (director and vice-director), coordinations (teaching, research and extension), departments and supplementary units within EAUFC. This should be done in order to establish a clear understanding about selected priorities, areas or fields to be covered, resources necessary and support available. This communication should be based on fast and precise ideas, clear feedback and final forms of agreement regarding those Extension programs.
3. A vertical communication should be established between EAUFC and other agencies which work together in Extension programs. This type of communication has to work as a way for better understanding the goals, resources necessary and available support

among those engaged in Extension programs. On the other hand, a duplication of communication channels has to be avoided in order to not disturb a good understanding between all agencies involved within common Extension programs. Informal communication should be stimulated between staff members of EAUFC and other potential agencies that could help in carrying out the Extension activities within EAUFC.

4. The forms used to establish communication among departments of EAUFC, supplementary units or between EAUFC and other agencies should be varied. However, written forms of communication and planned meetings should predominate. These forms tend to be established clearly and so a constant change of ideas for a flexible understanding between those involved in Extension programs results.
5. The coordination of Extension within EAUFC should be a strong role to establish better communication among those involved in Extension programs. All necessary facilities to carry out better communication such as civil servants, a specific budget and means of communication (telephone, mail, etc.) should be established if Extension is to carry out a coordination function within EAUFC.
6. A good understanding about what communication is, and its necessity for administrative action, is needed on the part of staff members of EAUFC, mainly those responsible for the administration role. Training meetings, on-the-job training and readings should be used for this purpose. It is necessary to improve the communication skills within all other EAUFC functions.



GUIDELINE 4: An Adequate Organizational Structure

The extension function within EAUFC involves complex and wide activities with different knowledge and skills; a broad variation in human needs, aspirations and resources available, and a variation in the location of action and resources necessary. Consequently, to execute a good Extension program, the EAUFC and other agencies need to have adequate organizational structures.

An adequate organizational structure is understood here in a broad sense. It includes other elements in addition to departments, coordinations or a simple plan of work, such as:

1. An appropriate administrative philosophy of action. This philosophy has to cover human productivity, adequate planning, coordination, communication and evaluation of goals. The philosophy has to be established in accordance with the needs and aspirations of the local community, and region where the agency is located. The philosophy should allow administrative action to change values, customs and desires of a large number of staff members within EAUFC. The philosophy of administrative action also should provide an opportunity for a large number of staff members to measure the effectiveness of their goals and offer flexibility and continuity within Extension programs.
2. An appropriate number of staff members to carry out Extension programs. These staff members have to be trained in doing staffing; planning; executing and evaluating all necessary Extension activities within EAUFC. These staff members should also have a free understanding of the importance of Extension programs, participate within them and get adequate remuneration

for their participation within those Extension activities.

Extension should be seen by staff members as an adequate and necessary activity to be carried out through those programs.

3. An administrative decentralization, mainly in terms of decision making related to Extension programs. Certain kinds of administrative decisions should be made by lower level administrators. This is true regarding certain types of Extension activities which occur outside of the EAUFC environment. Then, those involved with Extension programs should have administrative flexibility in making and carrying out decisions. The delegation of authority from the top administration is an important key factor for consideration. Delegation of authority is necessary and essential at different stages of planning, implementing, and evaluating Extension activities. Delegation of authority should be commonly practiced to improve administrative goals within Extension programs. The decision making process through the delegation of authority could be centralized in a person responsible for a specific type of program or distributed among members of certain specific committees responsible for tasks within Extension programs.
4. A span of supervision by certain top administrators and major chairmen of departments. The span of control of Extension activities should be centralized within the coordination of Extension of EAUFC. Good supervision requires the number of members and activities to be limited. The Extension program involves complex additional activities described in this chapter. The natural consequence is that the coordination of

