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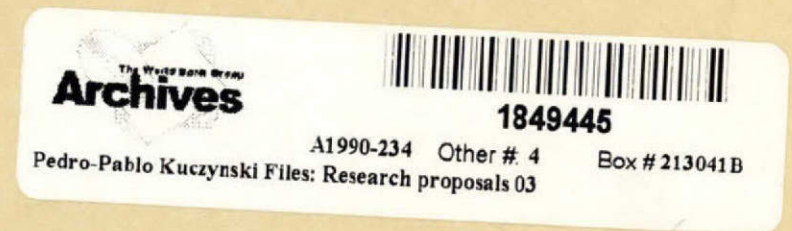
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P. P. KUCZYNSKI

Research Committee - F/Y 74 Research Proposals

3

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III. URBANIZATION AND REGIONAL DEVELOPMENT

1. The Labor Market in a Rapidly Growing Urban Area
2. Development Strategies for Northeast Brazil

OFFICE MEMORANDUM

TO: Mr. Ernest Stern

FROM: Pedro-Pablo Kuczynski *PK*

SUBJECT: BRAZIL - Research Proposals

DATE: April 5, 1973

1. A panel composed of Messrs. Ross, Pfeffermann, and myself reviewed two research proposals on Brazil. Messrs. Avramovic, Panagides, Scandizzo, Kutcher, English, Turnham, Mazumdar and Miss Sant'Anna also attended. Mr. Duloy was present for the first meeting.

Belo Horizonte labor force

2. The panel supports this proposal, which fits in well with the work planned by the Population and Human Resources Division on employment in urban areas. The study will use data collected at the end of 1972 from a sample of 3,600 families comprising 19,000 individuals - about one percent of the population of Belo Horizonte - in order to test various hypotheses about what attracts migrants into the urban area and about the nature of the labor force in the "unprotected" sector. Although a major part of the work will be done by Mr. Thomas Merrick from the Ford Foundation, at present associated with the Development Center of the University of Minas Gerais (CEDEPLAR), the proponents assured the panel that there would be substantial involvement of Brazilians (namely an economist and a demographer) in the study. One ingredient which the panel believes should be added to the project is provision for the survey - on which the study will be based - to become periodic. With the rapid population growth of Belo Horizonte, it would make sense to encourage arrangements for a second and subsequent surveys of employment, income and migration patterns.

Northeast Brazil regional studies

3. The panel strongly believes that a research effort on rural poverty and income distribution in Northeast Brazil is of high priority. Although the gross output of the Northeast grew somewhat faster than that of Brazil as a whole in the 'sixties, it has fallen behind in the last few years of very fast expansion in the Center and South. With about 30 million inhabitants, the Northeast accounts for one-third of the Brazilian population (and 16 percent of the population of South America), but only for 15 percent of national output. Half the population of the Northeast has a per capita income of only \$50; inequities in the distribution of income and wealth are sharper than in the rest of Brazil.

4. The panel felt that the original formulation of the DRC proposal as presented to the first meeting needed some clarification. The nature and coverage of the farm survey (p. 8 of the proposal and first item on table on p. 12), which is the first stage of the proposed studies, was not sufficiently spelled out. The precise nature of the major questions

April 5, 1973

to be studied as a result of the survey data, although described on p. 3, appeared to lack precision. In view of these comments, the DRC prepared a reformulated first stage proposal (attached) which includes:

a. a survey of about 4,000 small farms spread throughout the Northeast (possibly including the coastal Zona de Mata). The survey will be conducted by the Northeast Development Agency (SUDENE). The participation of SUDENE seems to be assured, although confirmation of this will have to be obtained in view of the fact that the Federal Planning Office (IPLAN) recently informed the DRC that IPLAN was unable to come up with its share of the collaborative staff required for the project;

b. a study of the Northeast small-farm economy, drawing upon the results of the survey. The study would hopefully permit policy decisions on such subjects as the most appropriate farm size and land tenure arrangements (by areas), the response of farmers to price incentives, credit requirements, suitable technologies, and comparative advantages of various crops. The vehicle for analyzing these various aspects would be a model of the Northeast economy, concentrating initially on agriculture, along the lines of the CHAC model in Mexico. The DRC emphasized that the experience with Mexico would enable the same kind of work to be done more expeditiously on Brazil.

5. The remainder of the proposal - i.e. the wider Northeast model and the industry aspects - would be postponed for the time being, until progress on the survey and agricultural study can be assessed. The cost of the first stage until the end of FY74 - i.e. survey and agricultural model and study - was given by Mr. Clark as about \$150,000, of which the survey would account for \$90,000. On this reformulated basis, the panel believes that the project should be pursued. Clearly, there are a number of difficulties in the way - chiefly the attitude of the Planning Office - but these will probably diminish if we can demonstrate to the Brazilians that the proposed survey addresses an important subject - which it does - in a realistic and concrete manner. The matters which ought to be pursued further in designing the study are:

- a. its precise cost;
- b. the role of SUDENE, and specifically who in SUDENE will be responsible for supervising the actual field survey work; and
- c. the major issues which DRC will have in mind in the work following the survey.

Attachment

- cc: 1. Those listed in para. 1
2. Members of the Research Committee
3. Messrs. Wiese, Skillings, Yudelman, Knox, Goffin, Tims, Hawkins, Keare
Duloy, Cauas

Addendum - An Analysis of Development Strategies for Northeast Brazil

The limited objectives of the first stage of the proposed research project

- are:
- (1) to collect survey information in order to evaluate the efficiency of farms of different sizes and technological, geographic and ecological conditions;
 - (2) to study, at the microeconomic level of the producer, exactly what restrictions prevent resources from being channelled directly to the rural poor as observed within a relatively limited zone of the Northeast (for example, using the survey data collected and additional field work within a single municipio).

The initial stage of the research is designed to help the Bank identify rural investment projects for FY '75 and FY '76, leading to the need for the definition of an integrated regional development strategy as the next stage of the research project. This addendum seeks to clarify certain aspects of the SUDENE survey, to identify more precisely the information which will be produced by the study, and to show its usefulness for Bank operational work.

1. The SUDENE/ANCAR Survey

The Northeast survey of agricultural producers has been in the work program of SUDENE for more than a decade but never implemented either for lack of political support or the scarcity of qualified technical personnel. The primary role of Bank personnel will be to give technical guidance about sample design and selection, to revise and extend the focus of the questionnaire and to aid in the processing and analysis of the survey results. Both SUDENE and INCRA technicians feel that an effective land reform cannot be designed without more precise information concerning the economic efficiency of different size farm units as they exist in different parts of the Northeast at present. Furthermore, there is a lack of consistent microeconomic information needed to simulate the consequences of a changing pattern of land ownership on the demand for traditional and new inputs (including day labor), on the likely supply elasticities for key crops and their effect on agricul-

tural prices, factor employment and farm incomes. Yield estimates may help identify agro-processing and export possibilities for surplus production.

In order to develop this comprehensive picture, the SUDENE survey will cover about 4,000 farms (an average of 100 farms in approximately 5 municipios selected in 8 Northeast states including Pernambuco, Rio Grande do Norte, Paraiba, Alagoas, Ceará, Sergipe, Piauí, and parts of Bahia and Maranhao.) SUDENE had planned to exclude the coastal sugar-producing strip of the Zona da Mata (because INCRA had already begun to implement parts of the reform in this zone.) However, SUDENE officials have tentatively agreed to extend the sample to a few municipios of the Zona da Matta so that complete coverage of the Northeast may be obtained.

As originally conceived, the questionnaire SUDENE had planned to use was tested last year in a survey of 6 municipios drawn from Ceará and Pernambuco. The same SUDENE team and ANCAR agents will make this year's survey. Last year's questionnaire included questions about:

- location vis-a-vis market center
- tenure classification
- size of holding
- land inventory by soil type
- land use by soil type (annual crops, perennial crops, pastures fallow, etc.)
- irrigation infrastructure and potential investment opportunities
- labor use and availability by family, permanent hired, temporary, by season
- labor contractual arrangements and wages
- sharecropping arrangements
- input usage and costs
- structure and equipment inventory
- production by crop
- destination of output
- prices received
- livestock inventory
- use of livestock; herd management
- technology used for soil preparation, erosion control, planting cultivation, harvesting
- rotation patterns employed

We have discussed with SUDENE various modifications and extensions of the questionnaire principally along three lines: (a) better input-

output data by crop and season; (b) more precise information as to destination of output to determine extent of subsistence-level activity and marketing arrangements; and (c) questions from which to derive estimates of the influence of risk on farm practices, adaptation and the willingness to innovate. Furthermore, we will suggest other changes in the organization of the questionnaire to permit easy and rapid transformation of the survey data to a data processing medium. Computer editing, testing and processing programs can be developed in advance so this transformation can be expected to take one month. Hence we expect that the survey results will be available for analytical use by October 1973.

(2) Data Analysis and Priority Studies

The first phase of this analysis will attempt to construct a complete picture of the within-farm management and organization, technical alternatives and operating costs of various farm types, tenure systems and farm unit sizes in a selected set of subregions in the Northeast. With a better definition of the factors limiting labor-using agricultural development, the collaborating Brazilian researchers and Bank project economists should be able to identify new investment projects and sets of policies which will directly benefit the economically isolated rural poor and the peasant immobilized by feudal practices.

Experience in other developing countries and ad hoc studies of the Brazilian agriculture (see W. Cline, Economic Consequences of Land Reform in Brazil, North Holland, 1970) have shown that in many cases small farms tend to be socially more efficient than large holdings both because they utilize more promptly the fruits of technological progress and because they provide more employment to human factors.^{1/} Thus, the first question to which the analysis of survey data will address itself is

whether small farms are viable operations in Northeast Brazil and in what geographical areas they appear to be efficient. The World Bank is actively seeking to develop an analytical framework for identification of projects in the fields of rural development, income distribution and agrarian reform. Until we have learned much more about the institutional constraints and are more familiar with the behavior of different types of Northeast peasants, it would be unwise to go beyond the basic analytical hypotheses and the general form of the analysis in an effort to spell out precisely how each aspect of the analysis will be performed. A wide range of statistical techniques, aggregation steps, econometric analysis and programming studies are likely to be undertaken in the course of the investigation. A number of theoretical studies have already been stimulated by the early definition of the problem.^{2/} We anticipate that the process of data collection will suggest many further lines of research whose solution may be applied to the problem of rural poverty both in Brazil and in other countries.

It is our contention that better data will suggest new possibilities for Bank projects. In order to provide concrete indications as to the type of project which can be identified to channel resources to the small farmers, we will begin by analysing the following subsets of information from the survey:

- geographical and economic concentration of land ownership
- intensity of land use by classes of farms
- relation of land quality to farm size
- relation of tenure arrangements to efficiency
- subsistence characteristics of small farms

1. For example, one of the indications of the Mexican study (CHAC) has been that in many cases the only way to increase productivity and absorb more labor at the same time may be through increasing the number of small farm units rather than seeking economies of scale through consolidation of land.

2. See the footnote on page 6 of the proposal.

The survey will include information about the attitude of small farmers towards undertaking investments under different conditions of uncertainty which will provide a basis for evaluating the possibility of including insurance schemes in credit projects. In particular, for the drought ridden area of the Sertao--where the technology is extremely primitive because, inter alia, of the risk element--evaluation of the possibility of joining credit with insurance might suggest a basic policy package for a specific category of rural development projects. Moreover, farms may be reorganized to distribute risk among a large population of producers (colonization schemes, collectives, producer or marketing cooperatives, equipment pools, shared input supplies (water, fertilizer, technical knowledge, etc.)

Finally, SUDENE's primary objective for undertaking the survey is their conviction that the questionnaire will produce data which will indicate the areas of the Northeast, the institutional requirements, the most appropriate size and organization of farm types and the policy packages which might be introduced in the next round of land reform.

OFFICE MEMORANDUM

TO: Messrs. Tims, Ross, Pfeffermann,
Clark, Skillings, Turnham
DATE: March 29, 1973

FROM: Pedro-Pablo Kuczynski 

SUBJECT: Brazil Research Proposals - Subcommittee Meeting

This is to confirm that the meeting on the two research proposals (Northeast and Urban Employment) will be held in D448 at 4:30 p.m., April 2. I am sorry about the various changes of time, but it has not been possible to accommodate everybody at other times. We will start with the Northeast.

cc: Messrs. Cauas, Avramovic, Yudelman, Ray

FORM NO. 75
(2-60)

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☒ Information

Signature

Initial

Send On

REMARKS

From

Signed: Dragoslav Avramovic

MPP Ruzynski

OFFICE MEMORANDUM

TO: Mr. Dragoslav Avramovic, Chief Economist, LAC

DATE: March 26, 1973

FROM: Murray Ross, Senior Economist, LAC, CPD II

SUBJECT: DRC Research Proposal for the Northeast of Brazil

With reference to your memorandum of March 23, 1973 on the above subject, addressed to Mr. Wiese and myself, please be informed that CPD II requests an opportunity to postpone its comments on the research proposal until April 2, 1973.

We trust that the prior review panel can take place on April 3 or 4 and still permit consideration of the proposal by the Research Committee on April 5, as you indicated.

Chent: April 2 at 4:30 ✓
9:30
or April 4 at 10 a.m.

OFFICE MEMORANDUM

TO: Mr. P.-P. Kuczynski

FROM: Anandarup Ray *AR*

SUBJECT: Review of Research Proposals for FY1974

DATE: March 23, 1974

Will you kindly, together with Messrs. Murray Ross and Wouter Tims, review the attached research proposals and prepare recommendations to the Research Committee for its meeting on April 5.

I shall appreciate receiving your recommendations by April 1. Please let me know the date of the meeting.

cc w/ attachment: Messrs. M. Ross, W. Tims

cc: Messrs. A. Stevenson, J.C. English, D. Keare
D. Mazumdar, D. Turnham

Ms. A. Sant'Anna

Could you kindly write your recommendations on the Brazil North East (Clark) project in a separate memo. I shall hold its distribution till Avramovic officially clears the project, which he anticipates doing by April 2.

Belohorizonte: 1. did survey yield data necessary for testing hypothesis. Ananda.
2. Continuing survey proposed?
3. Isn't CEDEPLAR overcommitted?
4. \$28,000 for 3,600 households - CR cost \$12,000 for 1,800.
5. 3,600 a very small sample, despite census data.



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Document Date March 22, 1973	Document Type Memorandum with attachment			
Correspondents / Participants TO: Files FROM: David Turham				
Subject / Title LAC Support project Proposal: The Labor Market in a Rapidly Growing Urban area				
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Additional Comments		The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group. <table border="1"><tr><td>Withdrawn by S. Thompson</td><td>Date August 19, 2025</td></tr></table>	Withdrawn by S. Thompson	Date August 19, 2025
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PART V. PROJECT SUMMARY
(Use Additional Sheets if Necessary)

1. Research Objectives:

Support basis for Bank Policy

☒ 2

Support for Bank Operation in Projects or Sectors

☐

Support for Country Economic Work

☐

Increase Knowledge of the Basic Development Process

☒ 1

Develop Institutional Capacity for Research in LDC's

☒ 3

2. Description:

a. Problem

b. Method

c. Coordination

d. Implication for Bank Policy and Operations

e. Project Organization

Description of Project

(a) Problem

One of the most important problems in the general area of employment in LDC's is the nature and working of the sector of the urban labor market of these countries which is variously described as the unorganized, the informal or the unprotected sector. The rapid increase of the population gainfully occupied in urban activities outside the larger establishments protected by government legislation or Trade Union rules has been apparent to observers for some time. Recently the ILO Employment Mission to Kenya helped to make this observation "official" by explicitly drawing attention to it as a major area of concern.

Several hypotheses have been suggested to explain the growth of the urban unorganized sector, the more important of which are the following:

- (i) The surplus labor hypothesis. Most commonly associated with the commentaries of ECLA, this hypothesis suggests that the urban unorganized sector is the repository of labor "pushed out" of agriculture due to population growth exceeding employment opportunities in the latter.
- (ii) The job expectation hypothesis. Migrants flock to the urban market in the expectation of obtaining a high wage job in the "protected" sector and maintain themselves by working temporarily in the unorganized sector while at the same time searching for a more permanent job.
- (iii) The transient migrant hypothesis. Migrants come and work in the unprotected urban market during the slack seasons of agricultural activity with a view to augmenting their family income, the major source of which continues to be agriculture.

- (iv) The additional worker hypothesis. A large proportion of the workers in the unprotected urban sector are not migrants but secondary workers from settled urban families who enter the labor market to help the principal earner maintain a flexible family income.

These hypotheses have been studied by D. Mazumdar of the Population and Human Resources Division (RPO 245) and B. Herrick of the Urban and Regional Division (RPO 240) separately in theoretical models of the urban labor market which explicitly incorporates two sectors of the market - the protected and the unprotected. Further work with the models, and in particular the empirical testing of the various hypotheses, have been hampered by the lack of empirical data. The proposal from CEDEPLAR contains information about the existence of a body of data for a single city in Brazil - Belo Horizonte - and a scheme of work which can be adopted very conveniently for the empirical study of a rapidly growing urban labor market. Briefly, this study will yield information on three crucial areas:

- (a) the earnings and occupation structure of the urban labor force particularly in the unprotected sector;
- (b) the migration and work history of these workers and jobseekers, and
- (c) the nature of the family economy in the urban areas.

The Population and Human Resources Division has a continuing research project (RPO 245) which seeks to undertake a comparative study of the urban labor markets in different LDC's. As mentioned, the required empirical material is very scanty. So far three countries have been

identified in Asia (Korea, Malaysia and Sri Lanka) which might have empirical data of the required type collected through surveys, and a proposal is under way for a survey to be sponsored in Bombay. The Costa Rican Urban Survey supported by the Bank (RPO 247) is expected to yield material which would be of value in the project. We have so far no South American study to use as an input into this project. From this point of view, the Belo Horizonte proposal seems to be extremely worthwhile, specially as the survey data to be used have already been collected.

The Urban Economics Division is keenly interested in providing studies which will lead to a better understanding of the process of urbanization and in particular the role of the tertiary sector.

The latter is the major source of employment in cities but knowledge as to its importance in generating development is lacking. The study could develop valuable insights into the ways in which small businesses become established in this sector, whether individuals are able to move to increasingly sophisticated lines of activity and whether there are factors, such as social legislation, which may favor growth of some functions, e.g. equipment, servicing, as tertiary rather than industrial sector activities and the extent to which the unprotected and less formal growth of these services represent externalities for the industrial sector. Following the latter, an investigation of the proportion of growth of the tertiary sector which falls into low productivity activities would enable an indication to be obtained as to the "drag" exerted by migrants or other marginal groups on the urban economy.

(b) Method

The data to be used have already been collected by CEDEPLAR (Centro de Desenvolvimento e Planificaco Regional of the University of Minas Gerais) as part of a sample survey which was carried out for the Belo Horizonte Metropolitan Planning Authority (Plambel). The questionnaire used in this survey was designed in such a way as to ensure that it would yield detailed information about labor market structure in the metropolitan area and enable an evaluation to be made of the contribution of service employment in the expansion of the local economy. The field work was carried out in November 1972 and the data have since been coded and punched. The detailed questionnaire was completed for 3,600 *Small* households. Data processing and analysis by CEDEPLAR under the Plambel contract will by no means exhaust the potential of this primary data base and the objective of the funding requested is to enable more detailed analyses to be carried out, also using additional data sources (e.g. census).

It is anticipated that a major part of the analysis will consist of cross-tabulation of the data. But other techniques, e.g. regression or factor analysis, will be used if these appear appropriate.

