

(123)

PLAN FOR THE FORMATION AND ADVANCED TRAINING
OF THE UNIVERSITY TEACHING STAFF

Submitted to the Alliance for Progress by the Ministry of
Education and Culture of Brazil.

PLAN FOR THE FORMATION AND ADVANCED TRAINING OF THE UNIVERSITY
TEACHING STAFF*

The educational goals set by the Federal Council of Education for university education in Brazil, to be attained by 1970, consist of expansion of enrollments at this level to the point of including at least half of those who finish the second cycle of the secondary course (high school)—which means an increase of some 50% in present overall enrollments—and the institution of full-time schedules for at least 30% of teachers and students.

The Council further recommends that the Plan for Application of Resources of the Fund for Higher Education seek to avoid expansion of the federal system of higher education beyond the universities and individual schools now existing. It recommends that the Plan be orientated rather toward increasing the present capacity of these institutions, with a view to the gradual elevation of the productivity of the courses there given and the adoption of measures that will progressively give body and content to the university reform now in progress.

Increased capacity of the schools and qualitative improvement in the instruction given in all branches thus constitute the government goals as regards higher education. They have been expressly defined not only by the Federal Council of Education but also through joint statements of University Rectors and through the conclusion and recommendations of working groups brought together on the initiative of the Department of Higher Education. These goals are equally discernible in the broad guiding lines of the work plans of agencies responsible for development of programs aiming to stimulate and expand university education, and of scientific and technological research, such as the National Research Council, COSUPI and CAPES. And the university reform now in progress has, after all, no other final objectives.

In view of the perspective of substantial, massive plans of external aid—the Alliance for Progress is the case in point—it seems logical so far as planning of applications is concerned to

* Submitted to the Alliance for Progress by the Ministry of Education and Culture of Brazil.

take as a starting point the general plans of education now under development, and there to distinguish what might best be promoted by this type of aid on the basis of criteria such as: priority of the sectors considered against the background to the general plan; advantages of paying costs in foreign currency (equipment, importation of professors and specialists, maintenance of scholarship students abroad); and preference to projects that represent temporary investments or work plans, so as not to finance permanent operating expenses, which are a government responsibility exclusively.

In this spirit various projects have been drawn up for which the government is applying for aid from the Inter-American Development Bank or the Alliance for Progress: a project to expand and improve engineering schools; a project to develop national centers of postgraduate study; a project to assist the construction and organization of the University of Brasília—all aiming at expansion of opportunities in university education and its qualitative improvement. It is beyond question, however, that achievement of these aims depends, more than on equipment or pedagogical reform, on a vital and basic condition: improvement and transformation of the present Brazilian university teaching staff, or rather, the training—on the basis of a radical change of attitudes and the implantation of a regular system of preparation and an appropriate schedule of work—of a new university teaching staff, one that can meet the demands of the standards of teaching and research aimed at by the university reform now in progress. And this foundation work on which any and all reforms must be based has to be undertaken energetically; it takes precedence in priority over all other programs, since the latter, in the ultimate analysis, are conditioned strictly upon it.

It is consequently important to emphasize here that improvement of the university teaching staff will not of itself have any great significance for raising the standards of teaching provided if it is not accompanied by a progressive but radical change in the system of work now in effect in our universities. There must be a bold adoption of a full-time work schedule where

indicated; this is the only solution, in the circumstances, for the problems of professional motivation of the teacher and of his adjustment to genuine university activities; of the indispensable expansion of staffs; and of providing necessary relations of communication between teacher and students.

A painstaking preparation of the teacher, even according to the most desirable standards, will be of little use if he is not guaranteed those working conditions which are indispensable to the efficacy of the instruction he is to administer. It will serve no purpose to prepare him, train him, perfect him, and then abandon him to a schedule of work in which he will have to divide himself between two, three or more activities, often very diverse, "partializing" more and more the part-time schedule under which he carries out his teaching functions.

It is therefore essential that the Brazilian university prepare itself to boldly begin a transformation of its teachers' work schedules, to the degree now established by the National Plan of Education. Beginning with the basic subjects, and preferably recruiting the younger elements first as well as those who are already engaged in research activities and are thus in a sense prepared to adapt themselves more quickly, Brazilian higher education must begin to introduce the system of full-time work. This indeed will give full meaning and scope to a systematic plan to improve, step by step, the present university teaching staff and to renew it on a permanent basis, since only in this way can conditions be assured for the scientific and professional development of the university teacher and the full utilization of his capacities in the university context.

Thus there is proposed, as a basic project bearing on Higher Education, a Plan for the Formation and Advanced Training of the University Teaching Staff, to be developed with financing of the Alliance for Progress and the Brazilian Government, under the responsibility of CAPES—an agency qualified for the task by its experience in the field under consideration—in articulation with the Department of Higher Education and with COSUPI.

The Alliance would be responsible for the grant of a Fund to be disbursed in a minimum of 3 and a maximum of 5 years, depending on the development of the program, in keeping with the schedule hereinafter set forth and with the possibility of renewal. The counterpart contribution of the Brazilian government would consist of the financing of part of the resources for the project itself, which would grow progressively during the period of application, and of the step-by-step institution of a full-time work day in the federal universities, as already called for in the Federal Plan of Education.