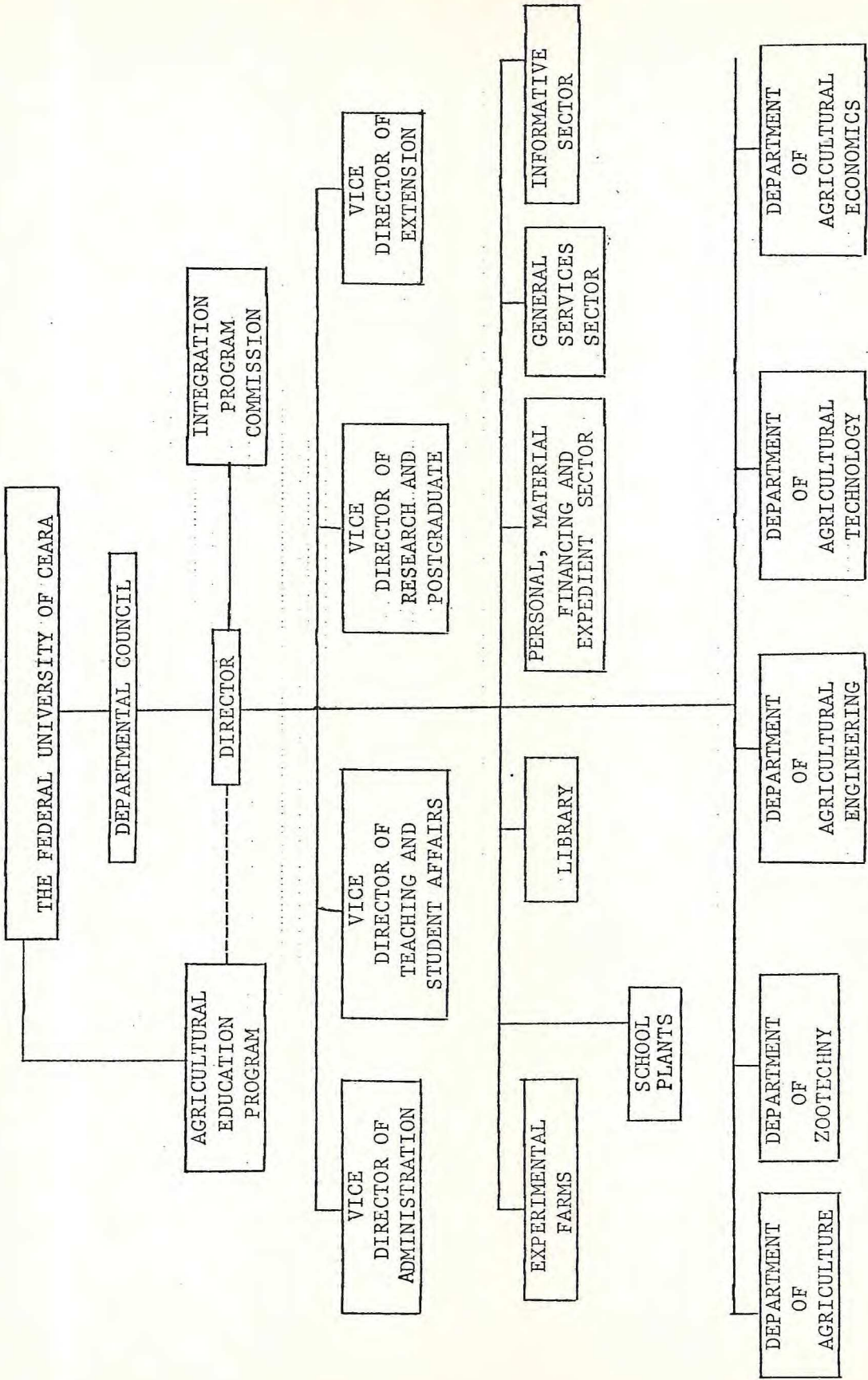


Extension should supervise all Extension activities within EAUFC.

5. An organizational structure based on an administrative equilibrium between the different functions (teaching, research and Extension) should be established in order to improve Extension programs within EAUFC.

The call coordinations of teaching, research and Extension today should have more of a "line" function than a "staff" one. Line function means more participation in terms of decision making within Extension programs, including budgeting and personnel, material facilities (building, centers of training, etc.). It also means an autonomy to make decisions in relationship to other administrative units inside or outside of the university. On the other hand, delegation of authority and decentralization are two important tools for the coordination of Extension. A vice-director for the extension function should be established in order to build a better orientation to Extension programs within EAUFC. This administrative unit should supervise and evaluate all final results from Extension activities.

An organizational restructure within EAUFC for a better division of decision making processes should be established in order to improve the functions of teaching, research and extension. The vice-director of Extension should perform an important function within those EAUFC activities.





GUIDELINE 5: Assembling Adequate Resources

Available resources (personnel, material, financial) are important elements to do a good job within Extension programs.

A good administrator is somebody who is capable to get enough and adequate resources to improve and achieve most of his administrative goals. Assembling adequate resources is an important factor to improve all Extension activities within EAUFC.