Greater detail on the data base and the research method proposed is contained in pages 8 - 17 of the attached paper from CEDEPLAR. The questionnaire used in the survey has been made available to us. It appears that the topics on which information has been obtained are suitable for the purposes we have in mind. The general areas of analysis suggested by CEDEPLAR to a large extent coincide with our interests, and it appears from the CEDEPLAR paper that they will welcome collaboration with the Bank staff on substantive questioning relating to the analysis of the data.

(c) Organization and Coordination

The analysis will be carried out by members of the staff of CEDEPLAR, with a supervisory input only from the Bank. (For an outline of CEDEPLAR's areas of work, see Annex.) It is intended that the project will be jointly supervised by the two Divisions - Population and Human Resources and Urban and Regional Economics. It is envisaged that a visit will be made to Belo Horizonte at the beginning of the project to review in detail the data available and the research methods proposed. This will enable a final choice to be made concerning the areas in which analyses are to be focused. Further visits would be paid during the course of the 10-month period envisaged as necessary for the research. One would be towards the half-way point in the work period and the final visit to review the results and proposed content of the report.

The CEDEPLAR proposal envisages the output of the project as being a series of research reports by the individual research assistants (probably four) who would carry out the work. We would propose that a report, providing background and summarizing the analyses and findings be prepared by the responsible senior staff members of CEDEPLAR (i.e., Messrs. Brito and Merrick - see CEDEPLAR paper curriculum vitae, Annex), to be submitted to the Bank along with the individual studies. The expected date for this report would be April 1974. In addition, information to be used as an input into RPO 245 would be received during the course of the year.

(d) Implications for Bank Policy

This study will provide a valuable input into the ongoing study of labor market participation and unemployment. In addition, it will provide more detailed insights into the structure of the labor market and of activities in the tertiary sector in a rapidly growing urban area. Bank policy is increasingly concerned with the employment and distributional impacts of projects but it is not yet clear how to evaluate or execute projects or programs so as to meet the stated objectives. More information is needed concerning the processes of individual and family participation in growth, in particular in urban areas, so as to enable better judgments to be made on the potential direct and secondary effects of proposed projects or programs. The proposed study is therefore aimed at a major area of current Bank policy interest.

Annex

Work carried out by CEDEPLAR

This group, located within the Federal University of Minas Gerais is probably the strongest single group in the country working in the urban and regional field. They have carried out a variety of studies, some of which were detailed in Peter Clark's report of March 1972:

- a. An application of the Hansen-Tiebout model to estimate intersectoral and interregional flows induced by industry in the city of Contagem, Minas Gerais.
- b. An estimation of the relative economic (market) potentials of the municipios in Minas Gerais and a description of the major economic regions of the state.
- c. A definition using the above potential estimates, trade and communication patterns, etc. to define possible growth poles for the state. The project was designed to help select a special development strategy for Minas Gerais. The four alternatives considered are:
 - (1) to make all investment in the metropolitan area of Belo Horizonte,
 - (2) to concentrate investment in 5 of the 32 poles,
 - (3) to expand development towards Rio de Janeiro and Sao Paulo in order to capture a larger share of those wealthy markets,
 - (4) to make a complex selection of priorities from among all 32 growth poles that would maximize a set of interrelated goals for the region.
- d. Compilation of an input-output table for the state of Minas Gerais.
- e. A study of a small region within the state of Minas Gerais and an elaboration of development alternatives.

- f. A study of the impact of industrial activity in the city of Itabarita on the local economy.
- g. An analysis of 20 small-medium sized cities in Minas Gerais to formulate a model of a city of this type to explain production in 'export' activities, as an aid to determining factors influencing growth of regional centers of this type.
- h. The center contracted early in 1972 to the Metropolitan Planning Agency in Belo Horizonte (Plambel), to carry out a survey to assist the agency in making population forecasts for the period to 1990. The principal focus for Plambel's interest was on the likely effect of migration on the urban labor force growth and structure. As a result of discussions it was agreed to extend the scope of the survey to enable a study to be carried out focusing principally on the service sector in the city. This will attempt to determine the extent to which the growth in the industrial sector is just a residual or has a positive role in sustaining urban growth, the relative role and success of migrants in the service sector, the impact of social legislation on the sector, and the means of establishment of enterprises in the sector.
- i. Spatial development in the State of Sao Paulo. Following the work on Minas Gerais, CEDEPLAR has been carrying out a study for the State of Sao Paulo, to define alternative spatial development strategies. This study has had a number of components:
 - 1. A study of the origin of disequilibrium in the growth of Brazil.
 - 2. A study of the development of the disequilibrium of economic activities and income in the state.

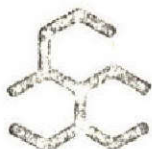
3. An analysis of the role of industry in the development of the state and of the relative roles of inter and intra-state migration.
4. An analysis of the agricultural industry in the state including differences in production functions in different regions of the state.
5. An analysis of factors influencing the pattern of location of industrial plants in the state, with use of data for the past 30 years. This analysis is being carried out at the four digit level.
6. A study of the problem of pricing water supplies in the state of Minas Gerais. At the present time the system of charging for water in the state is highly disorganized and most municipio systems have no funds to pay for improvements. The study aims to assess how different types of pricing systems could be organized, their impact on different groups and the levels of revenue generated. The study will also view the question of choice between municipios for such projects.

These last three studies form the basis for the studies which CEDEPLAR would like to pursue further and which they are likely to submit for Bank funding and participation.



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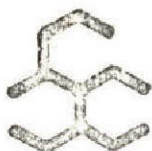
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PROPOSED RESEARCH BY CEDEPLAR ON EMPLOYMENT
IN A RAPIDLY EXPANDING URBAN ECONOMY



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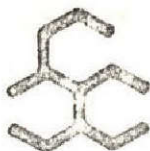
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Proposed Research by CEDEPLAR on Employment
in a Rapidly Expanding Urban Economy

INTRODUCTION AND BACKGROUND

Two related phenomena have become topics of special importance for the study of development in Brazil and the rest of Latin America in the last decade: the region's very rapid urban growth and the equally rapid increase in the proportion of the region's active population reported as engaged in the service sector. Together they represent one of most important impacts of the demographic pressures experienced in the region since 1950. Even with probable declines in overall population increase in the 1960s, and even more to come in the 1970's, the effects of rapid population growth in the past will be felt in these areas well into the 1980's. It is well known that the region's rapid urban population growth has not been matched by increases in employment in industry, and that the "excess" portions of urban population increase are engaged in a wide range of activities encompassed in the "services" sector. The situation was described by the U.N. Economic Commission for Latin America in the late 1950s:

The rapidity of urban growth is, however, out of proportion to the growth of resources which permit a wellbalanced development of urban communities. Hence, there is an imbalance in the composition of urban employment, with inadequate opportunities for urban dwellers linked with widespread underemployment and low productivity of a high proportion of the economically active urban population. This creates the familiar but still inadequately studied phenomenon of marginal population. (p. 119)



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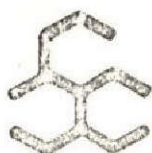
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More recently Richard Morse characterized the situation and noted the contrast between recent changes in the developing countries and the historical experiences of the presently advanced countries:

It has for years been accepted that as Latin American countries urbanize and industrialize, the proportion of people employed in the tertiary ("services") categories relative to those in secondary (manufacturing, construction) increases more swiftly than in the nineteenth-century industrial countries. This is usually taken to mean that urbanization here "outruns" industrialization, that people are released from precarious rural occupations faster than stable secondary sector jobs are created for them. The situation is aggravated by the introduction of advanced technology that allows high output-worker ratios and by lack of possibilities for migration abroad such as relieved Europe of 55 million "excess" persons in the period 1750-1939. (p. 19)

Imports of advanced labor saving technologies and intervention into the factor-pricing mechanism have been cited as causes of the unequal balance between growth in industrial production and employment. Import substituting industrialization in industries such as metal products, chemicals, and capital goods appears to have been most prejudicial to the absorption of labor.

The case of Brazil is illustrative. Table I shows rates of increase in population, output and persons occupied by sector between and 1940 and 1970.



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TABLE I

Growth of Population, Product and Labor Force,

BRAZIL: 1940 - 1970

	1940 / 50	1950 / 60	1960 / 70
Population Growth			
Total	2.4	3.0	2.9
Urban	3.9	5.4	5.2
Rural	1.1	1.6	1.1
Growth of GNP			
Total	4.7*	6.3	5.9
Agriculture	5.3*	4.4	4.4
Industry	6.8*	7.0	7.0
Services	4.1*	6.8	5.2**
Labor Force Growth			
Total	1.5	2.8	2.7
Agriculture	0.5	1.7	0.7
Industry	4.4	2.4	5.9
Services	2.5	5.3	4.0

*1939-1950

**1960-1968

Between 1950 and 1960, when import substituting industrialization in the above-mentioned industries was at its peak, persons occupied in industry increased by less than half the rate of increase in product. The situation appears to have improved somewhat in 1960-70, however much of the recent increase in industry sector employment is in construction rather than manufacturing. There are also questions as to the accuracy of reporting of industrial employment in the 1960 census, which has not yet been fully tabulated or published.

APPROACHES TO EVALUATING SERVICE EMPLOYMENT

Whatever the causes of the slow rate of labor absorption



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by industry and of recent changes in this trend, the process has resulted in the involvement of more than two thirds of the urban labor force in Brazil in service activities. There is a growing debate about the quality of labor so "absorbed" by the service sector. Opinions range from those which regard a large portion of it as a non-productive drag on the economy to others which view the growth of urban services as an essential but underpaid element in recent economic expansion of the country. (Cf Singer, Oliveira, Cobrap, King articles in bibliography).

The task of evaluating the role of service sector employment and output in the development process has traditionally been a difficult one because of the residual nature of the sector. Production related statistics available for the industrial sector are generally lacking. In Brazil the situation is even more difficult because no detailed population census information has been published since 1950. The situation will improve with the publication of the 1970 results, but analysis will continue to lack the important 1960 benchmark until those data are published. Several sample surveys are in process in Brazil, and these should add depth to the analysis on a case study level.

Definitional problems also complicate the task of evaluating the role of this sector. There is much greater heterogeneity in terms of activities, skill requirements, and "output" in this sector than in either industry or agriculture. Employment, underemployment and unemployment are much more elusive in this context. Underemployment is much easier to define in the case of an industrial worker whose specific skills can be utilized only 30 hours



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out 40 or 48 hour week than a handyman who is actually fixing something only half his time but "working" at arranging other jobs the rest of this time, even if he does so at a local bar.

Two related sets of conceptualizations of urban labor markets offer useful approaches to understanding of the processes which may be at work in them: one divides the labor market into protected and un-protected portions and the other into formalized and non-formalized segments. The first is somewhat more economic in its orientation and the second more anthropological and institutional, though both views emphasize certain characteristics of the labor market in common. Neither is specifically limited to the service sector alone nor do the two provide definite criteria for distinguishing all service from all industrial employment. However both provide useful starting points for trying to examine the heterogeneous structure of urban services and their relationships with other aspects of the urban economy.

Both distinctions are based in the historical evolution of urban labor markets into two contingents, one possessing a significantly greater degree of organization and market power than the other. This has typically resulted either from labor legislation such as the minimum wage or from differential bargaining power of certain groups which was based on such things as skill requirements for certain jobs, or a combination of both.

The protected sector concept emphasizes differences in market position in its analytical approach to such questions as the absorption of migrant labor. Recent papers by Harberger and Todaro are illustrative of this approach. Harberger argues that it is the



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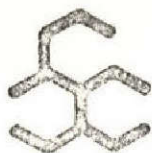
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difference between protected and unprotected urban wages and not the rural-urban differential that is relevant in discussing migration flows and labor absorption: "In discussing urban wages I want to distinguish those that are kept up above the market-clearing level from those that are determined freely in the market. I call the former protected sector wages and the latter unprotected sector wages". He argues that the unprotected wage is the best indicator of the social opportunity cost of migrant labor. (p.7)

A good illustration of the formalization concept is provided by Luiz Machado da Silva's study of favela populations in Rio de Janeiro. He distinguishes two subsystems in low income labor markets. In the more formalized segment of the market, workers with relatively low skill levels seek jobs that are generally low in productivity and income but which offer relative job security and a modicum of social benefits that stem from coverage of employment in this category by Brazilian labor law (minimum wage, INPS, FGTS, etc). This type of employment tends to be concentrated in public sector bureaucracies and in office or sales work in the traditional commercial and banking sectors. Job security and social benefits are often gained at a cost of little possibility for later advancement.

The other sub-sector of the low income labor market is the non-formalized market. Its most typical characteristic is the lack of those features of the formalized market relating to job security and social benefits. But while the formalized market is characterized by considerable rigidity in its pricing and in the structure of the work situation, the informal market offers the worker a much closer approximation to a free or competitive market situation in which bargain with his limited skills and other resources. Seeking work in such circumstances would presumably increase the likelihood



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of maximizing income given resource constraints, but it also involves greater risks such as job (and income) instability because of market fluctuations. Occupations in this market are generally in the personal services, repairs, and small scale commercial ventures, though it also covers unskilled labor in construction.

The non-formalized labor market has many characteristics of what has come to be known as the "urban traditional sector", in which labor (much of it recently arrived migrant labor) is still adapting to new market situations, work timetables, and the conditions of urban life which tend to be dictated by more modern sector standards.

The formalization concept described above refers only to low income labor markets. It presents many similarities to the division centering on protection. Both approaches use institutional factors such as the minimum wage as criteria for drawing the distinction, and the breakdowns of the labor market they describe appear to have much in common. The non-formalized and unprotected markets look very much alike. However the protection concept tends toward a low-income / high income distinction in its division, whereas the formalized / non-formalized division could apply to various income levels. The success of someone seeking work in a non-formalized market at any income level depends on how much of the "market power" of the protected sector he possesses.

In the case of Brazil, the formalization of employment under institutions as minimum wage and INPS has not guaranteed higher income. Brazilian wage policies in the 1960s have kept tight control over wages, and increases in the minimum wages consistently fell behind inflation in the 1960s. So it is quite possible that there exist formalized but very slightly protected or un-protected



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segments of the urban labor market in Brazil.

Tests of hypotheses relating to the degree of protection and formalization of various types of employment and the way in which they facilitate labor absorption in rapidly expanding urban centers would provide information useful to the formulation of policies which might reinforce these processes.

To provide some idea of the proportions of "modern" and "traditional" employment in Brazil and how they changed in the last decade, we can use Edmar Bacha's breakdown of 1960 and 1970 census data by income and sector. Bacha uses the minimum wage as his criteria for distinguishing the two. (cf. Table II)

Bacha's breakdown shows the modern sector growing more rapidly than the traditional in both absolute and percentage terms between 1960 and 1970, although the absolute difference is much less than the percentage because the traditional sector starts from a larger base. By branch of activity however, modern sector growth is less than the traditional in both services and agriculture (where modern sector growth is actually negative). In the case of agriculture this process accompanies a decline in that sector's proportion of the labor force. However, the implication for services is that 43% of the labor absorbed by services was in the "traditional" category, and that services received 55% of the traditional sector increase between 1960 and 1970.

OBJECTIVES OF RESEARCH ON SERVICE EMPLOYMENT

Two related objectives are proposed for a study of recent growth in service employment and its relationship with other aspects of the urban economy in Brazil. The first is to define with better precision and evaluate the recent "absorption" of labor

TABLE II

Composition and growth of the Brazilian

Labor Force, 1950-1970

Area of Activity	TRADITIONAL SECTOR			MODERN SECTOR			TOTAL		
	1960 (millions)	1970 (millions)	Annual rate of growth	1960 (millions)	1970 (millions)	Annual rate of growth	1960 (millions)	1970 (millions)	Annual rate of growth
Primary	9,8	10,7	0,9	2,4	2,3	-0,2	12,2	13,1	0,7
Secondary	1,0	1,4	3,6	2,0	3,9	6,9	3,0	5,3	5,9
Tertiary e others	2,9	4,5	4,4	4,6	6,7	3,6	7,5	11,2	4,1
TOTAL	<u>13,6</u>	<u>16,6</u>	<u>2,0</u>	<u>9,0</u>	<u>12,9</u>	<u>3,7</u>	<u>22,7</u>	<u>29,5</u>	<u>2,7</u>

SOURCE: BACHA, et. al. 1972, p. 192, e

Censos Demográficos de 1960/1970 (resultados preliminares)



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by the urban service sector. The second is to describe and evaluate the processes by which individual workers participate in this absorption.

Both would use the above described divisions of urban labor markets into formalized vs. non-formalized and/or protected vs. non-protected segments as points of departure. The analysis would seek to deepen our understanding of the role of these elements of labor market structure in labor absorption by a detailed examination of types of work activity. The analysis would control for the type of product or service produced, the part of the firm or establishment in which the activity is performed, size and type of firm, skill levels used, use of equipment, and relation of employee to the firm in terms of contracts, contributions to social security and use of social services, terms of payment, and income.

In terms of the first objective this approach would allow one to test whether growth of certain services related to (and required by) industrial growth - like installation, servicing, and repair of automobiles, machinery, and consumer durables - is protected and otherwise organized along lines of the industrial sector itself and, if not, to what extent the unprotected and less formalized growth of these services represents externalities for the industrial sector.

An additional aspect would be to determine what portion of the growth in the more traditional urban sector falls in the category of low productivity activities which would not be missed if the labor were employed in other ways.

Such an evaluation would have important implications relating to the "drag" of migrants and other "marginal" groups on the urban economy through demands they create for urban services



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like health and education without contributing in equal proportion to the tax base. If the work of this group is indeed generating external economies for parts of the modern sector, then the group may be paying more rather than less than its fair share of contributions to urban finances.

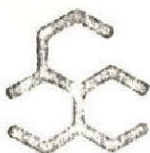
In terms of the second objective, the research would seek to clarify the role of migrant status, formal and informal education, work experience and market position to analyze the success or failure of individuals to become absorbed into productive activities. "Success" would be defined in terms of the detailed breakdown of labor market structures described above in relation to the evaluation of the different types of absorption.

The analysis will focus on service activities, but not to the exclusion of comparisons and controls with other urban activities in the industrial sector, especially construction and artisan types of manufacture.

Scope of Research and Data

Because of data limitations mentioned earlier, the possibilities of pursuing objectives of this research on a national level in Brazil are limited. What is proposed here is a case study of one of the most rapidly expanding metropolitan areas in Brazil and Latin America: Belo Horizonte. Between 1950 and 1970 the population of metropolitan Belo Horizonte increased from 473,000 to 1,630,000. The growth rate was 6,5% in 1950/60 and 6,3% in 1960/70, as compared with 5,4% and 5,2% for urban Brazil in the same two periods.

In response to necessities generated by the area's rapid and somewhat chaotic growth, a metropolitan area plan is



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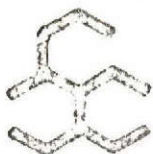
being prepared by the Fundação João Pinheiro and its planning unit, PLAMBEL. CEDEPLAR entered into a convênio with PLAMBEL to help develop, execute and analyze a sample survey of the area's population. Major parts of the demographic and occupational portions of the survey were designed by and will be analyzed by CEDEPLAR staff.

Special effort was put into the design of the questionnaire in order to insure that it would yield the detailed information about labor market structure needed to determine and evaluate the role of service employment in the expansion of the area's economy.

In addition to typical questions on occupation and type of product or service produced by a particular individual's activity, questions seeking greater depth were asked according to the position of the individual in the labor market. This procedure was adopted after it was determined that certain groups of questions were relevant only for certain types of activity. For example, place of work is a very important variable for evaluating certain types of autonomous activity, but yields little when asked of employees of large firms. Place within the firm is relevant for such employees, but not for the autonomous workers.