The various projects for which aid is requested, or for which it is thought to request aid in the future, aim at the re-equipment—installations, equipment, personnel—of the university institutions, with the purpose of providing them with conditions to offer more efficient instruction and to carry out scientific research of national and regional interest. This would apply wherever such conditions had not attained the level of quality required to take care of national and regional development needs. A simultaneous effort would thus be made to raise the standards of priority sectors already at satisfactory levels and to improve conditions in all sectors in general, so as to make it possible for them to fully achieve their objectives.

Once the general plans are approved the individual projects will be studied in detail. They will be promoted by means of agreements between the interested institutions and the executing agencies, and will be so organized as to assure the effective utilization of the quantitative and qualitative reinforcements in the way of installations, equipment and personnel resulting from the projects as well as adoption of the structural changes called for and integration of the university institutions with their true purposes.

Since it is desirable, meanwhile, that re-equipment should be preceded wherever possible by measures for advanced training of the teaching staff, it becomes still more important that such measures, in their general lines, should be planned at once and the respective budgets drawn up.

Although this is a long-range plan aiming to integrate the whole university—it being understood that the latter cannot be transformed except as a whole—it will not be possible to think of implementing it on a large scale immediately. Priority will thus be given to branches where deficiencies as regards attending national needs are most keenly felt. As among these a beginning will be made with the basic disciplines, since it is here that shortages are most noticeable and that it is most important to overcome them, particularly in view of the increasingly scientific cast of higher education. In that field moreover programs already exist, initiated by CAPES but not on a systematic basis.

The whole plan of postgraduate training of the university teaching staff would also be orientated on the basic criterion, as adopted by CAPES and all national agencies concerned with the subject, of making maximum use for this purpose of the national centers with high standards already used for such training—a simultaneous effort being made to further stimulate and perfect them. Thought would be given to sending grantees abroad only in the case of the most highly qualified, those who find no field for development within the country.

The Brazilian university teaching staff, taken as a whole and with encouraging individual exceptions, particularly in schools of greater tradition and obviously higher level of quality, may be considered deficient, not only because its constitution has frequently been a matter of improvisation, but also because institutional factors have impeded and made difficult its improvement and effective utilization. It is quite a numerous body* working almost wholly on a part-time basis (it

* An observer unfamiliar with the facts will be surprised at the relations between number of teachers and students as they appear in crude form in the raw educational statistics published data. These indices, in fact would make US universities jealous. There, even in the most differentiated group, universities under private control, the average number of students per instructor is 10 (School and Society, vol. 90, No. 2202, 13.1, 1962) whereas in Brazilian universities the ratio is 4.3 to 1.

We know, however, that some 60% to 70% of the teachers in these US institutions are full-time, while among ours the

is difficult to judge just how part time), frequently improvised (a trait the more accentuated the newer the school), discouraged by the absence of those attractions of a university career that provide incentive for the development of a teaching vocation, as well as by the fact that the economic rewards are small; and organized within a framework that is fixed, if not rigid—capable of expansion, at least, only through the creation of new posts and thus providing no way to take advantage of qualified elements that may be available.

Organization of instruction on the basis of chairs, the private property, so to speak, of their occupants; the sporadic character of research activities; the tradition of instruction merely by means of lectures; lack of interest, on the part of teachers, in stimulating self study of pupils; absence of any fitting together of the programs of the subjects of the various courses; inexistence of regular postgraduate courses; the precarious condition of the libraries—these are so many further negative factors to account for the deficiency of the instruction given.

It must thus be emphasized again, and to conclude, that to achieve the final objectives in view it will not be sufficient merely to improve the quality of the teaching staff and re-equip the educational units. These measures must be complemented by others, general in scope, which will bring into being the hoped-for university reform. This is a change which will really point the university toward its true purposes, will open it to larger and larger numbers of young people who aspire to higher studies, and will put it into a position to provide them with the training which the present stage of our development demands of them.

figure is perhaps 1%, and this changes the picture completely. And in view of the wide range of variation in the meaning of "part-time" for Brazilian teachers, we cannot even estimate how many of our part-time teachers, for purposes of comparison, would be equivalent to a full-time teacher.

In view of the circumstances, however, even though our teaching staff is very large, anyone who studies the organization of our universities with a view to the reorganization of the teaching system cannot fail to recommend, in many cases, the admission of new elements to take care of the new needs in the way of instruction and research. This will be necessary until we are successful in changing the situation by the gradual implantation of a full-time system—where indicated—and by the concomitant renewal of the staff through replacement of elements now inoperative.