Among those forms that the EAUFC should assemble adequate resources (personnel, financial and material support, etc.) are:

1. Establishment of formal agreements with other agencies inside or outside of the university complex. These agreements should permit change of personnel (mainly technicians), financial contributions or division of monetary responsibilities, permission to use physical facilities such as buildings, center for training, farms, etc., and exchange of knowledge, experience and skills. Among those potential forms of agreements should be established common cooperation around projects or specific activities, short courses or skillful training, publications or the use of mass media. Those formal agreements should be established under forms of specific contracts, tasks or programs.
2. Informal agreements should be established with other agencies, mainly private ones. These forms of agreements are important to establish "satelite of activities" within determined types of Extension programs. "Satelite of activities" are understood here as certain types of subsidiary cooperation between two or more agencies or institutions, in order to carry out specific tasks or programs. Sometimes, certain specific Extension activities

need sophisticated materials and physical facilities that are available in certain geographical locations within determined agencies or private organizations. Consequently, certain kinds of informal agreements should be established to carry out those specific programs. In general, those informal agreements should be based on the use of physical facilities and some temporary personnel cooperation.

3. Representation from other agencies in planning, implementing and evaluating Extension activities within EAUFC, is another important way for assembling adequate resources for Extension programs within EAUFC. The staff members from other agencies, mainly those outside of the university, have different personnel background, experience and knowledge which helps to improve those Extension programs within EAUFC. This kind of participation, besides bringing resources from outside, helps in giving more prestige and in enlarging decision making processes within Extension activities.
4. A division of responsibilities and tasks within different types of Extension activities--also assists in improving the assemblage of resources. The EAUFC should share with other agencies (Extension Service, for example) the execution, supervision, evaluation or reporting of certain specific programs. The division of responsibilities should be determined or limited by type, and by the present responsibilities of the staff.



GUIDELINE 6: Controlling Extension Programs

Controlling Extension activities within EAUFC is an important element for improving the final results from programs. There are varied ways of controlling Extension programs. However, the major ones to be considered here, are:

1. Through the establishment of certain "standards of action" for all and different types of Extension programs. These standards should be stated during the planning stage, and should direct the objectives, deadlines, specifications and other goals established as an integral part of the planning process. These standards need to be practical, efficient and flexible in order to improve all objectives established for the Extension programs within EAUFC.
2. A timetable helps to point out different stages of development for Extension programs, the goals achieved, and a measure of final results. The timetable should be based on the descriptive phase of activity, the aim expected, the potential time span for the conclusion of the program, and the total time necessary for the detailed activities. This timetable should be checked at all stages of activity.
3. An economical control, mainly in relation to budgeting is an important element within the controlling of Extension programs. Where, when, why, how and by whom are the resources allocated (personnel, financial, material, etc.). An adequate supply, in terms of quantity, quality and exact specifications of all necessary elements or resources should be considered. Sometimes a review of the direction of the programs established, training

and selection of staff members, and adjustment of physical and external situations are determined when the economic factor is taken into consideration. An effective balance between the superficial and necessary, the immediate and long-term and the existent or nonexistent have to be established within economic controls. However, one should be careful not to establish rigid controls, and consequently, build up some obstacles to Extension programs.

GUIDELINE 7: Training Staff Members to Carry Out Extension Programs

All Extension programs have to be carried out by human beings. Similarly, all Extension programs within EAUFC must have the participation of their staff members at a full or part-time level.

In order to improve the Extension programs within EAUFC, some kind of training or information has to be promoted among staff members.

The goals of training are:

1. To establish a common philosophy of action, mainly in terms of understanding the importance, needs and values of the Extension programs and their participation.
2. To acquire adequate knowledge and skills by staff members to improve certain types of Extension programs. This is true mainly for certain programs that are based on practical training.
3. To train staff members to work in groups, mainly with members from other agencies outside of the university. Sometimes, different areas of knowledge need to be combined to carry out specific Extension programs. Consequently, certain norms of understanding, action and evaluation have to be established among EAUFC staff members and others.



4. To increase opportunities for staff members using new ways of communication (mass media such as radio and TV) or new complex technical or administrative devices and methods.