Workers were grouped into seven categories:

- 1) Employees in firms with more than 5 workers
- 2) Employees in firms with less than 5 workers
- 3) Employers in firms with more than 5 workers
- 4) Employers in firms with less than 5 workers, including unpaid family workers
- 5) Autonomous workers (distinguish from 4)
- 6) Government workers



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7) Domestic servants

Questions referring to conditions of work (time worked, place of work, tools used, etc.), contributions to social security systems, how work was obtained, conditions of payment, etc. relevant to each group were asked. Common questions relating to income, secondary activities, inactivity, and all social and economic characteristics like education, migrant status, age and sex were asked of all.

In addition to the above questions on present employment (primary and secondary) questions were also asked about past occupations: the one held to years ago (1970), the first in the metropolitan area and, for migrants, the last prior to leaving the place of last residence.

The sample was drawn in two parts: 2000 heads of households in the more urbanized central municipios of the metropolitan area and another 1600 from the remaining municipios that surround central Belo. In addition to the above data on heads of household, a more restricted set of questions were applied to a larger sample of the work force, and an even more restricted set of questions to the entire sample population.

The field work was executed in November, 1972 and the data have been coded, punched, and tested for consistency. Preliminary tables will be available in February, 1973.

Analysis will not be limited to the survey data. Final results of the 1970 population census for Minas Gerais are expected to be published in May 1973, and preliminary results of the Censuses of Industry, Commerce and Services later this year. Data from the sectoral censuses are also available for 1950 and 1960 however they represent the more organized kinds of activities rather than all workers, who are counted in the population



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census. These data will be used in combination with the survey data to give a longitudinal as well as cross section view of the service sector. An additional benefit yielded by combining the census and survey results is that the detail of the survey data can be used to determine with greater precision the meaning of some of the more limited categories found in the census.

SPECIFIC PLAN OF ACTION

Because of its involvement in the design and analysis of the PLAMBEL survey, CEDEPLAR is in a unique position to make a contribution to advancement of knowledge as well as to the formulation of policy relating to the role of service sector employment in Brazilian development. Under the terms of its convênio with PLAMBEL, CEDEPLAR is obliged to prepare a set of reports which are mainly descriptive and which do not come close to exhausting the research potential of these survey data. And as is typical in many such cases, this potential will remain unrealized unless special effort is put to insuring the timely utilization of the data.

What this proposal seeks are resources to expand the involvement of CEDEPLAR's research capacity in the analysis of these data along the lines of the research into the role of service employment in the metropolitan area's economy described above. Salaries of professional staff involved in the project are already covered under separate arrangements. However, research on this project could be expanded significantly with the involvement of 3-4 of the students in the CEDEPLAR master's program who have completed their course work and would participate in this project as research assistants while at the same time fulfilling



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the thesis requirement. An alternative or additional possibility is to expand the CEDEPLAR staff by one or two junior positions for this project.

SPECIFIC SUBPROJECTS

Such individuals would work on one or more of the following subprojects under the direction of more senior CEDEPLAR staff:

- 1) Analysis of the meaning of the underemployment concept in the context of different types of service sector employment. Controls would be made for kind of activity, place and conditions of work, activities other than primary activity. Comparisons between "traditional" and "modern" sectors (including industry) would be made.
- 2) A study of the important determinants of the absorption of the individual worker into the urban labor market. The work history data would be used and controls made for migrant status, education and training, work experience, and channels used to secure work.
- 3) A separate study might attempt to determine the extent to which certain types of activity remain "unprotected" even though workers engaged in them possess some or all of the characteristics which bring protection in other activities. An attempt would be made to identify the characteristics (certain types of training, work experience, implements, coverage by social legislation) which lead to effective protection.
- 4) Work sharing by different members of the family unit is a common feature of rural labor markets with excess supplies of less skilled labor. It is likely that the traditional urban



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sector also provides a "cushion" for recently arrived migrants in which these workers are exposed to some of the more rigorous aspects of the urban labor market while still being able to fall back on more traditional norms in other aspects. It provides an ambient in which the lack of necessary credentials for immediate entrance into the modern sector does not spell outright failure in the urban labor market.

The role of family and relatives is undoubtedly important here too, and an additional topic of research would be an examination of the dynamics of the family unit in low income labor markets. Recent Brazilian wage policy, which has forced increased labor force participation by other family members because of the deteriorating real minimum wage of the head, provides additional motivation for analyzing the data at the family as well as individual level. For the purposes of analyzing the PLAMBEL data along the lines described above, a special data set would be prepared for the University's IBM 360/40 computer. The computer has 2 disk drives and 132K capacity. Ideally the data set would be recorded on a disk dedicated specifically to this research.

In addition to cross-tabulational presentation of the data controlling for the variables mentioned above, the analysis will utilize multiple regression analysis and factor analysis where appropriate.

Individuals, family heads, and families will be used as units of observation (about 2000 of the latter in Belo proper, and another 1600 in the surrounding municipalities). Various subsets of the data will also be analyzed. For example services are expected to represent about 60% the work force, and



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traditional services about 40% of this giving about 480 observations in Belo and 380 in the other areas, about 860 in total, for special analyses of this subsector.

These projects would be carried out under the principal direction of CEDEPLAR staff members Thomas W. Merrick and Fausto A. Brito. Their curricula are attached. A copy of the survey questionnaire is also attached. CEDEPLAR would expect to have rights to publication of the results of the research, but would put no restrictions on World Bank use of the reports mentioned above.

Because the survey data were produced by the Fundação João Pinheiro and CEDEPLAR obtained rights to use of the data but not their ownership through its convênio with the Fundação, no commitments can be made by CEDEPLAR in relation to the data set except in regard to provision of analytical reports based on them. Additional tabulations of the data and/or types of analysis suggested by the World Bank would be incorporated in these reports. Such suggestions would be welcomed.

TIME SCHEDULE

The work proposed above would be carried out during the 1973 Brazilian academic year (10 months, March to December).

Depending on the amount of support, 3 or more reports on one or more of the subtopics described above would be completed by January, 1974.

The reports would be submitted in English. Participation by World Bank staff would be sought (review of drafts, etc.) and visits by them or by World Bank consultants welcomed at any time during the research.



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BUDGET

The proposed budget in cruzeiros is as follows:

1) Research Assistants, 4 for 10	
Months at 2000 per month	80000
2) Supplies, books, xerox	6000
3) Computer time	10000
4) Purchase of disk	
(equal to 10 months rental)	2500
5) Publication	10000
6) Secretarial assistance,	
computer programmer.	5000

Sub-Total	113.500
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Overhead (15%)	<u>17.025</u>
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Total	Cr\$ 130.525
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Converted at probable exchange rate of Cr\$

6.35 = \$ 1.00 \$20.555,18 or \$20,500

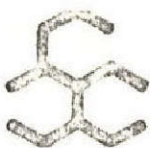
A schedule of disbursements which would suit CEDEPLAR's needs is as follows.

1) Startup (around March, 1, 1973)....	30%
2) June 1, 1973	30%
3) Sept. 1, 1973	20%
4) December 1, 1973	20%



Record Removal Notice

File Title Pedro-Pablo Kuczynski Files: Research proposals 03		Barcode No. 1849445		
Document Date undated	Document Type Page 19 of report			
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Subject / Title Payment for proposed research by Cedeplar on employment in a rapidly expanding urban economy				
Exception(s) Financial Information iv				
Additional Comments		The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group. <table border="1"><tr><td>Withdrawn by S. Thompson</td><td>Date August 19, 2025</td></tr></table>	Withdrawn by S. Thompson	Date August 19, 2025
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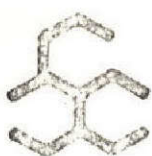
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CEDEPLAR

UNIVERSIDADE FEDERAL DE MINAS GERAIS

CENTRO DE DESENVOLVIMENTO E PLANEJAMENTO REGIONAL

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OFFICE MEMORANDUM

TO: Mr. Anandarup Ray, VPD

DATE: May 25, 1973

FROM: Peter B. Clark, Div. Chief, DRC *B**File Research*SUBJECT: Northeast Brazil Project - RPO 273

1. As requested in your memo of May 21, 1973 I am sending an itemized disbursement schedule and confirmation of the Brazilian participation and support for the project. In addition, I would like to present several other aspects of the project for the information of the Research Committee.

2. Official Brazilian Support for the Project

Some uncertainty was created by the withdrawal of the Ministry of Planning and General Coordination's proposal to recruit a counterpart research team. To clarify the situation, the LAC Regional Department helped the DRC refine the terms of reference for Phase I of the Northeast Study (attached as Annex I) and presented these recently to IPEA in Brasilia. Annex 2 of this memorandum is a letter from Henrique Flanzer, President of IPEA which reconfirms the Planning Ministry's strong support for the research and explains their inability to collaborate in the study in the short run.

3. Survey Supervision

The first phase of the research project is now centered around the agricultural survey which SUDENE has contracted the extension service (ANCAR) to carry out in the nine states of the Northeast. The DRC research team has agreed to give technical assistance and supervision to the SUDENE technicians in charge of the survey. This involves advice and assistance concerning the design of the sample, drawing the sample from 2,700,000 farm establishments listed in the INCRA (land reform agency) cadastro of 1972, developing the questionnaire, pre-testing the questionnaire, training the enumerators, conducting and supervising the survey in the field, processing and analyzing the results. The original research strategy called for the joint responsibility of the IPEA and DRC teams to provide this supervision. Simultaneously we planned to develop and test the analytical frames so that the appropriate data would be collected as part of the SUDENE survey. Since the IPEA research group has not been formed, we have organized a team of 4 professors from the Federal University of Pernambuco (UFP) and 15 agronomist MA degree graduates with survey research experience who will be contracted to supervise the ANCAR agents conducting the survey in the field. Furthermore, we have added 2 consultants to help coordinate the field work and help the DRC team ensure a smooth flow of data from the processed surveys. The new team had to be recruited to fit the following constraints:

- (a) the survey must be conducted when the ANCAR agents are free during the weeks following the harvest (August to November);
- (b) the Bank's desire to have a comprehensive data base to evaluating rural development in the Northeast by the end of calendar year 1973;
- (c) supervisors must be able to speak Portuguese, live in the field, and have experience in rural development work or surveys.

To overcome some of these obstacles, we are now exploring the possibility of stationing some of the DRC research team in the Northeast for the duration of the survey and processing phase. Annex 3 contains a draft copy of a letter which is being addressed to Hollis Chenery from the Minister of the Interior (in charge of SUDENE) asking for the assistance of the World Bank research team.

4. Brazilian Input into the Joint Project

The coordination of the work with SUDENE has been developed by Pasquale Scandizzo during two recent trips to the Northeast. His most recent Back-to-Office report is attached as Annex 4. From this and our other contacts in the Northeast we may draw up the following joint estimate of resource commitments to the survey and its analysis during FY74.

Item	Brazilian	World Bank
	\$	\$
1. Contract for enumeration by ANCAR agents	140,000	
2. Contract for field supervision by UFPe		30,000
3. Drawing the Sample	20,000	6,000
4. Coding and Processing	25,000	8,000
5. Analysis	10,000	36,200
6. Consultants and Field Maintenance	20,000	36,800
7. Travel	8,000	33,000
TOTAL	223,000	150,000

Personnel Involved (including Research Assts. & Programmers)	Brazilian	World Bank
1. SUDENE	14	
2. DRC		6
3. UFPe/PIMES	20	
4. ANCAR	100	
5. Bank Consultants		6
	—	—
TOTAL	134	12

5. DRC Northeast Brazil Study Work Program

The phasing of tasks necessary to meet the deadlines created by the crop year and the data needs of the LAC Regional Department is shown in the Work Program attached as Annex 5. The close collaboration between the DRC team and our Brazilian counterparts calls for frequent trips back and forth for both Bank consultants and staff. The schedule of trips to the Northeast and visits to the DRC by consultants is attached as Annex 6.

6. Coordination with the Operational Departments

As was noted in Annex 4, the coordination of the research work in the Northeast with the rural development and agricultural project identification work of the Bank has begun. The collaboration of Messrs. Echeverria and Panagides in the design of the research will direct the attention of the survey and our early analysis to problems related to the rural projects now under consideration by the Bank. It has been suggested that Bank loan funds be used to finance the later phases of this project after this "pump priming" phase when new data is being collected.

7. Project Budget

In light of all of the foregoing schedules and commitments we have redrafted the project budget (Annex 7). It is phased by quarters when we expect disbursements. Most of the contractual commitments must be made in advance of the planned disbursement. The research budget does not include consultants to help in the analytical phase of the project. When we first drafted this budget we included the names of Professors Albert Fishlow, (Berkley), David Goodman (London School), Sam Morley (Wisconsin), Jeff Williamson (Wisconsin) and Inderjit Singh (Ohio State) who have already worked on Brazil for many years. Each of these development economists has asked if they might be involved in the research on

regional and rural development of the Northeast. An additional \$15 to \$20,000 would bring some high calibre quantitative expertise into the project in the third and fourth quarters of FY74 if we can make a commitment now. The other item which has been pruned from the budget is the international cost of Brazilian counterpart travel. We originally asked for at least 2 trips of Brazilians to Washington to coordinate the analysis which the DRC will do with that planned in Brazil.

SUMMARY RESEARCH PROPOSAL

Rural Development and Small Scale Agriculture in Northeast Brazil

1. By many standards, Northeast economic growth in the last decade has been impressive. Much of this growth can be attributed to large amounts of federal resources transferred to the region. However, those Northeasterners living at the subsistence level were not directly affected in significant degree by the government's regional development efforts, mainly because agriculture was relatively neglected. The main bottlenecks to agricultural development (highly skewed patterns of land tenure, lack of credit, extension and research facilities, marketing deficiencies, etc.) persisted despite some improvement of the programs for dealing with them. The vulnerability of the Northeast economy was stressed by the 1970 drought, leading the government to create two new programs, the national integration program (PIN) and the Program of North/Northeast Land Redistribution and Agricultural Development (PROTERRA), designed to channel financial resources into Northeast agriculture. Among the aims of PROTERRA, are to facilitate the access of Northeast peasants to the land and to create better conditions of rural employment. However, an effective land tenure restructuring system cannot be designed without more precise information concerning the economic efficiency of different size farm units as they exist in different parts of the Northeast at present. Furthermore, there is a lack of consistent microeconomic information needed to evaluate the consequences of a changing pattern of land ownership on the demand for traditional and new inputs (including day labor), and on the likely supply elasticities for key crops and their effect on agricultural prices, factor employment and

farm incomes. This lack of information is also reflected in the difficulty for identifying, preparing and evaluating high priority investment projects for rural development.

Research Objectives

2. The problems indicated above would suggest the following major research objectives:

- a) to study, at the microeconomic level of the producer, what restrictions prevent resources from being channeled to the rural poor;
- b) to evaluate the efficiency of farms of different sizes under various technological, geographic and ecological conditions;
- c) to provide a better data base to help the Brazilian institutions and the Bank to identify and implement rural development projects.

Data Sources and Methodology

3. SUDENE has planned, in cooperation with ANCAR, a comprehensive survey of NE agriculture. As originally conceived, this survey would cover about 4,000 farms (an average of 100 farms in approximately 40 municipios selected in the 9 Northeastern states) concentrated in the so-called semiarid zone (i.e., excluding the coastal sugar-producing strip of the Zona da Mata).
4. Because of its comprehensiveness and its focus on the relevant micro-economic questions of small scale agriculture, the SUDENE survey appears well suited to develop the data base needed to achieve the objectives of the proposed research. The primary role of Bank personnel during the survey period will be to give technical guidance about sample design and selection, to revise and extend the focus of the questionnaire and to aid in the processing and analysis of the survey results. The area covered by the survey and the representativity of the sample can be extended through the Bank

financing of an appropriate supervisory team which would enhance and ease the work of the teams of interviewers of ANCAR. Coordination of the various phases of the research with an analogous data collecting effort planned for the Zona da Mata by INCRA (through the Instituto Joaquin Nabuco) will permit coverage of the whole NE agriculture. The questionnaire for the SUDENE survey was tested last year in farms of 6 municipios drawn from Ceará and Pernambuco.

5. The analysis will attempt to provide a reasonably complete picture of the tenure systems, farm sizes, farm organization and decision-making process, and the technical alternatives and operating costs of various farm types in a selected set of subregions in the Northeast. This would provide a better definition of the factors limiting the productive absorption of labor in agricultural development, and would permit the identification of investment projects and sets of policies directly oriented to benefit the rural poor. The analysis of the statistical information will be carried out by using appropriate agricultural programming techniques. In this context the IBRD-DRC has obtained valuable experience through its previous work on agricultural planning in Mexico and the Ivory Coast.

Bras/225/73

Rio de Janeiro, May 4, 1973

Mr. Robert F. Skillings
Chief Country Programs Division
Latin America and Caribbean Regional Office
IBRD
1818 H. Street N. W.
Washington DC.
20433
U. S. A.

*Mr. Cuenca
Mr. Clark
Central Files*

Dear Mr. Skillings,

In concerning to the preliminary proposal for the reference terms of the joint research project IBRD/IPLAN, about Brazilian Agriculture in the Northeast, I would like to emphasize, first of all, that the Ministry of Planning and General Coordination considers the subject of the research as a very important one, and will follow with interest the development of the project.

However, it is unlikely that IPLAN could have a larger participation in the execution of the project since its staff is fully involved in a number of other important tasks that are urgently requested by the Ministry of Planning, and so we cannot assure a counterpart of experts to the staff coordinated by Mr. Clark.

As Mr. Nilson Holanda has explained to Mr. Clark, this does not mean that we are not allowing your project the priority it really deserves. In fact we are willing to give you all the cooperation possible in terms of joint discussions, contacts and access to information, making it clear that we cannot take a joint responsibility in the execution of the research, since we will not assign full time counterparts for the job.

Sincerely yours,


Henrique Flanzer

SUDENE-RE
Ref. 06

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Recife,

Senhor Presidente:

Pelo presente, informamos a V. Exa. que, conforme entendimentos preliminares mantidos entre técnicos desta Superintendência e do SIRO, deverá ser realizada, em diversos Estados do Nordeste do Brasil, uma pesquisa objetivando definir aspectos típicos econômicos para Unidades de Produção Agropecuárias o que, em última instância, deverá orientar uma melhor utilização dos recursos naturais e mão-de-obra existentes na Região.

Referida pesquisa, em virtude de sua complexidade, elevada custo financeiro e importância de que se reveste para a economia da Região, deverá envolver, além desta Superintendência, outras instituições nacionais, de modo a assegurar o seu completo êxito. Para tanto, além de comprometer diversos Departamentos desta Superintendência, foram mantidos contatos preliminares com a Fundação Instituto Brasileiro de Geografia e Estatística (FIBGE), Fundação Getúlio Vargas (FGV), Instituto Nacional de Pesquisas Econômico-Sociais e Instituto Nacional de Planejamento (IPLAN), havendo de modo geral ampla receptividade para o trabalho.

Ainda na fase dos contatos preliminares, no início do março p.p., recebemos nesta Superintendência a visita de uma equipe constituída por um técnico do Ministério do Planejamento e quatro outros do Banco Mundial, quando fomos informados sobre um possível acordo que deverá ser firmado entre as duas Instituições, objetivando a realização de uma série de estudos e pesquisas de caráter nacional, interessando a todos os setores da economia brasileira. Na oportunidade, a referida equipe teve conhecimento sobre os trabalhos executados e programados para o Nordeste, passando de imediato a se interessar pela pesquisa em referên-

cia, o que permitiu fosse elaborado, conjuntamente, pela SUDENE e Banco Mundial o cronograma de trabalho, abaixo apresentado, para a execução da pesquisa:

Abril - Maio - Definição da amostra e elaboração do questionário;

Junho - Teste do questionário;

Última semana de Junho - Treinamento dos enumeradores;

Julho - Agosto - Aplicação dos questionários no campo;

Setembro - Revisão preliminar dos resultados;

Outubro - Processamento dos questionários;

Novembro - Dezembro - Janeiro - Análise dos resultados.