Parallel measures are thus essential, aiming at:

- adoption where indicated of a full-time schedule;
- adoption of a new structure in place of the present system of isolated and shut-in units, particularly by integration of related subjects from the various courses into departments or institutes which could articulate and coordinate activities that today are unconnected and almost always duplicated—something that will certainly contribute toward at last giving the university that character of polarizer of all the multiple and complex process of education which it is its duty to promote;
- revision of study programs in order to fit them together better in the various courses, and their indispensable diversification;
- creation of a university career;
- stimulus to the promotion of research activities;
- transformation of present teaching methods, based on theoretical lectures and duplicated class notes;
- organization of special systems of study on a part-time basis for students lacking the time required for the regular courses because of need to work or other reasons—without prejudice to the provision of scholarships where indicated;
- development of central and department libraries and of study on the basis of directed reading and group discussion;
- creation of university presses to stimulate the preparation of textbooks and publications of a didactic and scientific nature;
- installation of centers of scientific documentation and divulgation of educational, scientific and cultural information;
- institution of regular postgraduate courses;
- promotion of a plan of graduate scholarships, granted

according to strict standards of merit, with a particular view to preparing future generations of university teachers, scientists, research workers and high-level specialists;

— effective participation of the university in the study and consideration of problems affecting national and regional life.

Consequently, in addition to activities directly concerned with advanced training of university-level teaching personnel, the present project calls for complementary activities indirectly related to that desideratum, as will hereinafter be seen.

Once the request is approved and the resources requested placed at the disposition of the executing agency, the plan is to be carried out gradually, in keeping with the following timetable, so that it will be in full operation two years after it is begun. The figures as to number of projects and their respective budgets, under each heading, should not be taken as rigid except as regards the total. They may be otherwise distributed among the three periods in keeping with indications provided by the factors and circumstances which will condition the speed with which the program gets under way.

The activities into which the project is broken down for the three annual stages of its planned development are specified below.

PLAN FOR THE FORMATION AND ADVANCED TRAINING OF UNIVERSITY TEACHING STAFF (1963-1965)

1 - PROJECTS

1.1 - FELLOWSHIPS

1.1.1 - Undergraduate scholarships in the country

These are to be granted upon recommendation of teachers, annual selection by a special board set up in each school, and final approval by CAPES, to students of university courses (engineering, sciences, medicine, agriculture, social sciences,

etc.) who distinguish themselves in their studies and are considered as having an authentic vocation. The program aims at graduation of professionals, scientists, research workers, teachers and specialists. It is particularly directed to university institutions, aiming at the building-up of their teaching staff.

Up to 1,000 annual fellowships of Cr\$ 120.000,00

1st year (1963) -	400	Cr\$ 48.000.000,00
2d year (1964) -	700	Cr\$ 84.000.000,00
3d year (1965) -	1,000	<u>Cr\$ 120.000.000,00</u>
Total 1963-65		Cr\$ 252.000.000,00

1.1.2 - Beginning fellowships in the country

These are intended for recent graduates who distinguish themselves in their respective courses, so that they may continue their studies at postgraduate level. They aim to stimulate the preparation of masters' or doctoral theses and the beginning of scientific research, the purpose being to prepare university teachers and scientists, particularly in the basic disciplines of the various courses. Each school will have a certain number of fellowships available annually (according to the number of graduates) and will assign them, upon selection by a commission designated for the purpose, from among candidates indicated by the teachers. Such candidates, rigorously selected throughout the course, will surely contribute to guarantee a renovation of the university teaching and research staff.

Up to 400 annual fellowships of Cr\$ 300.000,00

1st year (1963) -	150	Cr\$ 45.000.000,00
2d year (1964) -	250	Cr\$ 75.000.000,00
3d year (1965) -	400	<u>Cr\$ 120.000.000,00</u>
Total 1963-65		Cr\$ 240.000.000,00

1.1.3 - Postgraduate fellowships in the country

To be devoted to:

1.1.3.1 - Long-term training

These will provide for full-time study in universities,

research institutions, services, private organizations, etc. for a period of 1 to 2 years, and will include courses, directed study, research and teaching activity, participation in seminars and work groups, etc. They are preponderantly intended for young university instructors or research workers, or personnel under special contract to the institutions to meet the needs of new installations and equipment and of the plans to expand the capacity of the various units.

1.1.3.2 - Short-term training

These will provide for study, also full time, in these same centers for periods of 3 to 4 months, and are intended for teachers and assistants of greater experience so that they may carry out specific and limited programs of postgraduate study or specialization, or for other teachers at any level so that they may familiarize themselves with new methods, techniques or processes and bring themselves up to date generally or in special fields, etc.

Up to 300 annual fellowships ⁽¹⁾ of Cr\$ 500.000,00	
1st year (1963) - 100	Cr\$ 50.000.000,00
2d year (1964) - 200	Cr\$ 100.000.000,00
3d year (1965) - 300	Cr\$ 150.000.000,00
Total 1963-65	Cr\$ 300.000.000,00

1.1.4 - Postgraduate fellowships abroad

These are destined to training of the types already described, for postgraduate study or specialization that cannot be acquired within the country, and will be available to high-level teaching or research personnel who have already practically exhausted the possibilities of obtaining in Brazil the advanced level of training which they need.

(1) All estimated for a duration of 12 months; in case of short training periods they may be subdivided into 2 or 3 units.

Up to 250 scholarships of Cr\$ 3.000.000,00⁽¹⁾ — US\$
6,000.00⁽²⁾

1st year (1963) - 100 ..	Cr\$ 300.000.000,00 -	US\$ 600,000.00
2d year (1964) - 130 ..	Cr\$ 450.000.000,00 -	US\$ 900,000.00
3d year (1965) - 250 ..	<u>Cr\$ 750.000.000,00 -</u>	<u>US\$ 1,500,000.00</u>
Total 1963-65	Cr\$ 1.500.000.000,00 -	US\$ 3,000,000.00

1.1.5 - Supplementary aid to foreign study

This is intended to permit university-level teachers who have received fellowships or paid-training grants from other institutions and from foreign governments to pay their travel and tuition when such expenses are not included.