.....  
GUIDELINE 8: Constant Evaluation of all Administrative Support Necessary  
.....  
To Carry Out Extension Programs

The evaluation process is an important element within any kind of activity. It is a necessary factor within Extension programs from the planning stage to the controlling. However, the factors considered here concerning the evaluation process within Extension programs are those related to administrative support only. This constant evaluation about administrative support should measure:

1. The quality of planning, mainly in terms of objectives and goals established.
2. The degree of efficiency of the coordination process among different units of EAUFC (departments, coordinations, etc.) and between EAUFC and other agencies.
3. The efficiency and rapidity of the communication process, both vertical and horizontal. Besides evaluation should consider what the best channel for communication is within different administrative units of EAUFC, and among them and other agencies.
4. The adequacy of organizational structure, mainly in terms of division of tasks, facilities available and appropriateness of administrative action such as delegation of authority and decentralization.
5. The appropriate assembly of resources, in terms of where, when, how, what for and by whom. The adequacy of different forms of

agreements established between the EAUFC and other agencies should also be considered.

6. The intensity of controlling programs, mainly standards, timetables and balance.
7. The quality of training staff and new forms necessary for it. The needs and aspirations of staff members should be given strong consideration within the evaluation of the training programs.
8. The instruments, timetable and validity of the evaluation process itself should also be considered.

#### SUMMARY

Some guidelines were established within this chapter. These guidelines are desired elements in helping to carry out better Extension programs within EAUFC.

Those guidelines were established not in order of priority importance, but under certain order of correlation between them. Planning the Extension programs and available resources within EAUFC and other agencies is shown as the first guideline. Personnel available, amount of financial support, nature of programs, needs and aspirations of clientele are among those factors that were considered within the first guideline.

Coordination among different units within EAUFC and other agencies is considered as the second guideline. How to bring together different agencies and draft a plan of work for Extension programs are among the major points of this guideline.

The third guideline is related to establishment of two-way communication among those responsible for Extension programs. Vertical and



horizontal communication, the channels used and a common language are the main areas of focus.

An adequate organizational structure is the fourth guideline. A philosophy of action, appropriated staff, decentralization and delegation of authority are some points in that guideline.

The fifth guideline is related to assembling adequate resources for Extension programs. Different ways of establishing formal and informal agreements were discussed.

Controlling programs as an appropriate form for better Extension programs was discussed as the sixth guideline. Standards of action, timetables, and economical controls were the essential topics.

The seventh guideline is related to training staff members to carry out Extension programs. Why and how to train staff members are the major aspects of that guideline.

The eighth and last guideline is related to the constant evaluation of administrative support for Extension programs. A discussion about how to measure different stages or support elements within administration was established here.

CHAPTER VI

SUMMARY; CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

The extension function within EAUFC is relatively new. Teaching and research have been the traditional functions used by EAUFC as in general by all Brazilian colleges and universities.

The extension function within EAUFC is felt today as a necessary activity to be carried out. However, there are obstacles in doing it. Among others, the writer of this study feels that an adequate administrative support (understood here in a broad sense) is the key factor. Because of this, some administrative guidelines necessary to improve administrative support in order to help those Extension programs within EAUFC have been considered here.

In order to have a better understanding of adequate functions and administrative support to carry out the extension function within Brazilian higher educational institutions, and consequently within EAUFC, some bibliographical material was reviewed. This bibliography was related to the roles of colleges of agriculture and universities in developing countries, which involves economic, social and cultural elements and the intensity within each one; what is general and agricultural extension in terms of different philosophy, approaches used and correlations between them; administrative support to carry out the extension function based on administrative principles and techniques.

Some basic facts about Brazil, such as population, regional differences and economic support were analyzed in order to give to the



readers of this study a portrait of the environment where EAUFC is located. An historical background of the higher education in Brazil was established, and the extension function was described too. The extension function is new within a large number of Brazilian colleges and universities and some forms of action today such as CRUTAC (community action), advanced campus and others (short courses, seminars) have received special attention in this study.

Suggestions to establish potential functions within Brazilian colleges and universities were described. Teaching (undergraduate, graduate courses and adult education), research (basic, theoretical, surveys and special studies), Extension (projects, special services, citizen education, skill training, mass media), and leadership or coordination are suggested as those potential functions within Brazilian colleges and universities.

A special approach showing extension and coordination as functions that should work together as one common function, was also elaborated.

Finally, the administrative guidelines to support all Extension programs are established within this study, applying those guidelines to a specific case--EAUFC.