Vale acrescentar que a SUDENE, ao incluir em sua programação de 1973 a referida pesquisa, esperava contar com a colaboração técnica e financeira do Ministério do Planejamento, o que, todavia, face à presença de tempo e reduzida disponibilidade de pessoal técnico naquele Ministério, ainda não foi possível a curto prazo.

Face ao exposto e considerando a experiência, o interesse e o apoio já demonstrados pelos técnicos do Banco Mundial, vimos pelo presente solicitar da Instituição dirigida por V.Exa. a assistência técnica e financeira necessárias à execução do referido estudo, consubstanciada nos seguintes itens:

1. Prestação de assistência técnica aos técnicos da SUDENE em todas as fases da pesquisa;
2. Oportunidades de treinamentos rápidos para técnicos da SUDENE em matéria de métodos e técnicas de pesquisas sócio-econômicas, inclusive uso científico de computadores;
3. Financiamento de parte das despesas nas fases de computação e análise das informações coligidas.

Sem outro assunto para o momento e cientes da
atenção que essa Instituição dispensa aos problemas sócio-econômicos do
Nordeste brasileiro, antecipamos na oportunidade os nossos sinceros a-
gradecimentos.

GEN. EVANDRO MOREIRA DE SOUZA LIMA

Superintendente

Ilmo. Sr.

DR.

MD. Presidente do BANCO MUNDIAL

OFFICE MEMORANDUM

TO: Mr. Peter B. Clark

DATE: May 24, 1973

FROM: Pasquale Scandizzo

SUBJECT: Back-to-office Report: Mission to Recife, May 5 to 14, 1973

1. This back-to-office report will be organized in two parts: the first part will be concerned with the general aspects of the mission and the continuation of the activities described in my previous report dated May 3, 1973; the second part, written jointly with the consultant Yony Sampaio, will describe specifically the efforts to set up a team for the supervision of the field work of the survey.
2. As a general remark, the preparation of the survey is proceeding satisfactorily and the SUDENE team appears to be working at the project with some enthusiasm. All the plan of work outlined in my previous mission had been completed and appropriate initiatives had been taken in collecting secondary information, contacting the extension agents, and in general preparing the groundwork for the completion of the survey. As requested to achieve wide participation and coordination of related research projects within SUDENE, the personnel assigned to the research were not only from the Planning Division of the DAA, but also from the Division of Statistics, the Division of Agrology and the Computer Center.
3. During my stay in Recife, two IBRD missions were visiting Brazil: a mission headed by Mr. Baum, Vice President CPS, and a rural development and agricultural projects identification mission. This last mission was formed by Messrs. Haasjes, Fernandez, Echeverria and Panagides and overlapped with the DRC mission for five full days. During this period we exchanged information and fully coordinated our contacts with SUDENE. Messrs. Echeverria and Panagides were informed of the progress of our research and participated in joint informal discussions with our consultants and SUDENE and IPEA officials. Mr. Panagides joined me for a day in the discussion of general aspects of the research with SUDENE officials.
4. During the interval of time between this and my last mission, SUDENE had completed the bureaucratic iter necessary to liberate the funds and the personnel required by the SUDENE-IBRD research project. The following prospect summarizes SUDENE's contribution to the project.

RECURSOS PREVISTOS PARA A REALIZACAO DA PESQUISA DE TAMANHO
ECONOMICO DA UNIDADE DE PRODUCAO NOS DIVERSOS ESTADOS
DO NORDESTE

Humanos

- Alfredo Arruda Branco - Engo. Agrônomo, Economista, T.D.E. - M.S.
- Arlindo da Costa Lima - Engo. Agrônomo e T.D.E. - M.S.
- Joaquim Veloso Maranhão - Engenheiro Agrônomo
- Miriam Arruda Seara - T.D.E. e Socióloga
- Maria Emiliana Ribeiro - Estatística

- Washington Wanderley Batista Santos - Economista, T.D.E.
- Antônio de Freitas Lucas - Engo. Agrônomo e Téc. Proc. de Dados
- Franklin Tupinambá Paes de Andrade Vieira - Estatístico
- Fernando Jardim da Silva - Aux. Estatístico

Financeiros

Estados	SUDENE	FURENE(*)
Maranhão	70.000	70.000
Piauí	70.000	
Ceará		
Rio Grande do Norte	70.000	
Paraíba	70.000	70.000
Pernambuco		
Alagoas	45.000	
Sergipe	45.000	
Bahia	70.000	
NORDESTE	60.000	200.000
TOTAL	500.000	340.000

(*) Special research fund.

5. As for the other formal aspects of the collaboration between SUDENE and IBRD, it was agreed that an exchange of letters specifying the general characteristics of the collaboration would be sufficient. A copy of the outline of the letter from SUDENE to the Bank is attached to this report. Both SUDENE and the Bank had received statements of interest and support for the research from the Ministry of Planning and the interest of SUDENE at large and the Ministry of Interior was underlined in the course of meetings with other Bank missions. In this context an important function of the overlapping of the three Bank missions in this period was to characterize the DRC project as an integral part of the efforts of the Bank to identify strategies for the development of the poorest sectors of Northeastern Brazil.

6. As a prerequisite for the rational development of such aspects of the research project as the questionnaire and the definition of the analytical models, one of the main subjects of the discussions with the SUDENE officials was the specification of the overall objectives of the research. In these discussions the documents prepared by IBRD on the subject were taken into account. A list of general objectives agreed on with SUDENE is provided in the annex. For each objective on the list, it was also agreed that the SUDENE team will try to specify a list of elements of information which should be collected by the questionnaire.

7. One of the possible bottlenecks of the execution of the research appears to be, at this stage, the availability of the cadastral data necessary to stratify the universe by farm size and to draw the sample. As decided in previous contacts with IBGE and INCRA, two letters were sent from SUDENE to those institutions to request their most recent set of data. I had a long telephone conversation on the matter with Mr. Amaro Monteiro of IBGE and we had to conclude that it is not possible to utilize any information from the 1970 census for the research. Mr. Monteiro informed me that since our last meeting¹ considerable pressure had been applied on IBGE to try to complete all the tabulations of the 1970 census by the end of this year. As a consequence of this, IBGE personnel have been so busy that information cannot be provided for the SUDENE-IBRD survey before two or three months. I had the impression that this period of time was itself an underestimate of the time required, since Mr. Monteiro admitted that even the coding and tabulating operations related to the preliminary tabulations of the agricultural census had not been completed.

8. The alternative source of information for the design of the sample is the INCRA cadastro. It was agreed with the SUDENE statisticians that the use of this information could be appropriately complemented by (i) the data of the last two censuses (1951 and 1960), (ii) the data underlying the IBGE classification of homogeneous microregions, (iii) the supply data collected by SUDENE at municipio level. The collection of this last set of data was part of the work that the SUDENE team was expected to do during the past month as one of its preliminary contributions to the research. The result of this work is a set of production and price data for 42 crops, 10 years and 1400 municipia. The most reliable part of this data, relative to the last 5 years of the series, was recorded on two tapes that I have brought back to initiate the various processing operations and some ad hoc econometric analysis.

9. As for the formalities necessary to expedite the release of the INCRA cadastral data, we had several telephone conversations with the offices of INCRA in Recife, Brasilia, and Rio de Janeiro. The data are stored in tape form in CEPRO, the INCRA processing center in Rio, and Mr. Arlindo Costa Lima will travel to Rio to receive them directly in the next few days.

10. The outline of the design of the sample agreed upon with the SUDENE team is as follows: the basic questionnaire (i.e., the modification of the questionnaire used in the previous survey conducted by George Patrick) would be applied on a sample whose degree of representivity, in terms of farm size, is tentatively fixed at 90 per cent. Two more questionnaires would be applied on subsamples of appropriate size: a questionnaire on the input-output coefficients and a questionnaire on the more qualitative aspects, specially risk and uncertainty, education, etc. of the small farm operators (owners, parceiros, etc). The universe of the sample would be first stratified geographically at the level of the IBGE homogeneous microregions, and then by size of the property. For the application of the input-output questionnaire, zones of concentration of the most important products would be determined on the basis of the mentioned municipal data.

¹See my back-to-office report dated May 3, 1973.

11. An important problem in designing the sample is how to limit the number of observations. It is my impression that with an appropriate organization, we would be able to handle a sample size of 4,000-5,000 observations. This impression is confirmed by the fact that Elettroconsult, a consulting firm contracted by SUDENE, has realized what appears to be a very successful survey of more than 1200 farms, with a supervising team of only five people and utilizing the network of the extension agents. If the variance of the farm size appears to be too large, we can try to reduce the size of the universe either by eliminating the farms whose size is below a certain limit or by concentrating the survey in some of the areas of the NE region.
12. As for the calendar of the survey, the most appropriate period seems to be the interval between the harvesting of the first crop and the beginning of the operations for the new year. During this period the extension agents (ANCARES) are free of their ordinary duties. With an appropriate choice of the time it is also possible to find the farmers relatively free. A preliminary calendar was then prepared in an attempt to determine the time of the harvesting operations for the most important crops in each state. The calendar and an outline of the resulting possible schedule for the survey are provided in the annex to this report.
13. As the calendar makes clear, the tentative period for the application of the questionnaire is (for all the states except Bahia) the interval between July and December. The important unknown factor in this respect is, however, the availability of the ANCARES by state and, possibly, by zone of operation. In principle, since the contracts between ANCAR and SUDENE have been agreed on for almost all the states, the constraints imposed by ANCAR should not be too binding. To achieve full knowledge of the situation, however, it is important that a joint group from IBRD and SUDENE travel directly to the state offices of the ANCAR. I have tentatively scheduled these series of trips for the second week of the coming June.
14. A large part of my time in SUDENE was spent in a workshop on the questionnaire. The basis of the discussion was the experience of SUDENE with the application of the questionnaire of the IPEA-Patrick survey. A meeting was held also with the team of the Elettroconsult on their recent experience. As a contribution to the discussion, Miriam Seará had prepared a review on SUDENE experience, while I had two sets of notes from our consultants Quirino Paris and Yony Sampaio. Conclusions were reached on the redesign of the master questionnaire (which was completed for all but four questions). Moreover, background material will be collected in an ad hoc report describing the focus and application of the questionnaire.
15. An outstanding problem at this stage of our research project is to collect a preliminary set of information on the input-output coefficients and the other characteristics of the Northeastern agriculture important for the construction of the programming model. As for the available quantitative information, the Elettroconsult survey was based on a very analytical questionnaire and the data collected could be utilized, at least for the states of the survey: Rio Grande do Norte and Paraíba, to compute input-output coefficients, resource constraints by farm type, etc. Because of cost problems, however, Elettroconsult is tabulating manually the results of the survey. Although all the questionnaires will be handed over to SUDENE in July, it would seem desirable, to obtain more promptly the information, to offer

to Elettroconsult the small amount of money which would permit the electronic tabulation. A letter to this effect was prepared and sent from SUDENE to Elettroconsult and the preliminary response from the local office of the firm was positive.

16. Information of less specific nature, which could be utilized to set up a preliminary version of the programming model, is also available in SUDENE. The following schedule has been prepared for a mission formed by Gary Kutcher, Pete Loucks and as a consultant, Kent Graves. This schedule was outlined under the direction of Mr. Arlindo Costa Lima consulting all the units in SUDENE which might provide the type of information required. Two field trips are also included to illustrate the various forms of cultured practices.

<u>DATA</u>	<u>MES</u>	<u>PERÍODO</u>	<u>ORGÃO</u>	<u>RESPONSÁVEL</u>
29	Maio	Manhã	Divisão de Programação e Fiscalização	ARLINDO
"	"	Tarde	Electroconsult	Mucio e Zapata
30	"	-	Divisão de Abastecimento	Benjamim Ginaldo
31	"	-	" " "	" "
	Junho			
01	"	-	Divisão de Promoção	José Magalhães e Paulo Melo
02	"	-	Vizita ao Nucleo Colonial de Caxangá	-
04	"	-	Departamento da Prod. Vegetal da Sec. de Agricultura (Sag).	Dr. Cantalicio
05	"	-	Depto. da Produção Animal (Sag).	Dr. Renato Moraes
06	"	-	ANCAR/PE	Antônio Soares Couto
07	"	-	Companhia de Armazens Gerais de Pernambuco	Diomedes Barreto Junior
08	"	-	Visita as Zonas da Mata	-
09/10	"	-	Agreste e Sertão	-
			Recife, João Pessoa-Caruaru	-
			Campina Grande, Arcoverde	-
			Placas, Petrolina, Placas	-
			Petrolandia, Garanhuns, Palmares Recife	-
11	"	-	Divisão de Pesquisa-D.A.A.	Francisco Esio de Souza
12	"	-	Centro de Processamento	Jorge
13	"	-	Regresso	-

Mr. Kent Graves expressed his willingness to participate in this mission and I believe that his contribution would be desirable.

17. In the above program, Mr. Kutcher is scheduled to spend one day in the computer center of SUDENE. The new computer is completely installed and in working condition. The personnel of the center, however, do not have any experience in programming in FORTRAN. IBM is not providing them with assistance

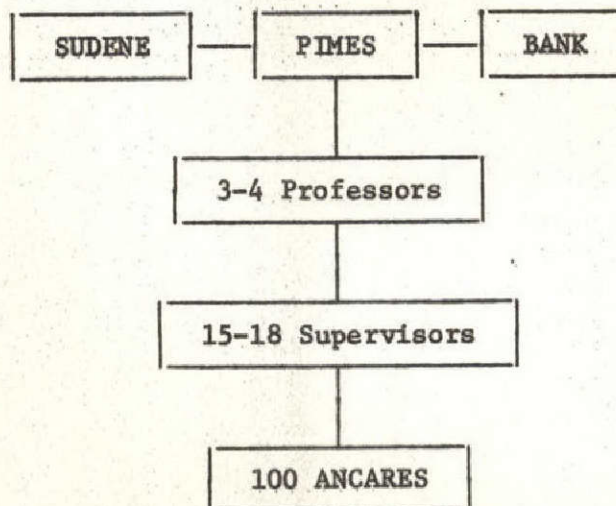
in this field. Mr. Kutcher could evaluate the amount of technical assistance needed to implement our statistical and mathematical packages on that computer in this and further phases of the research.

Part II

18. The institutions contacted for the organization of a team supervising the field work of the ANCARES were the Federal University of Pernambuco (UFP), CONDEPE and, only for the problem of assistance in the training of the interviewers, Elettroconsult. The main contact was the personnel of PIMES (Programa Integrado do Mestrado in Economia e Sociologia) of UFP.

19. The professors of PIMES were strongly against Yony Sampaio returning for the survey before finishing his thesis. Mr. Sampaio expects to finish his Ph.D. program by the end of July, but because of the uncertainty of this date, it seems desirable to count on his participation only for the advanced stages of the survey. Professor Manuel Correia de Andrade, Director of PIMES, made clear also that the participation of Yony or any other professor in the research, would imply that the project should be incorporated in the research program of the University.

20. Most of the professors of PIMES are willing to participate in the survey on a part-time basis. They expressed particular interest in the analytical phase of the research. The professors designated as contacts for IBRD are Professor Licurgo do Repe Barros and Professor Vernon Turner Wolnsky for the working team and Professor Manuel Correia de Andrade as Director of the Program. The tentative scheme for the supervision of the field work is illustrated in the following diagram:



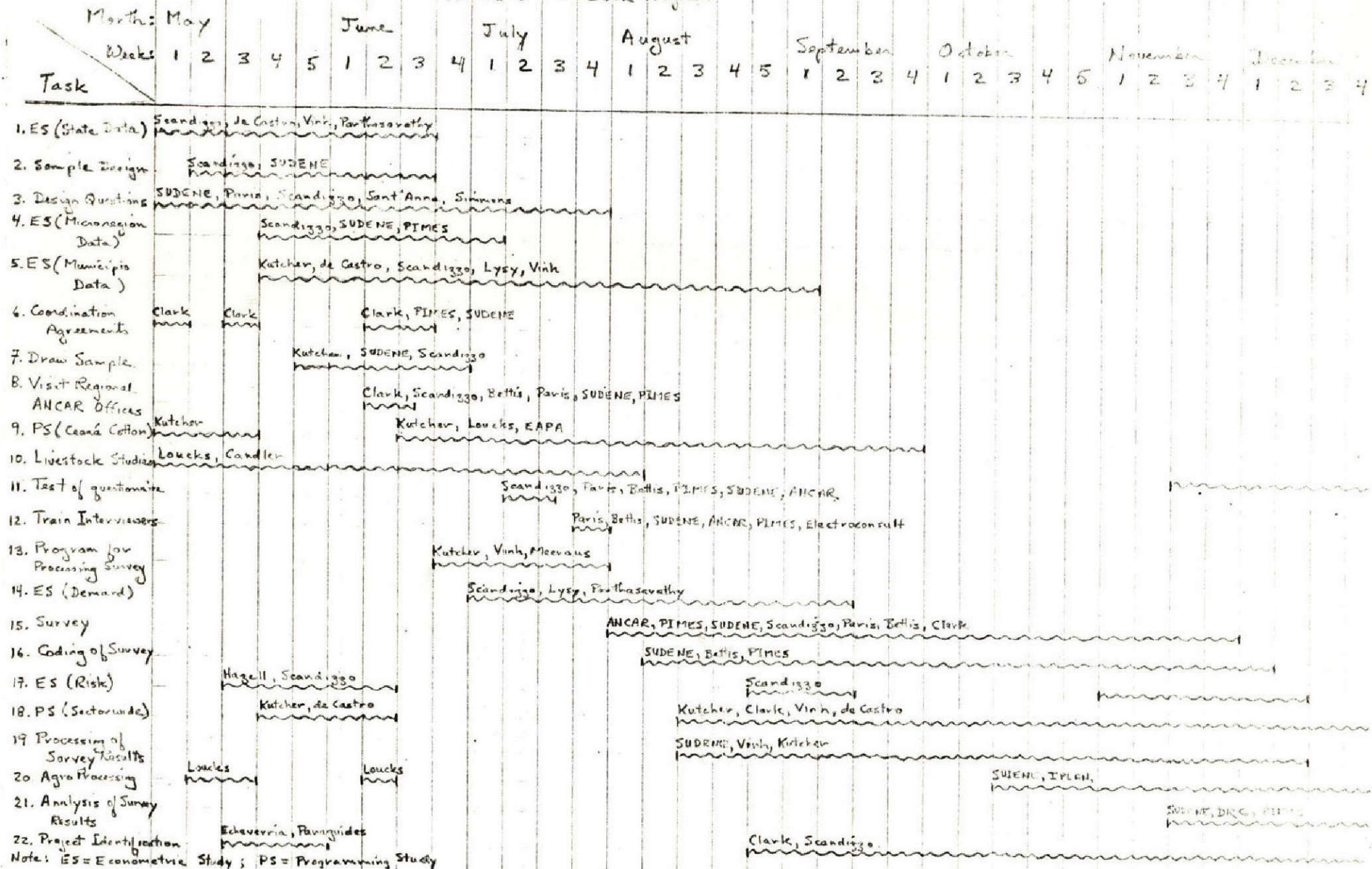
Each supervisor would be working in a group of not less than five and not more than ten ANCARES. Each of these ANCAR group would have an ANCAR leader. This supervisor would be working all the time with the ANCARES, each group meeting ideally every night. The 3-4 overall coordinators would be traveling to give a high-level of assistance. PIMES would also be willing to house the Bank team. Offices and meeting rooms could be provided for this purpose.