Up to 300 grants of Cr\$ 300.000,00

1st year (1963) - 200	Cr\$ 60.000.000,00
2d year (1964) - 250	Cr\$ 75.000.000,00
3d year (1965) - 300	<u>Cr\$ 90.000.000,00</u>
Total 1963-65	Cr\$ 225.000.000,00

1.2 - DEVELOPMENT OF NATIONAL CENTERS FOR POSTGRADUATE TRAINING

1.2.1 - Aid for maintenance of the centers and particularly of their postgraduate training sectors through supply of material necessary to fellowship holders, equipment, libraries, technical and teaching personnel⁽³⁾, etc.

Aid to up to 50 centers, for a maximum annual total of Cr\$ 300.000.000,00

1st year (1963) - 10 a 20	Cr\$ 120.000.000,00
2d year (1964) - 30 a 40	Cr\$ 240.000.000,00
3d year (1965) - 40 a 50	<u>Cr\$ 300.000.000,00</u>
Total 1963-65	Cr\$ 660.000.000,00

(1) For purposes of the present budget, the dollar was calculated at the rate of Cr\$ 500,00.

(2) Average cost used in the budget, based on the following estimate for study in the USA:

12 monthly allowance payments	US\$ 3,600.00
Tuition	US\$ 1,400.00
Travel	US\$ 800.00
Health insurance, general expenses, books, etc..	<u>US\$ 200.00</u>
	US\$ 6,000.00

(3) Provisional admission until regularly employed by the institution.

1.2.2 - Postgraduate courses

This aid is for installation and operation of a complex of postgraduate courses to be instituted in the main centers for graduate training of engineers, doctors, agronomists, chemists and licentiates in the sciences, for later integration into such institutions under their own financial responsibility. It will be started in 3 schools of engineering, 2 of medicine, 2 of agronomy, 1 of chemistry and 2 of sciences.

Courses, variable in number, in up to 10 schools at Cr\$ 50.000.000,00 per school.

1st year (1963) - 5	Cr\$ 250.000.000,00
2d year (1964) - 8	Cr\$ 400.000.000,00
3d year (1965) - 10	Cr\$ 500.000.000,00
Total 1963-65	Cr\$ 1.150.000.000,00

1.3 - FOREIGN PROFESSORS AND SPECIALISTS

A most efficacious line of action for postgraduate training of teaching personnel and for transformation of present teaching systems—remember in this connection the example of the University of São Paulo, the Higher School of Agriculture of Viçosa, the Technological Institute of the Air Corps and others—is beyond a doubt the contracting, individually or in small teams, of foreign teachers and research workers for the development of special programs, models, of teaching and research, preferably on a long-term basis (3 to 5 years), including postgraduate courses. If properly planned, particularly as regards the existence of local conditions to take full advantage of the collaboration of the visiting teachers, such projects are highly important for the formation of a school and implantation of salutary changes in university teaching systems and work schedules, particularly in recently created units.

1.3.1 - Up to 60 teachers at Cr\$ 6.000.000,00 - US\$ 12,000.00

1st year (1963) - 20	Cr\$ 120.000.000,00 - US\$ 240,000.00
2d year (1964) - 40	Cr\$ 240.000.000,00 - US\$ 480,000.00
3d year (1965) - 60	Cr\$ 360.000.000,00 - US\$ 720,000.00
Total 1963-65	Cr\$ 720.000.000,00 - US\$ 1,440,000.00

1.3.2 - In most cases it is advantageous to have the work of foreign teachers in an institution followed and observed by teachers, assistants and research workers from schools or research centers located in other parts of the country. To complement the preceding item, therefore, it is necessary to provide for

Up to 240 fellowship for teachers, of Cr\$ 500.000,00

1st year (1963) - 80	Cr\$ 40.000.000,00
2d year (1964) - 160	Cr\$ 80.000.000,00
3d year (1965) - 240	Cr\$ 120.000.000,00
Total 1963-65	Cr\$ 240.000.000,00

1.4 - REFRESHER AND SPECIALIZATION COURSES

These are intensive short courses, on given topics or to bring members up to date generally, specially organized for groups of teachers from more recently created universities according to their needs. They will be offered for one or two-month periods in the more developed university centers of the country, or in the universities to be served, by small teams of specialists who would go there temporarily, working in association with local faculty members whenever available. Such courses aim to bring up to date, and provide with special training, the university teaching staff of the states, and to initiate young people into the teaching career.