Those guidelines are based on experience and new knowledge of the writer of this study. Those guidelines are desired or necessary conditions to improve the Extension programs of the EAUFC. The major guidelines are:

1. Planning Extension programs based on available resources within EAUFC and other agencies.
  - a. Personnel available
  - b. Financial support
  - c. Nature of the program
  - d. Needs and aspirations of the clientele

- e. Governmental priorities programs, etc.
2. Coordination among different units within EAUFC and other agencies.
  - a. Coordination among EAUFC departments
  - b. Coordination between EAUFC and other agencies
  - c. Forms of coordination
  - d. Location of coordination, etc.
3. Two-way communication (horizontal and vertical) among those responsible for planning and implementing Extension programs.
  - a. Vertical communication
  - b. Horizontal communication
  - c. Forms of communication
  - d. Location of channels of communication, etc.
4. An adequate organizational structure.
  - a. Philosophy of administration or action
  - b. Staff members
  - c. Decentralization
  - d. Delegation of authority, etc.
5. Assembling adequate resources.
  - a. Formal agreements
  - b. Informal agreements
  - c. Timework
  - d. Partial ownership, etc.
6. Controlling Extension programs.
  - a. Standard of action
  - b. Timetable
  - c. Economic control, etc.



7. Training staff members to carry out Extension programs
  - a. Common philosophy of action (induction training)
  - b. Adequacy of skills
  - c. Group of work or time
  - d. Increase of opportunities, etc.
  
8. Constant evaluation of all administrative support necessary to carry out Extension programs
  - a. Quality of planning
  - b. Degree of efficiency of coordination
  - c. Efficiency of communication
  - d. Intensity of controlling, etc.

#### CONCLUSIONS

The extension function within EAUFC, as within other Brazilian colleges and universities is a complex task. The Extension program needs planning, coordination, organization, controlling, evaluation, better communication and training of the staff members in order to get the objectives and final goals.

The extension function within EAUFC is a public service to improve local, regional and national conditions. It is understood as an involvement with the local needs and aspirations, helping to solve problems and to improve decision making process in order to enlarge participation of people and establish better level of living.

The extension function within EAUFC is not an isolated function, but a common task from all staff members that work with teaching and research functions. The basic knowledge and skills come from new researches (basic or theoretical), and new forms or processes of teaching--these are

important tools to help in carrying out the Extension program.

All administrative facilities such as physical space, budget and personnel have to be established by the direction of the EAUFC in order to improve the extension function.

A broad cooperation between EAUFC and other administrative units within the university is important factor to be considered as strong support in doing extension function within EAUFC.

A coordination between EAUFC and other agencies such as the Ministry of Agriculture, Secretary of Agriculture and mainly the Cooperative Extension Service (called ANCAR) are other points necessary to carry out better Extension programs.

A change of staff members or exchange of information among EAUFC and other schools or colleges of agriculture, situated in northeast of Brazil and other geographic regions, are other factors to be considered within Extension programs of EAUFC.

A better understanding has to be established between EAUFC and farm associations such as the Farm Bureau, Syndicates and Cooperatives, in order to work together within specific programs. The EAUFC has to contact any other organization, public or private, that work to improve the social and economic conditions of rural sector as a form of establishing better results through a "teamwork" for Extension activities.

The extension function within EAUFC should have a primordial function as a vehicle to build up leadership or the coordination role of EAUFC among other agencies and the local community.

In order to establish all described factors necessary within the extension function of EAUFC, the following recommendations are necessary.



RECOMMENDATIONS

1. A permanent committee has to be established by the top administration of EAUFC in order to develop a philosophy of action for Extension programs. The committee must study all possibilities to establish a different administrative function for the coordination of Extension within EAUFC. The committee has to establish some necessary guidelines to improve all Extension activities within EAUFC. The guidelines described within this study could serve as the initial steps toward establishing a final administrative policy for Extension programs within EAUFC.
2. The staff members of the EAUFC should receive "induction training" about the importance, philosophy and needs to carry out the extension function.
3. A plan of adaptation for each staff member in terms of doing certain functions such as Extension has to be established. On the other hand, each staff member participates in a "probatory time" within different functions within EAUFC, such as:

First stage: teaching-research functions

Second stage: teaching-extension functions

Third stage: Research-extension functions

Or, the professors should be distributed according to time of work:

Teaching - 70%

Teaching - 40%

or

Research - 30%

Research - 40%

Extension - 20%, and so on.

After those experiences, each staff member should be located in functions that better fulfill his needs and aspirations.

4. Temporary contract forms for personnel to execute Extension programs

should be planned to supply personnel for specific tasks or programs, in case some staff members do not feel adequate doing specific tasks within these programs.