21. The personnel indicated as the best qualified to conduct the supervisory work consists of a group of 20 Master's Degree graduates in social sciences with experience in the field survey. This group is now doing a similar work for a family budget survey conducted by PIMES under a SUDENE contract. By the end of June, 15 of these professionals would be free and ready to work on our survey. The curricula of nine of them are provided in the annex as an example of the type of expertise represented.

22. As a possible alternative to the University, several officials of the planning agency of Pernambuco (CONDEPE) were contacted. CONDEPE has enough personnel and competence to provide for the coordination although the most qualified personnel are seldom available. Olimpio Galvão, coordenador de programas and Carlos Asirio de Cergueira showed interest in the project, but Everardo de Almeida Muriel, superintendente, was more interested in discussing the objectives and suggested the possibility of concentrating the survey in Pernambuco. I do not believe that this is an appropriate alternative in the short-run unless the PIMES supervisory team fails to meet on schedule our standards. However, it may be advisable to make the pretest of the questionnaire in the State of Pernambuco.

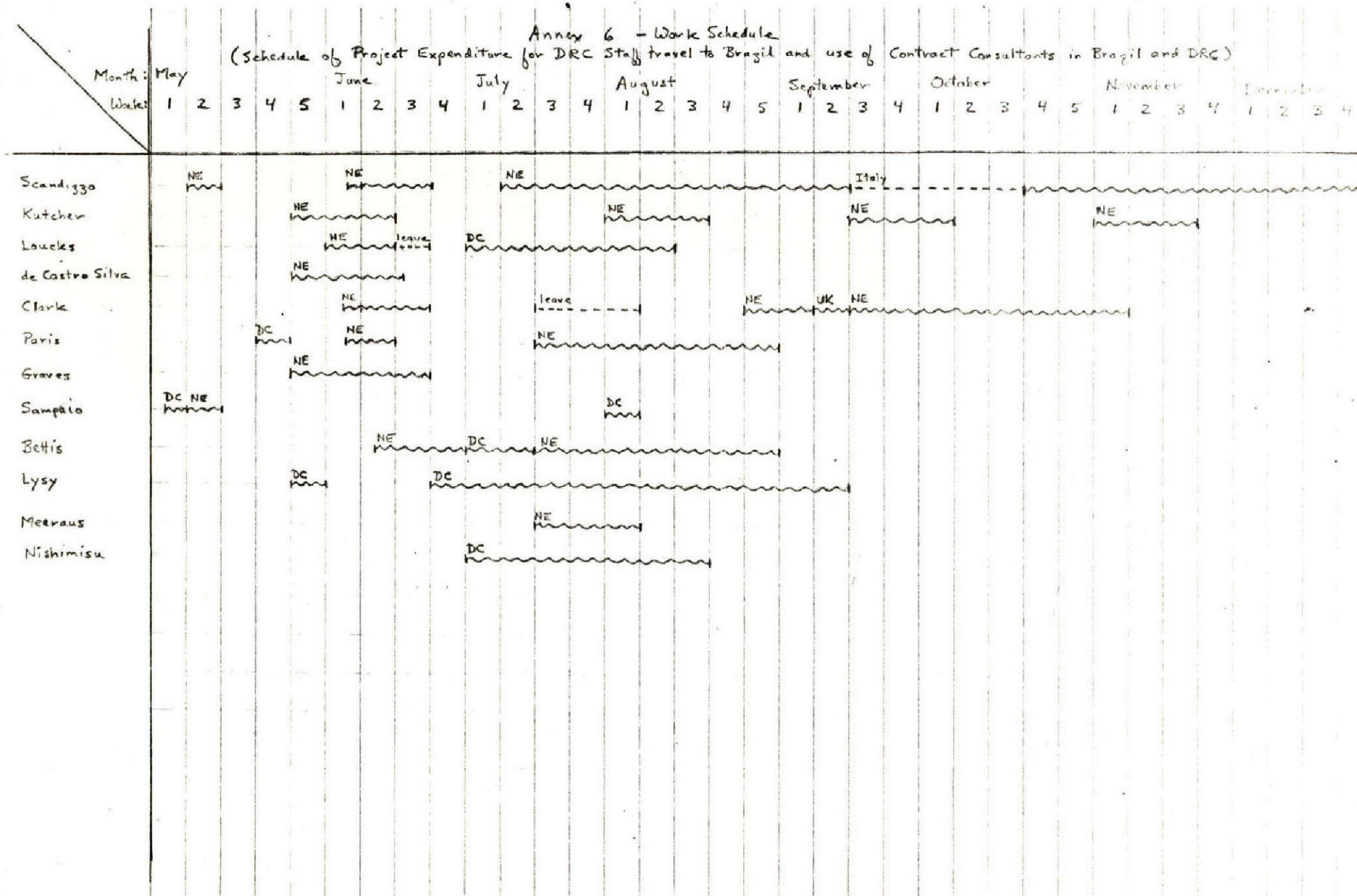
cc: Messrs. Avramovic - V.P., Lat. Am. & Car.
Echeverria - Lat. Am. & Car.
Ross - Lat. Am. & Car.
Skillings - Lat. Am. & Car.
Panagides - Agr.
Yudelman - Agr.
Cauas - DRC
Kutcher - DRC
Loucks - DRC

Annex 5 - Work Program



Annex 6 - Work Schedule

(Schedule of Project Expenditure for DRC Staff travel to Brazil and use of Contract Consultants in Brazil and DRC)





Record Removal Notice

File Title Pedro-Pablo Kuczynski Files: Research proposals 03		Barcode No. 1849445		
Document Date undated	Document Type Budget table			
Correspondents / Participants				
Subject / Title Annex 1 Phase I Budget				
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Additional Comments		The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group. <table border="1"><tr><td>Withdrawn by S. Thompson</td><td>Date August 19, 2025</td></tr></table>	Withdrawn by S. Thompson	Date August 19, 2025
Withdrawn by S. Thompson	Date August 19, 2025			

OFFICE MEMORANDUM

TO: Files

FROM: Peter B. Clark

SUBJECT: The Reason for Nilson Hollanda's Cable Cancelling IPLAN's Participation in the Northeast Study

DATE: April 3, 1973

I was called today by Nilson Hollanda from Brasilia. As he indicated in his cable, he wished to explain the reason why IPEA/IPLAN was not able to go forward with a joint study of the Northeast of Brazil with the DRC team at this time. He explained that he had spent a great deal of his own time during the last month attempting to recruit a technically qualified group of specialists to be contracted by IPLAN to work at the University of Brasilia as the Brazilian counterpart team in this project. Nilson felt fully committed to the objectives of this project and continues to give very high priority. He explained that the only reason that he felt that IPLAN could not go forward at this time was that they were unable to fulfill their obligation made to Jorge Cauas and Peter Clark in Recife to contribute three to five experienced technicians to work on the joint project team. He has been only able to find one person who could begin working immediately, the others requiring at least four months or longer before they could begin to participate in the study.

I questioned Nilson at some length about other conditions mentioned in his cable which might have influenced IPLAN's decision. I asked whether there was any confusion about the terms of reference of the study. He answered that he had participated in the definition of the project, had redefined the terms of reference on several occasions, and felt fully satisfied that the work was of the highest priority. I asked whether the cable implied that the Ministry of Planning wished to withdraw its support for a study of the Northeast. He replied that on the contrary he felt the project should be redefined to relieve IPLAN of its commitment for personnel and the joint responsibility for execution of the research. However, he encouraged us to go forward with the study saying that IPLAN and the Ministry wished to remain on good relations with the World Bank research team, that they would provide us with all the data required, would make contacts for us with other agencies, would like to be consulted about the progress of the work and would be glad to participate in the evaluation of results.

I gave him four or five opportunities through leading questions to withdraw the general endorsement of the Ministry for studies of the Northeast. I did not refer directly to the conversations between Enrique Flanzer and Robert Skillings, but on no occasion did Nilson say that he felt the project was not focusing on the right subjects, was insufficiently pragmatic, or that the Ministry felt the work was of low priority. Instead, he emphasized repeatedly that IPLAN was very interested in this work, but simply lacked the qualified personnel to participate in the sense of taking responsibility for part of the research. In order to clarify as

much as possible whether there are any underlying issues, I explained the strong interest within the Bank for the definition of rural development projects in the Northeast. He welcomed this concern of the Bank and said again that he would do everything in his power to assist us in project identification and research. He said there would be no problem in working with the technicians of SUDENE, BNB, or IPEA to develop the information needed for regional planning and project identification. The reference to problems which IPLAN had recently encountered with SUDENE was because of jealousy at the highest level of the organization about the use of the Central Government Authority for defining regional plans. He said that this should not interfere at the technical level or influence the Bank's work program.

Milson promised to send a letter explaining the continuing interest of IPLAN in the proposed Bank project. He encouraged us to seek working relationships with other agencies who may have qualified personnel available to participate in the study at the present time.

OFFICE MEMORANDUM

Mr. Kuczynski

TO: Mr. Ernest Stern, Senior Adviser, VPD
FROM: Wouter Tims, ^{W.T.} Deputy Director, EAPD
SUBJECT: Research Proposal: An Analysis of Development Strategies for
Northeast Brazil

DATE: April 2, 1973

1. This large and complicated research project, submitted to the Research Committee on March 22 and received by me on March 24 is supposed to be on-going in April 1973. If I read it correctly, the total number of man-months to be used for the project (professional only, from all sources) before the current fiscal year is out will be around 35, of which one-quarter from DRC. Given the obviously advanced state of preparation and the tight schedule of work, it would create an untenable situation if anyone would ask for more time to study the proposal and the relevant background documents and to discuss it with persons knowledgeable about Brazil's Northeast and its problems. I feel myself, not an expert on this particular project, put into a position where one can say either "yes" to the proposal or a well-considered "no", based on thorough analysis of the proposal. I would doubt the wisdom of endorsing the proposal, having an awkwardly long list of questions to raise about it (partly because of sheer ignorance, for another part related to my own involvement with a similar project, at about five times the price of this one, for the Northeast of Thailand) to which I cannot possibly expect to find the answers in time. Neither am I capable of taking a negative stand as my questions are not more than just questions. I have the gravest doubts about the proposal, consider it an effort with goals too ambitious to be reached with the proposed limited inputs, and within the time constraints set. But I may be wrong.

2. I would appreciate to be relieved of my duty of appraising this proposal. If there was less pressure to get an approval in a hurry I would certainly be glad to make an effort to acquaint myself more with the subject of the study and its proposed organization and method. Under the existing circumstances I feel unreasonably pressured and prefer to excuse myself from judgment.

cc: Mr. Kuczynski, PP&PRD ✓
Mr. Murray Ross, LAC, Dept. II
Mr. A. Ray, Office of VP, DP

OFFICE MEMORANDUM

TO: Distribution List

FROM: Peter B. Clark, Chief, DP - DRC

SUBJECT: Addition to the Back-to-office report of mission to
Brazil to complete planning of Northeast Regional
Research Program

DATE: March 8, 1973

Enclosed you will find a time schedule for the proposed joint research program with IPEA/IPLAN. Please append it to the back-to-office report. I am also attaching the distribution list which was previously omitted from the back-to-office report.

TENTATIVE TIME SCHEDULE AND DIVISION OF WORK

TASKS	1973												1974												1973-FY74				
																									Man-Months (Prof.)				
	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	DRC	IPLAN	Sudene-DAA	Consultants/IBRD	Other IBRD								
<u>Survey - Agriculture</u>																													
Sample Design	_____												0.75	2	8	0.5	0.5												
Pre-Survey & Analysis & Trg.	_____												0.25	1	4	0.25													
Survey	_____												0.75	2	6														
Data Proc. & Analysis	_____												2.25	7	20	0.25	1.0												
<u>Risk & Econometric Studies</u>																													
Estimation of Risk Parameters	_____												0.75	2		0.5													
Estimation of Behavior Parameters	_____												0.75	2		0.5													
Demand Studies	_____												0.75	5		3.0	2.0												
<u>Agri. Production Studies</u>																													
Model Design	_____												2.50	2			1.0												
Matrix Generator	_____												0.75	1															
Experimentation (Hypoth. Data)	_____												1.50	2			0.5												
Model Modification-testing	_____												1.75	1			0.5												
Simulation studies	_____												2.75	2			1.5												
Integration w/Ag.Ind.Model	_____												↓	↓		↓													
<u>Agro-Industrial Studies</u>																													
L. Collection, Analysis	_____												2.50	5		1.0													
Model Development & Matrix Gen.	_____												2.75	3		0.50													
Experimentation & Model Modific.	_____												2.25	3			0.5												
Simulation studies	_____												2.25	3			1.0												
Interaction w/Ag.Prod.Model	_____												5.50	3		3.0	1.5												
<u>Migration & Labor Absorption Stud</u>	_____												1.25	4		1.5													
<u>Industrial Sector Studies</u>																													
Data Collection, Analysis	_____												0.25	3															
Model Development	_____												1.50	2		2													
Matrix Generator	_____												0.75	1															
Experimentation & Modification	_____												0.75	2		1													
Simulation	_____												1.00	2			1.0												
Integration w/ other sectors	_____												1.75	2		2													
<u>N.E. Employment Survey (CNRH/IBRD)</u>																													
Sample Design	_____												0.25	1			0.5												
Pre-survey Analysis & Trg.	_____												0.25				0.5												
Survey	_____												0.25				1.0												
Data Processing & Analysis	_____												0.75	2			2.0												
<u>Report Writing - Final Report</u>	_____												3.50	5															
Professional Time: TOTALS																	43.00	70	38	15	15								
Research Asst. Time: =====																	32.00	28											

Distribution List

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E. Stern
J. Cauas (DRC)
Robert Skillings (LA&C)
David Greene (LA&C)
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Tim King (India)
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Francesco Abbate (LA & C)
Anna Maria Sant'Anna (U&RE)
Lorne Sonley (LA & C)
Shlomo Reutlinger (DE)
Stan Nicholson (Brazil)
Members of the Mission

OFFICE MEMORANDUM

TO: Mr. Jorge Cauas

DATE: March 6, 1973

FROM: P.B. Clark, D.P. Loucks, G. Kutcher and P.L. Scandizzo

SUBJECT: Back-to-office report of mission to Brazil to complete
planning of Northeast Regional Research ProgramConsultation with Different Agencies and Research Groups

This report will be divided into two parts which synthesize two other aspects of the mission. This section will capsule the extended discussion which the Bank team had with different agencies, although not necessarily in chronological order. The information derived from these contacts, plus our reading of many Brazilian reports, resulted in a research strategy which the DRC team recommended to Nilson Holanda and Jorge Cauas at their meeting in Recife on the last day of the mission. The research program is designed to quantify some of the vaguely perceived relationships behind the endemic problems of the Northeast and to generate information which we believe will be an aid for the Brazilian Government to design more effective policies and for the World Bank in its search for projects which have direct impact on the rural poor. The DRC team was disappointed that a counterpart research group had not been formed to jointly define the research project. Hence, this section highlights some of the information gained from a range of Brazilian officials and forms the background for the research proposal found in the next section of this report.^{1/}

IPEA/IPLAN - Economic Planning and Coordinating Agency of the Ministry
of Planning and General Coordination

Contacts: Antonio Nilson Craveiro Holanda, Superintendente
Mauricio Rangel Reis, Superintendente Ajunto and
Coordenador do Setor Agricultura
Roberto Araújo, Coordenador do Exportação
Moyses Teneblat, Coordenador do Setor Tranportação

IPLAN's principal interest in this project stems from the idea of "development corridors", discussed during our last mission. IPLAN understood that we propose to do a study which would result in an integrated set of projects. IPLAN is under great pressure to develop programs of action which they therefore describe as pragmatic. IPLAN has recently rejected a research project being offered by Purdue University because IPLAN does not feel it needs yet another survey describing the misery or poverty of the Northeast. Yet, they readily identify their primary objective to be: "a more detailed analysis of key problems of the Northeast". As Nilson Holanda put it, "the main objective should be to make a survey with closer contact with the region" which will be "more comprehensive than has been possible before in IPLAN".

It is recognised that the projects initiated in the Northeast have not been conceived as an interacting program. Holanda has asked us to define better what should be the relationship between public and private investment. Early development efforts for the Northeast used public resources for drought relief, irrigation and roads; then came the emphasis on fiscal incentive for private investment to industrialize the Northeast; and now begins the new trend where public investment is seeking ways to promote land reform, population resettlement and better education. IPLAN is hoping to identify a better balance between private and public investment so that the process becomes self-generating and productive rather than subsidized relief of an impoverished population.

^{1/} The reader who is not concerned about the details of the mission should turn directly to the research proposal.

As with the Regional Departments of the Bank, IPLAN is asking whether the system of public incentives are sufficient to promote development. IPLAN shares concern for the poor social return on 34/18 funds. They have asked the joint project to determine what constrains these incentives, what obstacles there may be to greater employment and larger regional income multipliers; what additional policies are required?

The other principal concern of IPLAN is with the potential use of PROTERRA funds. Even though it is realized that capital is scarce in the Northeast, earmarked public funds are looking for good projects and private capital is heavily subsidized. Mauricio Reis pointed out that PROTERRA is meant to be an integrated program involving 10 or more different approaches, e.g. technical assistance, land redistribution, subsidized inputs, outmigration, colonization, education reforms, agro-processing industries, commercialization, reduced transport costs and improved storage facilities. IPLAN wants help from the IBRD/DRC team to study how these factors interact. IPLAN has contracted Montor-Montreal, Arthur D. Little and ITAL to study (in 210 working days at a cost of \$300,000) the economic feasibility of the agro-processing industries of the Northeast so that a set of projects might result. Reis hopes that the IPLAN-IBRD study will be equally pragmatic. He doubts that there will be any social benefits from the land expropriation now starting in the states of Pernambuco, Paraíba and Ceará. What is the government to do after the expropriation that is scheduled for this year?

IPLAN emphasized that it is impossible to prepare projects in the Northeast without background and theoretical studies. Mauricio Reis cited the case of the IDB which required several years of study in order to prepare 8 small irrigation projects. But, he emphasized, this is the last year of the current government, therefore we must have a very pragmatic approach. He suggested that "the joint study team talk with the people of INCRA, SUDENE, DONOCS, Ministry of Interior and Agriculture to get them to refine their ideas. The fact is, after 2 years of PROTERRA, we are at the same place - we have no projects! Put together a package of projects in an integrated manner like the corridors idea."

It was agreed that the IPLAN-IBRD project should have output within a year but that two years was probably a more reasonable time horizon enabling the recruitment of better quality staff and the development of more complete analysis. A description of the terms of reference and likely team composition may be found in the attached research proposal. It was agreed that further discussion should take place with Jorge Cauas in Recife after the DRC team had formulated a research proposal. Roberto Araújo joined the DRC in Recife, Tuesday and Wednesday to represent IPLAN in our talks with Northeast agencies.

SUPLAN/EAPA - Ministry of Agriculture

Contacts: Rinhold Stephanis - Director of Studies, SUPLAN and INCRA
Alberto Viega - Director EAPA
Arthur Coutu - USAID, Technical Assistance Bureau, Washington
Edward Schuh - Purdue University

EAPA was prepared to send some technicians to the Northeast with the DRC to assist in the definition of the research program. This group would like to be involved in the project but recognizes that the analysis will be more than of the agricultural sector alone and therefore must be sponsored by IPLAN. Nevertheless, the matter of participation has been raised at the ministerial level and we have been told by Rinhold Stephanis that INCRA and EAPA technicians would welcome the chance to participate in the Northeast project.