1.4.1 - In less developed universities, with local teachers and teams from other centers:

Up to 20 courses at Cr\$ 1.800.000,00⁽¹⁾

1st year (1963) - 6	Cr\$ 10.800.000,00
2d year (1964) - 12	Cr\$ 21.600.000,00
3d year (1965) - 20	Cr\$ 36.000.000,00
Total 1963-65	Cr\$ 68.400.000,00

(1) Expenses for outside teachers (3)	Cr\$ 600.000,00
Fellowships (travel and maintenance for up to 10 teachers)	Cr\$ 1.000.000,00
Material and other expenses	Cr\$ 200.000,00
	Cr\$ 1.800.000,00

1.4.2 - In more developed university centers, with attendance of groups of teachers from other universities:

Up to 15 courses at Cr\$ 1.800.000,00⁽¹⁾

1st year (1963) - 4	Cr\$ 7.200.000,00
2d year (1964) - 8	Cr\$ 14.400.000,00
3d year (1965) - 15	Cr\$ 27.000.000,00
Total 1963-65	Cr\$ 48.600.000,00

1.5 - FULL-TIME SCHEDULES

This is aid to universities to permit them to install full-time schedules for teachers at all levels, under terms as established in Law nº 3,780 of 12 July 1960 or as provided in their present Statutes, and to the extent called for in the National Plan of Education of the Federal Council of Education. A special commission will study each case proposed by the competent organ of the interested institution. Grants are preferentially destined to personnel of the units already used for postgraduate training.

1st year (1963)	Cr\$ 350.000.000,00
2d year (1964)	Cr\$ 550.000.000,00
3d year (1965)	Cr\$ 700.000.000,00
Total 1963-65	Cr\$ 1.600.000.000,00

1.6 - UNIVERSITY INTERCHANGE IN BRAZIL

This is intended to bring about closer relations and more intimate knowledge of each other among the various centers of Brazilian higher education, and to stimulate more efficient exchange of information among them, through projects relative to: visits of university teachers; holding of courses and conferences; training periods for observation of teaching conditions and of the possibility of taking advantage of

(1) Expenses for teachers	Cr\$ 200.000,00
Fellowships for up to 12 teacher-students ..	Cr\$ 1.440.000,00
Material and other expenses	Cr\$ 160.000,00
	Cr\$ 1.800.000,00

opportunities for postgraduate study of teaching personnel and other forms of existing inter-university cooperation; promotion of meetings for study and analysis of problems of higher education; etc.

1st year (1963)	Cr\$ 8.000.000,00
2d year (1964)	Cr\$ 10.000.000,00
3d year (1965)	<u>Cr\$ 20.000.000,00</u>
Total 1963-65	Cr\$ 38.000.000,00

1.7 - SURVEYS, STUDIES AND ANALYSES

These are to cover problems of higher education and questions related to the training and professional practice of higher level personnel in Brazil, as well as evaluation of results of the plans under development.

1st year (1963)	Cr\$ 8.000.000,00
2d year (1964)	Cr\$ 10.000.000,00
3d year (1965)	<u>Cr\$ 20.000.000,00</u>
Total 1963-65	Cr\$ 38.000.000,00

1.8 - MEETINGS

This represents aid for promotion of meetings of national or international character for debate of scientific, educational or teaching problems.

1st year (1963)	Cr\$ 8.000.000,00
2d year (1964)	Cr\$ 8.000.000,00
3d year (1965)	<u>Cr\$ 10.000.000,00</u>
Total 1963-65	Cr\$ 26.000.000,00

1.9 - LIBRARIES AND PUBLICATIONS

This is for the formation of university libraries, for stimulus to the preparation of collections of higher-education textbooks and specialized works, for preparation of bibliographic material and aid to university centers of documentation and scientific information.

1st year (1963)	Cr\$ 30.000.000,00
2d year (1964)	Cr\$ 80.000.000,00
3d year (1965)	<u>Cr\$ 100.000.000,00</u>
Total 1963-65	Cr\$ 210.000.000,00

1.10 - OTHER UNSPECIFIED PROJECTS

The administration of a university, or even of an individual school, particularly those in phase of organization, generates a variety of problems which are difficult to solve within the institutions' administrative routine and generally inflexible annual budgets. Requests are very frequently received, during the year, for various types of collaboration that were not foreseen in the programs under way for the period and therefore in the plan of application being carried out. It is generally a question of cooperation requested to solve emergency situations that will later become the responsibility of the institution, or to take advantage of opportunities that may arise. It is therefore appropriate to set aside a small percentage of the total budget to take care of cases of the type described.

1st year (1963)	Cr\$ 15.000.000,00
2d year (1964)	Cr\$ 22.000.000,00
3d year (1965)	<u>Cr\$ 27.000.000,00</u>
Total 1963-65	Cr\$ 64.000.000,00

2 - ADMINISTRATION

		% of total budget
1st year (1963)	Cr\$ 30.000.000,00	- 2,0%
2d year (1964)	Cr\$ 40.000.000,00	- 1,6%
2d year (1965)	<u>Cr\$ 50.000.000,00</u>	- <u>1,4%</u>
Total 1963-65	Cr\$ 120.000.000,00	- 1,6%

The following tables show, for each item, the number of projects planned and the respective budgets for the first three stages of execution of the plan. Then follow the annual totals necessary for the financing, in Brazilian and American money.