5. The appropriate budget has to be allocated for all Extension activities within EAUFC. On the other hand, the coordination of Extension of EAUFC should have its own financial support to help carry out the Extension programs.
6. The administrative facilities--such as physical conditions (appropriate building for administration, centers of training and equipment), servants in adequate number and consume material have to be brought within the coordination of Extension in order to improve the Extension activities.
7. The formal agreements have to be established between EAUFC and Cooperative Extension Service, Secretary of Agriculture, Ministry of Agriculture, and INCRA, in order to enlarge and improve Extension activities within EAUFC. A permanent group or team formed by EAUFC staff members and technicians from those above cited agencies, has to be established as a necessary condition for planning, executing, controlling and evaluating a large number of Extension programs.
8. A "survey" has to be established in order to determine priorities and importance of specific programs, and availability of resources for Extension activities within EAUFC. This survey has to involve, besides the above points, others, such as: feelings of staff members in relation to those programs, coordination among departments of EAUFC and other agencies.



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APPENDIX



APPENDIX A

NOTES ABOUT EAUFC

I) Historical Background:

The School of Agronomy of the University Federal of Ceara (EAUFC) was established in 1918 as a private organization. In 1935 it was incorporated by the Government of the State. The Ministry of Agriculture (Federal Institution) assumed responsibility for that educational unit in 1950 and, later it was incorporated by the Federal University of Ceara (1954) (1).

The primary function of the EAUFC was "academic teaching." Later, according with economic-cultural change in Northeast, the EAUFC started doing research, besides teaching. In 1964-1965 the extension function was incorporated within EAUFC. Today, EAUFC is doing teaching for undergraduate and graduate courses, research and extension. This new picture of EAUFC, is a result of:

1. Educational system changes in Brazil, that present new general and university law reforms.
2. Federal governmental politic for economic-social-cultural development in Northeast of Brazil. It is a tentative for change the present status quo of Northeast (poverty) as a geo-politic-economic area of the country.
3. In a particular sense, due to agreement among the University Federal of Ceara, The University of Arizona, USAID, SUDENE, Ministry of Education of Brazil, which selected the EAUFC to receive action from this program.

Nine hundred and forty-one agronomists had been received B.S. degree from EAUFC until 1968. The EAUFC has now 600 undergraduate students, 12

graduate students (graduate program started in August, 1971) and 80 professors.

II) Purpose:

The general purpose of the EAUFC is to improve technical-economic development of the agricultural sector, in State of Ceara. The EAUFC has an active role inside of economic-social-cultural development process in Northeast of Brazil.

The specific purposes are (2):

1. To form agricultural professionals (called agronomists). These technicians will do activities related to the improvement of the rural environment sector.
2. Building investigation or experimentation that increases knowledge and techniques for the rural sector.
3. Dissemination of information from accumulated knowledge and/or originated from research among rural areas and larger population sectors.

In summary, the EAUFC provides new knowledge and skills, improves new techniques, spreads out new information, helps solve problems and establishes guidelines for decision-making processes among people that work in rural areas. All these factors should improve social-economic-cultural changes in northeast of Brazil.

III) Organizational Structure:

The EAUFC is an administrative unit under general administrative supervision of the Federal University of Ceara. The federal administrative-educative laws and directions have to be applied in administrative action in all units of the University Federal of Ceara. The high administrative guide is the Departmental Council. It is composed of the Director,



Vice-Director, teaching, research and Extension coordinators, chairmen of departments and two representative students.

The Director of EAUFC is an executive function that is filled out by a professor of EAUFC. This professor must have to belong to one of the following professor categories such as: assistant, adjunct or titular--the administrative period of the director is four years. A professor who had been occupied in a director role can stay on that for two successive administrative periods at the maximum, through the same process of choice: the director is selected by the President of the Republic of Brazil, from a list of six names approved by the Departmental Council. The Vice-Director is selected by the same way as the Director and he must belong to the above specified professor categories, and his administrative period is also the same.

The teaching, research and Extension coordinators are direct selection of EAUFC Director and they could be filled out by any professor category.

The chairmen of departments are elected inside each department, by democratic process which all professors located in each specific department must vote. Two representative students within the department have to participate in the selection process of the chairman of the department. The administrative period of chairman of department is two years, and a maximum of four years.

The agricultural education program is a small administrative unit that coordinates the agreement among the Federal University of Ceara, Ministry of Education of Brazil, SUDENE(\*), the University of Arizona, and USAID.

The Integration Programs Commission is composed of coordinators, chairmen of departments, director and vice-director for preliminary discussion about programs within EAUFC.

(\*) Superintendency for the Development of Northeast of Brazil.

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