The relationship between EAPA and the IBRD is somewhat confused because of the joint attempt of USAID/TAB and Purdue University to develop a large research program with EAPA. Since senior officials of USAID have learned of the IBRD's intention to strengthen multi-sector planning, especially regarding the Northeast, they have held up their program which was to help EAPA make better sector plans. This is further complicated by a UNDP project which presently finances a 5 man FAO team of advisors. How these different groups will relate to one another is still not clear, but, we have consistently suggested that an EAPA technician, who might one day take charge of the USAID sponsored project, should begin learning about sector modelling by working with us. Moreover, we would like to pool whatever data we collect with what they are currently gathering by survey in Ceará.

IPEA/SERAM

Contact: Roberto Cavalcanti de Albuquerque, Superintendente

This agency enthusiastically supports the IPLAN-IBRD project and suggests that a center for full-time research on the Northeast be established using a mixture of the currently proposed project team, plus SUDENE and ETENE people, plus some people from state planning authorities. Integration, coordination and technical assistance would be the joint objectives.

It was emphasized that the demand side of the Northeast development strategy has never been properly studied. The assistance made by the central government to the states and municipios was never properly estimated from the demand side and often resulted in a waste of resources. We explained that the DRC project with the University of Brasilia involving Lance Taylor, Edmar Bacha and Francisco Lopes would be of assistance here. SERAM would be glad to help the IBRD develop collaborative studies in several regions of the country. They still gave high priority to a joint study of the Paranagua development corridor and its interrelationship with Southern Matto Grosso and Goias. In the Northeast SERAM has contracted Clovis Cavalcanti of the Instituto Juaoquim Nabuco to study the Parnaiba valley. Therefore, he recommended that we work with (Luiz Seigio Vierra, Director) SUDEC and (Everardo de Almeida Maciel, Director) CONDEPE to study the States of Ceará and Pernambuco and all states lying in between (Rio Grande do Norte and Paraiba) since they formed a unity.

SUDENE - Ministry of the Interior

Contacts: José de Jesus Moreira de Moraes Rego, Director of
Agriculture Department
Luis Fernando Correia de Araújo, Director Adjunto of
Industrial Department
Tânia Bacelar - Assistencia Technica
Aleindo Rufino de Araújo - Assistencia Technica
Arlindo Costa Lima - Chefe, Divisão de Pesquisas Agricolas
George Patrick - IPEA/INPES researcher doing collaborative
study with SUDENE/DAA

SUDENE has been using their agreement with IPEA to make a study during the last year, involving a survey of municipios in the states of Ceará and Pernambuco, to evaluate the choice of technology in semi-arid agriculture. They considered this a pilot study for a more comprehensive survey and analysis which they were now planning for all states of the Northeast. The problem according to George Patrick was that the INPES team was dissolving and could no longer give technical assistance. This seemed opportune for the IPLAN-IBRD research project. IPEA could still give the technical direction to SUDENE's project if IPLAN would undertake the obligation releasing INPES. In this way the study team would have a ready-made means of collecting the farm-based production data, which it lacks, at very little expense. The primary cost (the contract with ANCAR extension agents to make the survey in July and August, the coding of results, schooling of enumerators, and some computer processing) would be borne by SUDENE. The SUDENE team will be 5 people from the Agricultural Department and some from Assistencia Technica.

It was considered that this study would give important information about the economic size of land which the land reform might attempt to redistribute. We explained that this was a very dynamic problem depending upon soil, water, cropping patterns, technical choices, access and cost of inputs, marketing conditions, tenure arrangements, etc. Optimal plot size must be determined in a dynamic framework and might not lead to the same pessimistic extrapolations of land use which Vincenzo D'Apote predicts.^{1/} The objective of José de Jesus was to look ahead at the next round of the reform in the semi-arid zones of the Northeast (Agreste and Sertao). We explained that it would be far better if we could also include the Zona da Mata in the analysis. He explained that INCRA had the same problem as SUDENE and had therefore asked the Instituto Juaoquim Nabuco to survey the Zona da Mata.

In order to learn more about the pilot study we asked George Patrick to come to Recife. He described his model in detail to the SUDENE staff and the DRC team. He hopes to have it written up by early May when he plans to leave INPES. He would like to continue work on the Northeast for a longer period, but his skills are "knowing something about Northeast agriculture" rather than analytical capacity.

A few meetings were held with people in Assistencia Technica, which is responsible for taking the global view of the economy for SUDENE, and with people in the Industrial Department. The objective of these meetings was primarily to learn about the studies they had made on agro-processing, manufactured inputs to agriculture and of demand conditions for all types of goods in the Northeast economy. They showed great interest in our study and supplied us with many published studies. Since the Montor-Montreal/ADL team was also in town collecting similar studies, we decided not to spend too much time collecting this type of data. Similarly, since David Goodman has been nominated to head the IPLAN team, we have decided to

^{1/} An FAO specialist who wrote a very disturbing study entitled "Bases Para Uma Politica de Colonização e Reforma Agraria No Nordeste do Brasil," SUDENE, Recife, 1972.

concentrate our initial enquiries on agriculture. The demand studies are very fragmentary, covering only a few selected crops. There is hope that more useful information may come from IBGE sources or from the new SUDENE study being executed by PME at the University of Pernambuco. The latter is a study of food demand and commercialization costs in 9 Northeast cities.

ETENE (Recife): Banco do Nordeste

Contacts: Helio Maura, population specialist

He had just received the 1970 population census tapes from IBGE and will be starting a whole new study of the characteristics of poverty, unemployment and migration in the Northeast. He will be able to supply the project with information about the Northeast labor force and population. He recommended that we make contact also with the ETENE group in Fortaleza.

INCRA (Recife Office): Ministry of Agriculture

Contacts: Alejandre
Ricardo Correa, Chefe, Recife Office
Arthur Pio dos Santos
José Lacet de Lima Filho
Antonio José Araújo - INCRA, GTPLAN-PROTERRA
from Brasília
Sylvio Romero Moreiro - also from Brasília

Here we had long discussions at different levels of the organization about the experience thus far with PROTERRA, about the difficulties they have experienced with their colonization schemes attempted in Pernambuco and Paraíba, and about their responsibilities for drawing up and implementing a general plan for land reform. There were obvious uncertainties about institutional relationships because sometimes we were accompanied by an IPLAN coordinator, sometimes by a SUDENE technician and other times we went alone. There is little doubt that they would like some expert help and need better information with which to make realistic plans. This is an explosive issue, yet, if we had not indicated a cautious attitude on the part of the Bank, they were quite willing to prepare all sorts of agreements of technical assistance and cooperation. We explained repeatedly that this was an exploratory trip and that we were in the process of defining a collaborative project with IPEA/IPLAN.

As stated earlier, INCRA has contacted Clovis Cavalcanti of Institute Juaoquim Nabuco to make a socio-economic study of the Zona da Mata. They suggested that we try to coordinate the SUDENE study with this one. Despite the cordial relationships, there may still be considerable problems linking these studies or arriving at a common design. We shall do everything possible to collaborate, but we recommend that at least 5 municipios drawn from the Zona da Mata be added to the SUDENE sample.

SUDENE and INCRA are starting a study to identify settlement projects for the area of the tabuleiros^{1/}. We were told CONDEPE was also working on similar schemes, but not for colonization. This is the one area where technical change might alter the possibilities for crop diversification in the Zona da Mata. The technology has been well researched and the private sector usineiros are buying up what was considered abandoned land previously. This might be a project which the IBRD could help provide leadership towards a better redistribution of labor on the land. The INCRA project Rio Tinto could be studied as similar to tabuleiros type settlement.

We also learned of an experimental water storage system being marketed by a Sao Paulo firm. It has been used elsewhere in the world and the IBRD may have previous experience. In Brazil it is called "Sistema de Polioliefinas". It is a plastic bag used to line an earthen cistern. Regardless of how well this system may work, a vital area for technical work would be on water conservation and management in semi-arid farming areas. INCRA is actively looking for such innovations.

CONDEPE - Planning Authority of State of Pernambuco

Contacts: Everardo de Almeida Maciel - Superintendente
Olimpio Galvão - Coordenador da Programa
Sabastiao Jorge Jatoba Bezerra Dos Santos -
researcher finishing Ph.D. at Vanderbilt

Several meetings were used to sketch out the system of development planning followed by CONDEPE. Their principal problem is one of understaffing. They have good ideas for studies and for plans they would like to draw together, but lack well trained staff. In the next 6 months 5 graduate trained economists will be returning. The Superintendente said he would very much like to collaborate in the Northeast study, especially if it makes a sub-regional model of a development corridor in the state of Pernambuco. He offered secretaries, library and space to the project and to form a counterpart team if the project would call for it.

One of CONDEPE's technicians has been collecting information for his Ph.D. thesis and worked with our group for a few days. He might be a good person to bring into the project in the future, especially if CONDEPE contributed his services. The integration of several sectors simultaneously in a single framework for the state of Pernambuco would be of high priority for CONDEPE and the IPLAN-IBRD project can count on their cooperation.

PME: Universidade Federal do Pernambuco

Contacts: Renato Duarte, Head of Programme Integrado de
Mestrado em Economia e Sociologia
Manoel Correia de Andrade, Coordenador do PME
Luis Arturo Fuenzalida, Chefe do Seminario de
Tese do PME
Vernon Turner Walnsley, Professor

^{1/} See Northeast Mission Report, op. cit., p.88 and 89.

The mission held several meetings with faculty members of the Federal University of Pernambuco to learn about their current research program and to determine what capacity they might have for assisting with the research program on the Northeast. They are gearing up to make a study of the supply and commercialization of food products and services in major urban centers of the Northeast. This will be a long term statistical and econometric study involving several members of the faculty and some master-level students.

On the other hand, both Renato Duante and Luiz Arturo Fuenzalida said that in 5 or 6 months time they might be able to have 2 econometricians (faculty) plus 6 masters thesis writing students who could work in this project. They are interested in the experience and the chance to get useful statistical information for theses. We have developed this potential relationship because of the uncertain timing of the formation of the IPLAN team. The SUDENE survey will obviously require considerable supervision, especially during the phase of enumeration in July and August. If there is insufficient staff in the IPLAN-IBRD team to give general supervision to the 80 ANCAR agents conducting the questionnaire, it might be a valuable adjunct to the project to employ the PME research group for this purpose together with the SUDENE technicians. It would be inexpensive assistance since their primary interest is access to data.

ETENE: Banco do Nordeste

Contacts: Nacicio de Oliveira, Director of ETENE
Pedro Sisnando Leite, Chefe Divisão de Agricultura
do Departamento Economico
José Nicacio
Eduardo Bezerra
Pedro Lustosa da Costa - Industrial Division

Gary Kutcher and Pasquale Scandizzo spent a day in Fortaleza in order to explain the IPLAN-IBRD study to BNB and especially its research group ETENE. ETENE expressed BNB interest in the study and especially said they would be glad to help with the planning of the survey. They proposed a seminar to help coordinate the ETENE-SUDENE-IPLAN-IBRD inputs into the research project. However, ETENE should be considered simply as an interested party rather than a formal counterpart. They are willing to share their data sources with the project. The 10 year perspective plan was not available in Fortaleza but they suggested IPLAN already had been sent copies.

Escola de Agronomia: Universidade Federal do Ceará

Contact: Roger Fox, visiting professor from University
of Arizona

The purpose of this contact was to review the progress in the EAPA project to survey 2 municipios in Ceará studying the economics of cotton production. We collected a copy of the questionnaire and received valuable

information about the conduct of the survey. As with the PME group, the masters program here would be glad to help monitor the research in the field in exchange for access to data.

IPEA/CNRH: National Center for Human Resources

Contacts: Edson Machado Sanza, Director
Sam Levy, Director, UNDP Project of Human Resource Planning
Luiz Carlos Silva, Coordenador Programa de Pesquisas
Afranio Raul Garcia, Junior Researcher, Museo Nacional
Jose Sergio Leite Lopes, Researcher, Museo Nacional
Moacir Gracindo Soares Palmeira, Researcher, Museo Nacional

Just before leaving for Brazil Ian Hume received a copy of a research proposal for CNRH by a group at the Programa Pos-graduação em Antropologia Social of the Museo Nacional, Universidade Federal do Rio de Janeiro. The proposal was solicited by Edson Macado and Claudio Salm to replace the previous project studying Northeastern employment which the World Bank had agreed to finance.^{1/} This project is entitled "Employment and Socio-economic Change in the Northeast." It is much more comprehensive than the earlier project, including all of the characteristic labor market or employment situations encountered in the Northeast.

The first notable difference in the new proposal is its firm basis in the economic and sociological literature of Brazil and other developing countries. Compared to the earlier proposal, there is a much greater intellectual content and therefore includes substantive hypotheses to be tested in the course of the research program. Second, it was obvious from my discussions with the researchers that they are very experienced social science researchers with practical experience in the Northeast as compared with other groups. I was concerned that their intention to use Southerners to work in the Northeast and transition zones to the Amazon would lead to a breakdown of communication. This had happened when IPEA/INPES economists tried to work on their survey in Ceará. But this team has worked together in the Northeast for 2 to 5 years with such eminent foreign advisors as Mayberry Lewis (Harvard University), Richard Adam (University of Texas) and Anthony Leeds; all paid for by the Ford Foundation.

The Museo team will be 6 full-time researchers (MA degrees or better) plus 4 more part-time.^{2/} Of these, 2 will be senior **professors** of the university who will be involved full-time and 2 other senior professors giving advise and direction. Claudio Salm of CNRH will be working full-time on the project. Luis Carlos Silva of CNRH will be working at least half-time on this research and an UNDP advisor will be recruited for full-time involvement in this research. Sam Levy has asked the World Bank to nominate

^{1/} The former AITEC study will go forward with the collaboration of 4 university economics departments in the Northeast. It will be financed by the Rockefeller Foundation and the Ford Foundation. However, it deals only with a select number of urban centers.

^{2/} I have curricula vitae for the members of this group.

the foreign advisor we would like to see become involved in this project.^{1/}

I raised several questions with the research team about method. Will the design of the study permit the results to be generalized to make macro-economic policy about employment? The answer is yes, but, we must work together with the team to assure statistical correspondence with other parts of the general study of the Northeast and with PNAD and census data of IBGE. On the other hand, Isaac Kerstenetzky said that IBGE would like to work with this project. He has been the professor of several of the economists in the Museo research team and rates them as the best and most inquiring students he has taught. The Ford Foundation advisors consider this group as "profound and dedicated to understanding the causes and effects of rural poverty".

The research budget that is attached to the proposal is not very large for the manpower that would be devoted to this project. The information that this research team is capable of collecting and analysing could be as important for reformulation of IPLAN education, migration and employment policies as we hope the IPLAN-IBRD research project will be for sectoral investment policy. At present there is no behavioral knowledge in a useful form for planning purposes. This would be especially important when considering alternative land reform policies, settlement schemes, the absorption of new technology, education reform or sanitation, water and urban housing programs. These are all primary concerns of the World Bank as sectors where effective development projects may be formulated for the Northeast. These projects are to have important employment benefits. The World Bank wants to distribute credit to the rural poor. Nevertheless, we do not have any way of predicting what a latifundista would do with a line of credit. What are his priorities? Why are they formulated that way? We know banks and financial institutions do not like to loan to these people. Lack of security for the loan is most often cited, but we know the risk is very great, even that the funds may never be used for the expected purposes. We cannot design a better delivery system without knowledge of the expectations and behavior of the loan recipients. Without this comprehension, all rural development targets are but well-intentioned hopes.

I recommend that this project be considered very seriously by the IBRD. CNRH considers this of much greater priority than manpower planning projections or new studies of the rate of return to education. We are in a position to use the output of the study and therefore to give strong direction to ensure its operational relevance for policy planning. Nilson Holanda is under great pressure to define an effective employment policy for the Northeast. Further macroeconomic studies or sector studies with fixed employment coefficients will be poor guides to a solution of the grave under-employment problems of the Northeast. Here is a group asking the right kind of questions behind the usual arithmetic facade. We should give them support and encouragement because they are flexible, imaginative, concerned and know what they are trying to learn. They have been well trained and form a first rate intellectual team. Finally, they want their work to be relevant so that the involvement of the World Bank in this research should help create an audience.

^{1/} The job description of this and an economics of education UNDP advisor are also available if anyone knows of good people who would like to work in Brazil for the next few years.

OFFICE MEMORANDUM

TO: Mr. Wiese and Mr. Ross

FROM: Dragoslav Avramovic

SUBJECT: DRC Research Proposal for the Northeast of Brazil

DATE: March 23, 1973

Attached please find a copy of the research proposal concerning the Northeast of Brazil prepared by the Development Research Center. I would appreciate your comments on the proposal. Since the Research Committee would like to consider the proposal at its meeting of April 5 and a prior review by a Panel is necessary, I would appreciate it if you would give me your comments as soon as possible.

Two projects: NE ag. & NE. industrial employment.

Attachment.

~~Caus - risky project~~

~~periodic reviews needed~~

cc: Mr. Skillings O/R
Mr. Greene O/R
Mr. Echeverria O/R
Mr. Cauas
Mr. P. Clark
Mr. A. Ray

Jefferson: what specifically will we know two
yrs from now that we don't know.

1. ^{Regional} ~~Part~~ Mission to N.E. refers to lack of data: will this project provide the sort of data we need?
2. Agr. project seems difficult p. 3-4.
3. Agr. survey pp. 8-9: to what extent are data already available? To what extent is one-stop survey useful?
4. How does other' employment research fit in with N.E. empl. 1320 project? p. 10
5. Fishery? p. 14.
6. Tolan would not collaborate, acc to cable of March 30.

Review number

Project number

Recd 3/22/73
Avr

WORLD BANK RESEARCH PROGRAM
Project Proposal

Date of Submission

20 March 1973

PART I. PROJECT IDENTIFICATION

Title: An Analysis of Development Strategies for Northeast Brazil Phase I - Rural Studies and Land Reform Phase II - Industrial and Tertiary Employment Studies	
Department Responsible: DRC	3. Staff Member Responsible: Clark
No. of Contracts: 6	5. Total Estimated Cost: \$298,000
Total Estimated Staff Time: DRC time only through next fiscal year, FY '75 (possible 30)* Professional: 43 man months FY '73 & FY '74 Special Services: 32 man months FY '73 & '74	

Part II. COORDINATION AND APPROVAL

Interdepartmental Coordination:

Department	Name & Signature	Support Project	Do not Support Project-Comments Submitted
LAC/Regional Dept.	Dragoslav Abramovic		
CPS/Rural Devel. Unit	Montague Yudelman	Yes	
DPS/DEP/URED	Douglas H. Keare	Yes	
DPS/DEP/	John Simmon (on mission)		

Approval:

Peter B. Clark

Division Chief

Peter B. Clark

Jorge Cauas

Department Director

Jorge Cauas

*See Table I for man months of research time planned for FY'73 and FY'74 for all collaborating institutions (i.e., IPLAN, SUDENE, other IBRD Departments and Consultants).

PART III. IMPLEMENTATION

1. Date Work to Start: March 1973
2. Date First Draft Expected: Jan. 1974
3. Final Report Due: Between December 1974 and June 1975
4. Implementation Method:
- a. Bank Staff. ☒
 - b. Individual Consultants. ☒
 - c. LDC Contractor/Institute. ☒
 - d. Developed Country Contractor/Institute. ☐
 - e. Seminar ☐

5. Reports Expected in Current Fiscal Year: (FY '73)

Several papers on the risk behavior of subsistence farmers in drought prone areas (Sertao); the characteristics and sample design for the agricultural questionnaire; model specifications for the study of the rural sector and agro-processing industries; study of Northeast land reform policies.

PART IV. FINANCIAL AND STAFF DATA

.. Dollar Costs (Estimated Disbursements by Fiscal Year): Figures in thousands.