PLAN FOR THE FORMATION AND ADVANCED TRAINING OF THE UNIVERSITY TEACHING STAFF
(1963/1965)

A P P L I C A T I O N	C O S T O F P R O J E C T S		
	1 9 6 3 In Cr\$ 1.000,00	1 9 6 4 In Cr\$ 1.000,00	1 9 6 5 In Cr\$ 1.000,00
1 - PROJECTS			
1.1 - FELLOWSHIPS			
1.1.1 - Undergr. fel. (Br.)	48.000(400) ⁽¹⁾	84.000(700)	120.000(1.000)
1.1.2 - Begin. fel. (Br.)	45.000(150)	75.000(250)	120.000(400)
1.1.3 - Postgrad. fel. (Br.)	50.000(100)	100.000(200)	150.000(300)
1.1.4 - Postgrad. fel. abr.(2)	300.000(100) (US\$ 600,000.00)	450.000(150) (US\$ 900,000.00)	750.000(250) (US\$ 1,500,000.00)
1.1.5 - Suppl. aid	60.000(200)	75.000(250)	90.000(300)
1.2 - NATIONAL CENTERS FOR POSTGRADUATE TRAINING			
1.2.1 - Postgrad. sectors	120.000(10-20)	240.000(30-40)	300.000(40-50)
1.2.2 - Postgrad. courses	250.000(5)	400.000(8)	500.000(10)
1.3 - FOREIGN PROFESSORS AND SPECIALISTS			
1.3.1 - Profs., specialists(2)	120.000(20) (US\$ 240,000.00)	240.000(40) (US\$ 480,000.00)	360.000(60) (US\$ 720,000.00)
1.3.2 - Fellowships	40.000(80)	80.000(160)	120.000(240)
1.4 - REFR., SPEC. COURSES			
1.4.1 - Regional	10.800(6)	21.600(12)	36.000(20)
1.4.2 - Central	7.200(4)	14.400(8)	27.000(15)
1.5 - FULL-TIME SCHEDULES	350.000	550.000	700.000
1.6 - UNIV. INTERCH., BR.	8.000	10.000	20.000
1.7 - SURVEYS, STUDIES, ANAL.	8.000	10.000	20.000
1.8 - MEETINGS	8.000	8.000	10.000
1.9 - LIBR. AND PUBLICATIONS	30.000	80.000	100.000
1.10- UNSPEC. PROJECTS	15.000	22.000	27.000
2 - ADMINISTRATION	30.000	40.000	50.000
General total	1.500.000	2.500.000	3.500.000

- (1) The numbers in parenthesis show the number of projects planned (fellowships, teacher contracts, courses, etc.); and in item 1.2.1 the number of centers served.
- (2) In items 1.1.4 and 1.3.1, in parenthesis below the cost in cruzeiros, is shown the corresponding amount in dollars, at the rate of US\$ 1.00 : Cr\$ 500,00.

ANNUAL DISTRIBUTION OF COST OF PLAN IN CRUZEIROS, BY SOURCES OF FUNDS
(1963-1965)

SOURCES OF FUNDS	1st year (1 9 6 3) In Cr\$ 1.000,00	2d year (1 9 6 4) In Cr\$ 1.000,00	3d year (1 9 6 5) In Cr\$ 1.000,00	T O T A L (1963-65) In Cr\$ 1.000,00
Government of Brazil	500.000	1.000.000	1.500.000	3.000.000
Alliance for Progress	1.000.000	1.500.000	2.000.000	4.500.000
Total	1.500.000	2.500.000	3.500.000	7.500.000

DISTRIBUTION IN CRUZEIROS AND DOLLARS OF THE FUNDS REQUESTED FROM THE ALLIANCE
FOR PROGRESS

MONEY	1st year (1 9 6 3)	2d year (1 9 6 4)	3d year (1 9 6 5)	T O T A L (1963-65)
In Cr\$ (Cr\$ 1.000,00)	580.000	810.000	890.000	2.280.000
In US\$	840,000.00	1,380,000.00	2,220,000.00	4,440,000.00
Total ex- pressed in cruzeiros(1)	1.000.000.000,00	1.500.000.000,00	2.000.000.000,00	4.500.000.000,00
Total ex- pressed in dollars(1)	2,000,000.00	3,000,000.00	4,000,000.00	9,000,000.00

(1) US\$ 1.000 : Cr\$ 500,00.

The financial contribution of the Brazilian Government will be for account of the appropriations earmarked for the Department of Higher Education, COSUPI and CAPES in the General Budget of the Union for the periods in which it is proposed to develop the Plan.

The agency to execute the Plan will be the National Campaign for the Improvement of University-level Personnel (CAPES), which for this purpose will make use of services it

already has available, duly reinforced with the personnel and facilities necessary for the proper carrying out of this new task.

Execution of the plan will follow the general lines proposed; specific projects will be drawn up for each proposal or group of proposals to be promoted.

The US Government or other donor will assign a representative to the executing agency to follow the development of the plan. The agency will present quarterly reports on activities carried out, and will supply whatever information may be requested at any time.

The funds donated will be placed at the disposition of CAPES semi-annually. The latter will produce proofs of expenses every three months, and will make its accounts available to the auditors designated by the donor at such times as the donor may select, or at any time when it may seem appropriate to check the state of the accounts.

Once the Plan is approved, all measures and expenses necessary to the promotion of each project approved will be authorized and carried out under the responsibility of the Executive Director of CAPES (Program Director).