	FY '73	FY '74	FY '75	After FY	Total
a. Contractual	3	51	36		90
b. Travel	11	33	22		66
c. Programming, Survey and Data Processing	11	80	58		149
Total	25*	164 [✓]	116		290**

*of which \$15 is available from RPO 273

**Net of \$15 from RPO 273.

. Staff Requirements (man-months): Including D.P. Loucks who will be placed on a consulting contract in FY '74.

	FY '73	FY '74	FY '75	After FY	Total
a. Professional	10	33	30		73
b. Special Services	6	26	24		56
Total	16	59	54		129*

*DRC time only, however the last column of Table 1 shows the potential collaboration of 15 man-months of other departments of the IBRD which are coordinating their work with this project.

1. Research Objectives:

Support basis for Bank Policy	☒
Support for Bank Operation in Projects or Sectors	☒
Support for Country Economic Work	☒
Increase Knowledge of the Basic Development Process	☒
Develop Institutional Capacity for Research in LDC's	☒

2. Description:

- a. Problem
- b. Method
- c. Coordination
- d. Implication for Bank Policy and Operations
- e. Project Organization

There appears to have been no coherent strategy for developing the Brazilian Northeast. Therefore, the Bank has not received well prepared projects as part of an integrated development strategy for that region. A related aspect of this problem has been the insufficiency of information which could be used by international agencies to analyze these problems or to identify and prepare projects.

The economic problem is the tremendous regional disparity of family income levels and unemployment rates between the traditionally backward Northeast of Brazil and the rest of the country. As the World Bank's program in Brazil has grown, initial steps have been taken to direct Bank resources to aid Brazil's underdeveloped Northeast. A special agricultural mission of the Projects Department was sent to the Northeast several years ago. In the last year, the LAC Regional Department produced a comprehensive study of the characteristic problems of the Northeast which reviews the Brazilian state and federal government programs and policies designed to alleviate these problems. This mission report refers repeatedly to the lack of adequate information for planning general policies. Past Northeast development programs have been unbalanced and poorly executed for lack of technical staff; often incorporating only a single objective (e.g., public investment in reservoirs was followed by road development, then private investment was given industrial subsidies, and more recently land reform and colonization schemes have begun). In September the Bank Research Committee approved RPO 273, a DRC project to identify a regional studies and planning project for the Northeast. This research proposal results from RPO 273's two research identification missions which have identified this and several other projects being proposed by other departments of the bank.

Moreover, this research interests the DRC (and the DPS Urban and Regional Division) because the problem of regional disparities in resources, incomes, and employment is a general one facing many LDC's. The Brazilian approach has been to adopt "traditional" programs involving capital inflow stimulants (34/18) and labor out-migration stimulants (colonization). These programs have not had a significant impact

on the region's gap, however, for reasons that are not clear. A hypothesis to be tested in this research, which will be extendable to other cases, is that the programs have failed due to a lack of coordination and balance, both over sectors within the region, and economy-wide.

The method of study proposed in this project is to combine existing census and special studies with a new rural survey being initiated by IPEA, SUDENE, and ANCAR. This will provide needed data for this study and for other Bank-wide purposes. A number of microeconomic studies of price incentives, production cost functions and demand and supply elasticities will provide useful inputs to loan projects being designed for land reform, agricultural credit, agro-processing, humid valley developments and colonization. In addition, a planning framework will be developed using econometric and programming studies.

The project has been developed as a collaborative scheme with the Federal Ministry of Planning and General Coordination in Brazilia. It will also involve research teams from SUDENE, INCRA, other Brazilian ministries and other departments of the World Bank. Coordination among these various groups is key to deriving the benefits of research concentration and to develop complementary policies and projects which have been lacking previously in the Northeast. A primary benefit of this project will be the institutionalization of a study group in IPLAN capable of coordinating regional development plans. Likewise, coordination and collaboration of economists from the operating departments of the Bank will help assure research results which will be useful for the implementation for Bank policy and operations. The Agricultural and Rural Development Department of the CPS has agreed to nominate Stahis Panaguides to give effective liaison so that the focus of this project may answer questions being raised by the Bank's rural development program. Likewise, the Urban and Regional Studies Division of the DPS has assigned Anna Maria Sant'Anna to work approximately 3 months of her time on Brazil studies in the next fiscal year. Furthermore, the LAC Area Department has assigned Murray Ross and Roberto Echeverría to coordinate the Brazil country economic work with the analytical studies of the DRC "with a view to defining research projects that will be of special relevance for the Government's development strategy in the Northeast and for an own lending program." Such coordination will be indispensable to assure well focused problem-oriented research and to avoid institution complications when dealing with counterpart Brazilian agencies^{with} which the Bank is simultaneously developing both operational and research programs.

The research project has been organized jointly by the Development Planning Division of the DRC and IPEA/IPLAN of the Federal Ministry of Planning and General Coordination. Peter B. Clark will be in charge of the DRC research team and the Brazilian authorities will identify a leader of their counterpart team once it is formed. By relatively frequent visits to Washington and Brazil, these leaders will coordinate their research efforts so as to achieve maximum effectiveness. The DRC team will endeavor to assist with the identification of opportunities which can be used by other departments in the Bank to aid in the implementation of an effective strategy for reducing the poverty of the Northeast.

White Cover Report

A PROPOSAL FOR AN
ANALYSIS OF DEVELOPMENT STRATEGIES FOR NORTHEAST BRAZIL
PHASE I - AGRICULTURAL STUDIES AND LAND REFORM
PHASE II - INDUSTRIAL AND TERTIARY EMPLOYMENT STUDIES

Development Planning Division
Development Research Center

March 1, 1973

CONTENTS

- I. Introduction
 - II. Research Objectives
 - III. Phase I: Research Procedures for the Agricultural Sector Study and Land Reform
 - a. The Programming Model for Agricultural Production
 - b. Optimal Farm Size and Agrarian Reform
 - c. Agro-Industry
 - IV. Information Requirements
 - a. Questionnaire and Sampling
 - V. Phase II: Industrial and Tertiary Employment Studies
 - VI. The Collaborative Research Teams
 - a. The Brazilian Counterpart Research Team
 - b. The IBRD/DRC Team
 - VII. Tentative Time Schedule and Division of Work
 - VIII. IBRD Budget for Collaborative Research Project
-
- Appendix I: Survey Questionnaire of IPEA-SUDENE/DAA (Available on Request)
 - Appendix II: Tentative Schedule of the Agricultural Survey Work
 - Appendix III: Research on Industrial Development in Northeast Brazil

ANALYSIS OF DEVELOPMENT STRATEGIES FOR NORTHEAST BRAZIL

PHASE 1 - AGRICULTURAL STUDIES AND LAND REFORM

PHASE II - INDUSTRIAL AND TERTIARY EMPLOYMENT STUDIES

I. Introduction

In the last 15 years a number of governmental institutions and programs have been formed for the purpose of increasing the growth and welfare of the inhabitants of the Brazilian Northeast. A significant number of the measures taken to help reduce the poverty and increase the productivity of this region have not been as effective as originally hoped.^{1/} Therefore the Government has initiated new development programs to help the Northeast such as PIN and PROTERRA.^{2/} Probably the most important reason for the failure of many of the economic programs and reforms previously attempted in this region is that there has been no means of analysing in a precise and quantitative manner the effects and consequences of any proposed program throughout the relevant sector or sectors of the Northeast economy. The broad objective of the research we propose is to devise improved methods for evaluating the consequences of alternative regional development strategies and for simulating the impact of different PROTERRA and PIN policies. Analytical studies will be developed by the Brazilian and IBRD research team in order to assist Brazilian planners and policy makers check the efficiency and consistency of their policy options and to aid IBRD officials who are responsible for defining and evaluating potential loan programs.

Our research objective is to do more than develop improved methodology, however. Within a short time (12 to 18 months) the Brazilian Government needs information on potential economic policies and their social and economic effects in order to prepare a National Plan for the next several years. To be relevant, this research program must provide quick answers to some of the problems of the Northeast. Thus, it is necessary to limit initially the scope of the analysis to one or possibly two important sectors and to a representative sub-region of the Northeast.

^{1/} See Ministerio do Planejamento e Coordenação Geral, "Política de Desenvolvimento Regional no Brasil: Antecedentes e Perspectivas," and Nilson Holanda, "Integração Nacional e Desenvolvimento do Nordeste", papers for OECD - Brazil Conference, October 17-19, 1972.

^{2/} See IBRD paper "The Northeast Development Effort - Brazil", November 6, 1972, pp.64-68 for review of these programs. Also see Stahis Panagides, "Land Reform and Land Settlement in North/Northeast Brazil: A Background study to the Economic Mission to North/Northeast Brazil", draft, July 10, 1972.

Moreover, we must use, insofar as possible, the data that are currently available. The research program will focus on key interdependencies and relative price policy applying both microeconomic and macroeconomic analysis in order to obtain partial equilibrium results as quickly as possible to test initial hypotheses before undertaking full simulation of complicated policies.

The development studies of the Northeast region are intended to be multisectoral in scope, emphasizing balanced, self-sustaining growth through exploitation of intra-regional comparative advantages^{1/}. As described in the discussion paper, "An Approach to the Study of Northeast Brazil Development Strategies",^{2/} the initial emphasis will be on semi-arid agriculture^{3/} and the labor absorption aspects of industrial development^{4/}. While we think labor absorption and income redistribution are best studied in a multisectoral analysis, the phasing of the study, described below in detail, reflects certain changes in light of discussions with various counterpart institutions. In particular, the SUDENE-IPLAN intentions concerning agricultural survey studies for the immediate future, and the lag in the availability of the IBGE industrial census data, suggest that better short-run results can be obtained by concentrating primarily on agricultural and agro-industry studies.

Agriculture, the single most important economic activity in the region, has been overlooked in recent years when compared to the industrialization efforts made in the Northeast. Hence the initial emphasis of the research program will be directed towards collecting new data from all states of the Northeast for a comprehensive analysis of the agricultural sector giving special attention to the impact of land reform on farm family incomes. The agricultural activities in the Northeast are dependent to a large degree on the agroclimatic zones (Figure 1) in which they occur: the Sertão (backlands) and North Coast, the Zona da Mata (forest zone) and South Coast, the Zona do Agreste (rustic zone), and the transitional zone towards the Amazon region. SUDENE will be studying all zones except the Zona da Mata where INCRA has commissioned sociological studies to be conducted by the Instituto Joaquim Nabuco under the direction of Clovis Cavalcanti. However, with only slightly more financing, the SUDENE survey can be extended to 5 additional Municípios in the Zona da Mata to provide complete coverage of all areas of the Northeast.

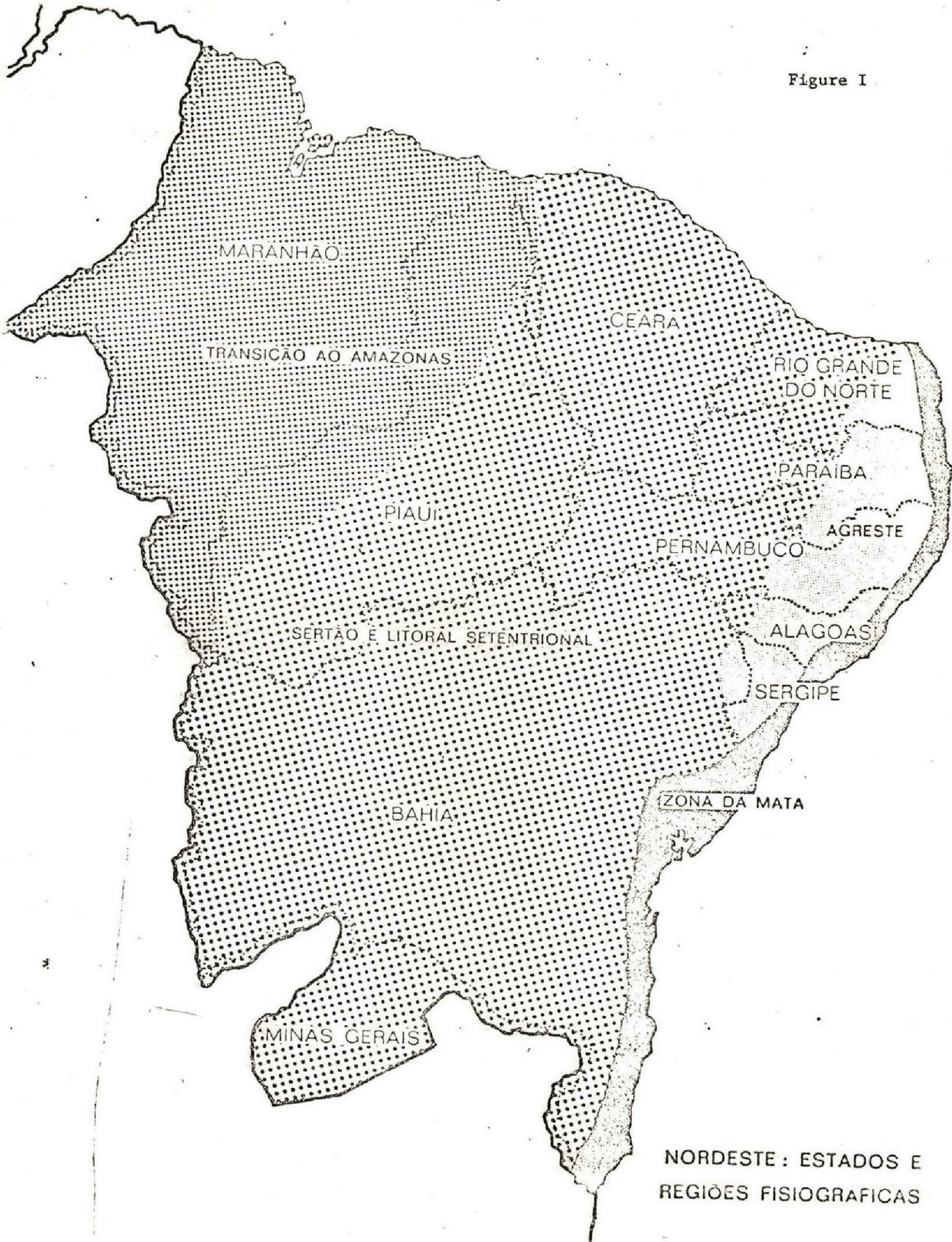
1/ While it is the objective of PIN to promote national economic integration it will be some years before national planners can make quantitative studies of the problems. At present, comprehensive comparative cost data do not exist for interregional studies except for a limited number of crops and industries. However, identifying markets external to the Northeast will be an important element. The Development Economics Department of the IBRD has attempted to develop with IPEA/INPES a quantitative framework to evaluate interregional comparative advantage in agriculture and agro-processing. A report describing the first results of this study has been prepared by Gottfried Ablasser.

2/ DRC discussion paper prepared February 1, 1973.

3/ DRC, op. cit., Appendix I, "Agricultural Development and Industrialization in Northeastern Brazil".

4/ DRC, op. cit., Appendix II, "Research on Industrial Development in Northeast Brazil", attached to this document as Appendix III

Figure I



NORDESTE : ESTADOS E
REGIÕES FISIOGRAFICAS

Development agencies such as INCRA, SUDENE, BNB and IPLAN are not sure whether the land reform and development programs being planned for the Northeast will draw the rural poor into effective participation in the Brazilian economic miracle. The research will attempt to identify ways of increasing the capacities and labor absorption of agricultural production, processing and marketing activities in each of the zones. We will begin to study industrial development and the tertiary sector as the new census data and additional information becomes available (6 to 12 months). Particular emphasis will be placed on the 34/18 investment subsidy program and strategies for employment of the underutilized labor force characteristic of urban centers in the Northeast. Once the industrial sector studies are underway, the complete multisectoral analysis may be attempted for a limited area of the Northeast, defined by the development corridors which penetrate the states of Pernambuco and Ceará.^{1/}

II. Research Objectives

Officials of the Ministry of Planning and General Coordination and the IBRD have indicated their interest in specific research objectives. IPLAN expects that the proposed collaborative research will help its planning staff increase their capability for analyzing policy and planning problems. The full-time involvement of the Brazilian research team being formed by IPLAN will assure the fulfillment of the long run training and technical assistance objective. In the shorter run there are a number of more specific questions that will be examined, principally relating to the agricultural sector. The analysis will provide a framework for considering some of the following problems:

- a) the technical feasibility and probable effects on yields, labor employment and income distribution of different cropping patterns, combinations of existing technologies and agrarian reforms, and the identification of the incentives required to implement such changes;
- b) the dynamic comparative cost ranking of crops with regard to their exportability to other regions of the country and abroad;
- c) the evaluation and design of credit and insurance programs, colonization projects and cooperatives that can be identified and implemented to initiate technological change on an extensive basis in backward areas and to reduce the adverse effects of risk (weather, tenancy, etc.) to farmers owning small sized plots; and

^{1/} Governors of the Northeast states asked that special emphasis be given to export corridors for the Northeast, where port terminals would be Recife in Pernambuco; Cabedelo in Paraíba; and Itaqui in Maranhao. Cited from Diario de Pernambuco, 18 de Fevereiro de 1973, p. 26.

il
everybody.

How does
this fit in
Projects
work?

- d) the identification and extent to which public and private investment projects in agricultural production, processing and marketing could absorb landless laborers into more permanent employment while increasing agricultural productivity, employment in all sectors and improving the distribution of income in the Northeast.

ie employment

III. Research Procedures for the Agricultural Sector Study

In this section we will describe the types of analysis required to implement the specific objectives outlined in the previous section. It appears that most of the specific objectives concerning the development of agriculture (including agro-processing)-can be achieved through use of mathematical programming techniques where economic choice and efficiency are central issues of the analysis. The IBRD/DRC's experience with sector and intersectoral programming models^{1/} and the farm level programming study of the Northeast in process at IPEA/INPES^{2/} furnish experience and pretested software. For those objectives not amenable to programming techniques, ancillary micro-economic investigations and econometric studies are planned. Many hypotheses will first be tested with partial equilibrium analysis so that results should begin to flow immediately from the study while other data is being reprocessed for the consistency required of the programming approach.

a. The Programming Model for Agricultural Production

What kind?

A programming model of Northeastern agriculture will be employed to analyse the questions of:

- a) reorganizing agricultural output with emphasis on family income targets, increased access to land and export promotion;
- b) the feasibility and inducements required to absorb labor employing alternative technologies and reorganizing current practices;
- c) the relationship of farm size and tenure arrangements to income and farmer's welfare; and
- d) investment alternatives and priorities for the public sector.

^{1/} John Duloy, Gary Kutcher and Roger Norton, "Part IV: The Agricultural Sector" in Goreux and Manne (ed.) Multi-level Planning: Case Studies in Mexico, North Holland Publishing Co., 1973 and Rene Vaurs, Vinh Le-Si and Jacques Loup, "A System of Programming Models for the Primary Sector of the Ivory Coast", DRC discussion paper, February 1973.

^{2/} Under the direction of George Patrick and Ruy Miller Paiva in cooperation with SUDENE-DAA.

Data for all this?

This analysis will require disaggregation of the production side in terms of: output (crops, livestock, processed goods and services), agro-climatic zones; farm size, tenure arrangements, soil conditions, farm organization, market orientation, technological choice (input alternatives and capital structure), and probably, time. For example, a given production activity might be the cultivation of one hectare in manioc, in a particular region of the Agreste, on an owner-operated farm of size 25-50 hectares, using traditional techniques, etc. On the demand side, it is expected to include alternatives for on-farm consumption, sales to Northeast markets, and sales to the rest of Brazil and export markets where these alternatives are considered feasible.

The first uses of the model will involve several testing and validation procedures to ensure that it will simulate, as closely as possible within the limits of the LP assumptions, the observed agricultural activities of the region. -These tests may indicate the need for additional data validation, variations in the objective function, additional constraints, and possibly structural changes.