The postgraduate training will be developed according to plans agreed to in advance with those responsible for the centers where it is to be taken. The fellowship holder will work full time, and for that reason centers will be preferred where a full-time schedule is worked.

The centers listed in the appendix can already be indicated; in many of them training of teachers and specific projects for postgraduate training are drawn up.

It is worth emphasizing at this point that any systematized plan of postgraduate training that involves the absence of a substantial fraction of the teaching staff, even such a moderate plan as is here presented, will run into serious

difficulties and will not be fulfilled except at the cost of great insistence and energy on the part of the Rectors of the Universities and governing bodies of the various institutions interested. There must also be an organized effort toward building up in the teaching staff a new attitude with regards to the meaning and objectives of the University, and to the duties and the mission of each of its members in relation to the institution they serve and the region where it operates.

The experience of CAPES speaks eloquently in support of this opinion. Although it widely publishes its willingness to provide scholarships to as many members of university teaching staffs (universities and individual schools) as may wish to take post-graduate training in Brazil, it has encountered a positive response only in medicine and related fields (dentistry, nursing, pharmacy). In these branches, in the last two years alone, fellowships were granted to 150 teachers for long postgraduate training periods in high-standard national centers. With the exception of mathematics, which has a reasonable number of fellowship holders this year, applications for postgraduate fellowships in the other branches are sporadic. Engineering comes at the end of the list: up to the present no more than 4 or 5 fellowships have been granted to teachers in this field for study in Brazil.

The reasons for this reserve are well known. Teaching positions in higher education in the states, and above all in the recently created universities, with exemplary exceptions, constitute a "job", in general "another job", and there is ample "justification"—insufficient remuneration for exclusive dedication to teaching, absence of conditions for efficient teaching and research, alleged resistance of students to increased demands for effort and participation, disinterest of the environment, etc.—for maintenance of the status quo of a peripheral activity. Anyone who knows the background is familiar with the circumstance that in the states, and particularly in the less developed states, as in the Northeast, precisely where the shortage of qualified personnel is most sharply felt, and in spite of the promising movement of renovation that is going on in certain faculties, the normal situation is to have 3 or 4

jobs at once—official or private employment and practice of a profession—all necessarily exercised on a schedule that is "very part time"....

The university teachers, who logically belong to the most professionally qualified ranks, escape this rule only by exception, and it is also only by exception that they can voluntarily take a stand against the conditions that give rise to it, since it is certainly much easier and more comfortable to leave the situation as it is.

This state of affairs, nevertheless, should be taken as a stimulus and a challenge to those who are convinced of the necessity of changing it, and who believe they are capable of doing so. And since the impulse for this process of revision and change can produce valid results only if it comes from the university itself, it is those who are responsible for the university that must debate, clarify, and in every way seek to solve the problems which are affecting the quality level of the institution and preventing it from becoming fully integrated into its national objectives.

It would therefore be recommended that an extensive program of meetings should be planned and put into execution. Here presidents and directors of schools and institutes, groups of teachers from the various sectors, representatives of student organizations, etc., in contact with directors of government and private agencies responsible for the various programs having to do with higher education, as well as with representatives of the various professions and individuals preoccupied with university and professional problems, could discuss the problems that confront our universities and work out means of meeting them by the joint effort of all the interested parties.

A P P E N D I X

LEADING BRAZILIAN CENTERS ALREADY EQUIPPED TO PROVIDE POST-GRADUATE TRAINING

Agronomy and Veterinary Medicine

Escola Superior de Agricultura Luiz de Queiroz, Universidade
de São Paulo (including Instituto Zimotécnico and Instituto
de Genética)
Piracicaba - SP

Instituto Agrônômico, Estado de São Paulo
Campinas - SP

Centro de Ensaio e Treinamento de Engenharia Rural
Fazenda Ipanema
Ministério da Agricultura
Varnhagen - SP

Escola Superior de Agricultura, Univ. Rural de Minas Gerais
Viçosa - MG

Escola Nacional de Agronomia, Universidade Rural
Itaguaí - RJ

Associação Brasileira de Crédito e Assistência Rural
Rio de Janeiro - GB

Escola Superior de Medicina e Veterinária,
Universidade Rural do Estado de Minas Gerais
Belo Horizonte - MG

Escola Nacional de Veterinária, Universidade Rural
Itaguaí - RJ

Biology, Medicine and related subjects

Museu Paraense Emilio Goeldi
Belém - PA

Instituto de Micologia, Universidade do Recife
Recife - PE

Faculdade de Medicina, Universidade da Bahia
(Program of integrated teaching of Medical and Surgical Clinics,
in Hospital das Clínicas)
Salvador - BA

Instituto de Biofísica, Universidade do Brasil
Rio de Janeiro - GB

Instituto de Microbiologia, Universidade do Brasil
Rio de Janeiro - GB

Museu Nacional, Universidade do Brasil
Rio de Janeiro - GB

Instituto Oswaldo Cruz
Rio de Janeiro - GB

Chair of Parasitology, Faculdade de Medicina,
Universidade Federal do Estado do Rio de Janeiro
Niterói - RJ

Faculdade de Medicina, Universidade de São Paulo
(chairs of Histology and Embriology, Anatomy, Physiological
Chemistry, etc.)
São Paulo - SP

Hospital das Clínicas, Universidade de São Paulo
São Paulo - SP

Faculdade de Farmácia e Odontologia, Universidade de São Paulo
São Paulo - SP

Faculdade de Medicina de Ribeirão Preto,
Universidade de São Paulo (Biochemistry, Pharmacology,
Physiology, Anatomy, Patology, Pediatrics, etc.)
Ribeirão Preto - SP

Laboratory of Isotopes, Faculdade de Medicina,
Universidade de São Paulo
São Paulo - SP

Laboratory of Human Genetics,
Faculdade de Filosofia, Universidade de São Paulo
São Paulo - SP

Instituto Biológico, Departamento de Defesa Sanitária,
Secretaria de Agricultura, Estado de São Paulo
São Paulo - SP

Escola Paulista de Medicina
São Paulo - SP

Instituto de Fisiologia e Nutrição, Universidade do Recife
Recife - PE

Instituto Adolfo Lutz
São Paulo - SP

Instituto Oceanográfico, Universidade de São Paulo
São Paulo - SP

Department of Biochemistry,
Faculdade de Medicina, Universidade de Minas Gerais
Belo Horizonte - MG

Ophtalmologic Clinic,
Faculdade de Medicina, Universidade de Minas Gerais
Belo Horizonte - MG

Instituto de Bioquímica, Universidade do Paraná
Curitiba - PR

Department of Zoology, Faculdade de Filosofia,
Universidade do Paraná
Curitiba - PR

Laboratory of Human Genetics,
Faculdade de Filosofia, Universidade do Paraná
Curitiba - PR

Faculdade de Medicina de Pôrto Alegre,
Universidade do Rio Grande do Sul (Medical and Surgical
Clinic, Physiology, etc.)
Pôrto Alegre - RS

Physical Sciences and Mathematics

Centro Brasileiro de Pesquisas Físicas
Rio de Janeiro - GB

Conselho Nacional de Geografia
Rio de Janeiro - GB

Instituto de Matemática Pura e Aplicada
Rio de Janeiro - GB

Departments of Physics and Chemistry,
Faculdade de Filosofia, Universidade de São Paulo
São Paulo - SP

Department of Physics, Escola de Engenharia de São Carlos,
Universidade de São Paulo
São Carlos - SP

Instituto de Física Teórica
São Paulo - SP

Instituto de Energia Atômica
São Paulo - SP

Instituto de Pesquisas Radioativas, Escola de Engenharia,
Universidade de Minas Gerais
Belo Horizonte - MG

Escola Nacional de Química, Universidade do Brasil
Rio de Janeiro - GB

Social Sciences (including Education, Law, Economics, Administration)

Banco do Nordeste do Brasil S.A. (Escritório Técnico de Estudos Econômicos)
Fortaleza - CE

Instituto Joaquim Nabuco de Pesquisas Sociais
Recife - PE

Superintendência do Desenvolvimento do Nordeste (SUDENE)
Recife - PE

Instituto de Ciências Sociais, Universidade do Brasil
Rio de Janeiro - GB

Centro Latino-Americano de Pesquisas em Ciências Sociais
Rio de Janeiro - GB

Instituto Superior de Estudos Brasileiros
Rio de Janeiro - GB

Centro Brasileiro de Pesquisas Educacionais
Rio de Janeiro - GB

Centro Regional de Pesquisas Educacionais, São Paulo
São Paulo - SP

Banco Nacional do Desenvolvimento Econômico
Rio de Janeiro - GB

Instituto Brasileiro de Bibliografia e Documentação
Rio de Janeiro - GB

Instituto Brasileiro de Economia, Fundação Getúlio Vargas
Rio de Janeiro - GB

Escola de Administração de Empresas de São Paulo
São Paulo - SP

Faculdade de Filosofia, Universidade de São Paulo
São Paulo - SP

Instituto de Pesquisas Econômicas, Universidade de Minas Gerais
Belo Horizonte - MG

Centro de Ensino e Pesquisas Arqueológicas,
Universidade do Paraná
Curitiba - PR

Engineering and Technology

Instituto Nacional de Tecnologia, Ministério do Trabalho
Rio de Janeiro - GB

Centro de Aperfeiçoamento e Pesquisas da Petrobrás
Rio de Janeiro - GB

Instituto Eletrotécnico de Itajubá
Itajubá - MG

Instituto Tecnológico de Aeronáutica
São José dos Campos - SP

Escola Politécnica, Universidade de São Paulo
São Paulo - SP

Instituto de Pesquisas Tecnológicas da Universidade de São Paulo
São Paulo - SP

Centro de Pesquisas e Estudos Urbanísticos,
Faculdade de Arquitetura e Urbanismo,
Universidade de São Paulo
São Paulo - SP

Escola de Engenharia de São Carlos,
Universidade de São Paulo
São Carlos - SP

Department of Ecology and Paleontology,
Faculdade de Filosofia, Universidade de São Paulo
São Paulo - SP

Instituto de Geologia, Universidade do Recife
Recife - PE

Humanities

Faculdade Nacional de Filosofia, Universidade do Brasil
Rio de Janeiro - GB

Faculdade de Filosofia, Universidade de São Paulo
São Paulo - SP