After these operations, the model will be used to simulate a variety of alternative programs and policies. These experiments might include:

- a) exploration of the effects of an export promotion policy for various Northeast crops under the existing tenure arrangements and farm size distribution, i.e., what production re-orientations are feasible, and what is the likely response of various farm types and sizes;
- b) quantification of the gains in terms of output and social welfare under a program designed to use some of the policy instruments described above (especially credit, cooperatives and colonization schemes to expand the technological alternatives available to farmers;
- c) to simulate the effects of discrete changes in the distribution of farm size and tenure arrangements as prescribed by PROTERRA policies; and
- d) to simulate the employment and migration effects of different development programs.

The model will be designed to yield information on the optimal production and distribution patterns and on income and employment effects. The general aim, then, will be to provide a tool whereby the effects of alternative development strategies may be simulated and quantified so that policy makers may have a consistent framework for evaluating such strategies.

b. Optimal Farm Size and Agrarian Reform

One of the main objectives of the study will be to test the feasibility of alternative patterns of agrarian reform. Both SUDENE and INCRA are interested in planning the next phase of land reform on the base of a farm type which can be considered "optimal" from a socio-economic point of view. The regional agricultural model built by the IPLAN-IBRD team will make the analysis of this problem possible with regard to a series of social objectives and evaluation of the benefits and the viability of various possible schemes of land exploitation, subdivision and retenuing.

Geographically, the agricultural model will cover all the territory of the Northeast, with the possible exception of some areas of the state of Bahia. Of the covered territory, more than 80 percent belongs to the semi-arid zone (the Agreste and the Sertao), and more than 40 percent to the so-called drought polygon. Risk and uncertainty conditions determined by the extreme variability of rainfall dominate the economy of these zones. A major problem of the study will be, therefore, to incorporate these conditions into the analysis.^{1/}

Consideration of technological risk is especially important for evaluating alternative credit policies during the initial stage of agrarian reform. Alternative insurance schemes and flexible credit policies of the type successfully adopted in other countries (e.g., Spain, Italy, and the Netherlands) can be tested with reference to the alternative models of land reform.

There are basically two ways in which meteorological uncertainty can be incorporated in the planning model: through the objective function and through the constraints. Given that the farmers exhibit risk aversion because of their minimal capacity of absorbing losses, one of the problems to be answered is whether a transfer of risk from the individual farmers to larger units (cooperatives, associations, colonization projects, etc.) can be realized with the support of the society as a whole. As a second element of this testable strategy, the model can simulate the implications of reducing, at a cost, (through irrigation, storage, improved seeds, fertilizer, etc.) the variance of yields, quality of the products, various kinds of wasted output, etc.

c. Agro-Industry

Once data is available from the 1970 industrial Census and from the study now in progress by IPLAN's consultants (Montor-Montreal, Arthur D. Little and ITAL) which tests the economic feasibility of agro-industries

^{1/} A theoretical framework for looking at this problem has recently been developed in the DRC. See, Pasquale L. Scandizzo, "Subsistence Agriculture Under Risk," Peter B. Hazell, "On the Equilibrium of an Industry when Production is Uncertain", Peter Hazell and Pasquale Scandizzo, "What Policies for Subsistence Agriculture under Risk?" and Daniel P. Loucks, "A Simple Method for Including Stochastic Supply and Demand in Linear Programming Models", DRC discussion papers, February 1973.

in the Northeast, it is planned to incorporate the processing of agricultural ~~tural~~ products into the regional agricultural production model. Given ~~stochastic~~ supplies of agricultural products and the demands for processed products at various locations within and outside the Northeast, the potential and existing agro-industries will be studied with the goal of selecting additional locations and estimating capacities that would result in increased economic benefits and higher employment within the Brazilian Northeast.

This phase of the research will require the construction of production and cost functions, and could well involve the analysis of joint products, a factor that together with the stochasticity of inputs and demands, may complicate the solution. Once preliminary information from both IBRD and Brazilian sources has been collected and analysed, two to three months may be required before preliminary results of agro-industry models can be expected. Much will depend on the number of agro-industries to be examined and the quality and quantity of the available technical and economic data. Once separate models for analysing agro-industry problems have been developed and solved, they will then be linked to the agricultural production models for a more comprehensive analysis of the agricultural sector of the Northeast.

IV. Information Requirements

The study of the agricultural sector and its interrelationship with the rest of the regional economy will use different types of data which must be made compatible as they are introduced into the structure of the model. Such data include:

- 1) Alternative technologies by region and type of economic activity.
- 2) Time series and cross section data on demand, prices, stocks and flows of factors and products.
- 3) Production functions for agricultural products and processing industries.
- 4) Input and factor cost data by region for all types of industries of varying size.
- 5) Transport costs (by road, rail, animal power, and water) for different segments of the Northeast transport system.
- 6) Meteorological and soil data to identify agro-climatic zones.
- 7) Marketing data by product and/or by groups of products.

- 8) Population statistics (natural and social movements, migration, urbanization, etc.).
9. Irrigation areas - river and ground water supplies.
10. Distribution of land ownership and different types of tenure arrangements by zones of the Northeast.
11. Costs and technological requirements for different colonization and cooperative schemes.
12. Public policy instruments available (credit, insurance, land reform, price support, subsidized agricultural inputs, wage policies, labor laws, export subsidies, fiscal incentives, extension services, etc.

Much of this information is available from secondary sources and existing studies^{3/}. However, extensive primary data collection is required, particularly for the input-output coefficients of the programming model, and the risk-related studies. The SUDENE-DAA/IPLAN survey can, if undertaken in close cooperation with the DRC team, provide this primary data.

a. Questionnaire and Sampling ✓

At the moment SUDENE-DAA has available a tested questionnaire^{1/} which has been applied in a limited research project on land use supported by IPEA. The sample gives particular attention to soil characteristics but uses an outdated cadastro to define the elements of the sample^{2/}. Since the field work related to this research has been completed, there exists a set of valuable information regarding farmer's reactions, behavior of survey operators in the field, various difficulties encountered, revision problems, etc.

This questionnaire can be considered an interesting base for evaluating the performance of a number of variables which will be crucial in the operational design of the survey work. Since this survey was motivated by a small linear programming model, the questionnaire itself needs to be completely redesigned for the study at hand.

Besides the information contained in the existing questionnaire the following data sets are considered crucial and will be included to the extent possible in the new survey:

- a) Inputs by crop and by month: Except for planting and harvesting, a selective list could be sufficient. In some cases, bimonthly requirements could be also acceptable.

1/ See Appendix I.

2/ INCRA has produced a new cadastro which reflects the changes in land-ownership which has resulted from the initial reaction to the land reform laws. IBGE has agreed to help us use the agricultural census (the establishment basis) to draw the sample which must be taken from the revised cadastro (enterprise basis).

3/ Much of the Brazilian counterpart team's work during the first 6 months of the project will be spent putting together data from existing studies and making consistent the many fragmentary sources of information.

Survey
not
clear

7

- b) Demand and supply of credit: Because of the potential importance of the credit element in the policy simulation, detailed information will be required defining methods used to finance fixed and working capital needs, short and long term investment, etc.
- c) Risk evaluation and attitudes: Relations between cropping patterns and yield (or weather) expectations can be explored through direct and indirect questions. It is also important to test systematically the hypothesis frequently made in the anthropological literature, that the morador (or any other type of farm operator) has some idea of the natural cycles of weather, land fertility, etc.
- d) Marketing and on-farm processing activities:
- e) Reservation prices for output and labor:

A more general problem exists as to the sampling procedure to be adopted. SUDENE-DAA's objectives are largely complementary and need not be sacrificed for the objectives of this study. As the programming model will be regional in scope, the farm size study which is the object of SUDENE's research has to be conceived in a way that can be integrated in a regional model. This involves interalia estimate of sets of weights by classes of farms to be applied in the aggregation process.

A critical problem will be the timing of this survey. SUDENE/DAA has a contract to utilize the agricultural extension service in the Northeast to conduct the survey during the months of July and August 1973. This is the scheduling restriction which requires that the IPLAN IBRD team begin immediately to help SUDENE with the task of selecting the sample and designing the questionnaire. Appendix II describes the tight survey schedule.

why?

V. Phase II: Industrial and Tertiary Sector Employment Studies

9 This report will not describe in detail how the multisector analysis will fit together. However, at this point it would be useful to bear in mind that the very high rate of unemployment and underemployment found in the Northeast^{1/} and the depressed income levels of this region relative to the rest of Brazil^{2/} require that the resolution of these problems must be sought by considering all alternative uses of Northeast labor. With this objective in mind, Phase II of this project will begin once the IPLAN research team has been formed (because it is likely to include David Goodman who has spent the last three years evaluating the industrial subsidy scheme for the Northeast^{3/} and because the industrial census being prepared by IBGE is scheduled for release in July 1973.)

1/ See IBRD, op. cit., pp.18-20.

2/ See IBRD, op. cit., pp.20-25 and Ian Hume, "Problems and Prospects in Employment and Incomes in Northeast Brazil", IBRD draft, August 21, 1972.

3/ David Goodman and Roberto Cavalcanti, "Economic Development and Industrialization in a Backward Region: The Brazilian Northeast", preliminary draft, January 1973.

The principal objectives of the study of the industrialization program of the Northeast are:

- a. to evaluate the extent to which the capital subsidies of the 34/18 scheme is inhibiting labour intensive adaptive technology; OK
- b. to estimate the direct and indirect employment effects of the Northeast industrialization program; ✓
- c. to quantify the intersectoral linkages of the industrial complexes at urban centers like Recife, Campina Grande and Fortaleza both within the Northeast and to external markets in the South and abroad; and ?
- d. to estimate the regional structure of demand for goods produced by both modern and "traditional" or "unorganized" (i.e. unsubsidized small scale) manufactures and services.

A brief description of the intended research planned for the industrial sector is given in Appendix III.

We have not encountered anyone studying the tertiary sector in the Northeast. This is a difficult problem to study, but of great importance in Brazil. Several research groups in the South (IPE, CEBRAP, and CEDEPLAR) have projects which are collecting information about the residual sector for the disguised unemployed in urban areas. However, the closest thing to this in the Northeast is a survey of urban unemployed to be conducted by 4 university groups from Ceará, Natal, Pernambuco and Bahia; (sponsored by the Rockefeller Foundation and the Ford Foundation); a survey of employment problems in all areas of the Northeast to be conducted by economists and social anthropologists from the Museum School in Rio de Janeiro (sponsored by IPEA/CNRH and possibly the World Bank); and a survey of food and service supplies to major urban centers of the Northeast to be conducted by the Federal University in Pernambuco (sponsored by SUDENE).^{1/} The second project appears to be potentially a very useful complement to the multi-sector analysis being proposed in this report. It will include data for testing many behavioral relationships normally overlooked when considering the reaction of unemployed workers or the rural poor to government programs designed to alleviate their present circumstances. The social sciences in Europe and North America have developed and applied many new tools for predicting the impact of public policies on minority or disadvantaged communities. Empl. research planned.
~~These may readily be applied to the difficult problems of rural and urban poverty in LDC's.~~ — what points in NE? During the course of the next few years we hope to adopt some of these analyses to problems of central interest to the IBRD.

^{1/} A back-to-office report is being prepared describing the first two projects because of the IBRD's previous involvement in these projects.

VI. The Collaborative Research Teams

DRC discussions with IPLAN agreed in principle that the participation of both institutions could develop along the following broad guidelines:

- a. IBRD: - 3 1/2 professionals, 1 1/2 research assistants, a programmer and a Portuguese speaking secretary.
 - Finance of consultants
 - Finance of the trips of the Bank team to Brazil
 - Finance of part of the trips of the Brazilian team to Washington.
- b. IPLAN: - Minimum of 3 full-time, post-graduate trained professionals.
 - Support for the SUDENE agricultural survey of the Northeast.
 - Finance of part of the trips of the Brazilian team to Washington, plus domestic travel.
 - Finance of overheads, secretaries and space at the Federal University of Brazilia.

Final arrangements for research assistants and computing have not been discussed.

Appendix IV gives tentative information about the Brazilian counterpart team. Nilson Holanda stated that before the end of March he will nominate the person in charge of the project for IPLAN so that he might join the Bank team as it draws together the research proposal and budget.

VII. Tentative Time Schedule and Division of Work

The actual execution of the project work schedule depends upon the speed with which IPLAN is able to contract the counterpart team which will work at The University of Brazilia as well as the resource commitment of the Bank. IPLAN is anxious to have better knowledge of the Northeast to help prepare an effective strategy as part of the next development plan. The LAC Regional Department of the IBRD is also desirous that the project produce comprehensive information about rural problems so that loan projects may be prepared to alleviate rural poverty. Therefore, the time schedule of Table 1 and the staffing commitments from the various counterpart agencies reflects the resources required to have a new data base available in 8 months. This schedule will produce a steady flow of studies thereafter. The division of work also reflects the overlapping interests which this project has with several other departments of the Bank.

TABLE I

TENTATIVE TIME SCHEDULE AND DIVISION OF WORK

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VIII. IBRD Budget for Collaborative Research Project

Section VI of this proposal describes the working agreement between IPLAN and the DRC for the support of this project. The research project involves the combined resources of several Brazilian agencies and departments of the IBRD. We have intentionally made every effort to keep the budget, for such a comprehensive planning study, to the very minimum. Table II gives the budget estimates for the remainder of the present FY'73 and the next 2 fiscal years.

It will undoubtedly take some time to achieve one of the basic objectives of this project, namely, to assist the Brazilian Government in its desire to institutionalize regional planning skills in the Ministry of Planning and General Coordination. This goal has led us to select a collaborative research arrangement, although this may take some time to be fully realized. Technically qualified counterparts can be recruited only from outside the present staff of IPLAN. Therefore, the budget shown in the following table reflects a pessimistic approach to the distribution of the research costs between the two institutions. It assigns to the Bank costs which are in the process of negotiation with IPLAN (see footnotes). We should view the larger costs associated with the initial phase of a collaborative project as characteristic of the responsibility which the Bank must take for institution building. Primary data collection, some programming costs and the consultancy of David Goodman have been discussed as costs to be assumed by the IPLAN. However, we view the FY '74 budget proposal as a "pump priming" expenditure possibly required to indicate the Bank's strong commitment to this problem. The IBRD share of the costs will go down with time, and once the project is underway producing basic data, it is quite likely that loan funds or outside support will be forthcoming to support the future course of the research project.



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Withdrawn by S. Thompson	Date August 19, 2025			

Appendix II

Tentative Schedule of the Agricultural Survey Work

- April-May Design of the Sample and Development of the Questionnaire:
The base for designing the sample will be the inventory of properties (cadastro rural) plus other types of secondary information. The results of the SUDENE - INPES survey can be utilized to obtain a first estimate of the bias involved in considering ownership rather than entrepreneurship as the criterion for the formation of the sample. The same results will be a valuable source of information for designing an operationally effective questionnaire.
- June Testing of Questionnaire - Presurvey:
A tentative figure for the number of municipios to be selected for the survey (as base for the stratification and drawing of the sample) is 40 to 50. A presurvey to test farmers' and interviewers' responses to the survey will be conducted in farms located in some of the municipios likely to be selected as representative of the agroclimatic micro zones.
- Last Week of June Training of Interviewers:
A subcontract from SUDENE to ANCAR (ABCAR elsewhere) will be necessary to provide the field personnel and to carry out the enumeration activities in the municipios selected. There will be two agents surveying in each municipio involving an average sample size of 100 fazendas.
- July-Aug. 45 days Enumeration in the Field:
During this stage a continuous presence of technicians of the research team must be in the field. It is proposed also to utilize, if the IPLAN team is too occupied or it is too expensive to import this technical supervision to be spread out throughout the Northeast, to subcontract a group of economics professors and graduate students of the Federal University of Pernambuco (Programa Mestrado em Economia) to assist with this phase of the work. Their participation would assure them of data useful for MA theses, might be funded by a research grant from the Associação dos Estudios Graduados na Economia, and would provide more complete control of the survey in the field.
- September 1st 2 wks. Preliminary Review of the Results:
A summary examination of the results will be made at this stage to verify the reasonableness of the answers collected, completeness of the questionnaires, etc. Discussions with community leaders, extension agents, etc. will be necessary in each municipio surveyed.

September last two weeks and October	<u>Processing of the Questionnaires:</u> Coding, tabulating and all the other processing operations will be carried out to the extent possible in the SUDENE computer center. Correction of errors, estimates of the sample bias on the basis of secondary surveys, etc. will also be part of this phase of the research.
November- December- January	<u>Analysis of Results:</u> Several levels of analysis of the data collected are possible and may be followed separately or together by the parties who joined together in survey. The measurement of the efficient size of farm establishments may be attempted in both partial equilibrium analysis (by SUDENE) and under more dynamic conditions (as modelled by the IPLAN - IBRD research team).

Annex III

Research on Industrial Development in Northeast Brazil

Background

Brazil's program of massive capital transfers (known as the 34/18 plan) to the depressed Northeast region has exerted a strong influence on the overall growth rate of this region, but has had only marginal effects on employment and incomes of low-skill laborers. Nor have the investments made thus far or planned been of a nature required for self-sustaining balanced growth.

The following aspects of these problems are taken from IBRD report "The Northeast Development Effort. Brazil" (11/6/72):^{1/}

1. The SUDENE-approved investments of the 34/18 plan have been concentrated in three urban locations: Fortaleza, Recife, and Salvador. As such, they have not significantly affected the severe underemployment problems of the inland Sertao region.

2. Most of the investment projects have been for capital-intensive, resource-based industries^{2/} which are not significant demanders of unskilled labor. Furthermore, sufficient numbers of appropriately skilled workers are not available in the Northeast, nor are adequate

^{1/} A recent study by David E. Goodman ("Industrial Development of the Brazilian Northeast: An Interim Assessment of the Tax Credit Scheme of Article 34/18", in Brazil in the Sixties, Riordan Roett, ed., Vanderbilt, 1972) generally concurs with and elaborates on these aspects.

^{2/} About half of the total and 60% of recent 34/18 approved investments have been in the chemical, metallurgy, and nonmetallic minerals industries. (Goodman, p. 243).

training programs available. Thus much of the entrepreneurial talent and skilled labor is imported from Southern regions.

3. Industries to which the typical 34/18 approved industries have backward linkages are not developing at a pace to ensure balanced self-sustaining growth. Noting that certain 34/18 industries (such as machinery and transport equipment) purchase over 90% of their inputs from Center-South in based firms, Goodman comments on the "remarkably limited degree of interdependence (among these industries) and Northeastern sources of supply".^{1/} Often, however, supplying and service industries are relatively labor intensive; if the hoped for employment effects of the 34/18 scheme are to be realized, it is imperative that a favorable climate for the expansion and/or relocation of these backward-linked industries be available.

4. The Federal highway program has reduced transport costs in the Northeast (as well as elsewhere in Brazil) to the extent that prohibitively high transport costs no longer constitute a barrier to location decisions in this region.

These points suggest that a large scope exists for both expanding the employment and income effects of the 34/18 program, and for broadening the industrial base of the Northeast to maximize the development effects stimulated by the 34/18 capital transfers.

Development Poles and the 34/18 Program

Either by accident or design, the investments of the 34/18 program

^{1/} Goodman, p. 245.

largely fit the "model" of the development pole stimulus:^{1/} the induced emergence of "propulsive" type industries at "growing points" in regions suffering lagging growth rates. In fact, many of the approved 34/18 projects, particularly those in the chemical and mineral industries, conform to Hansen's basic characteristics of "propulsive" firms: a) a relatively large firm in a b) relatively fast growing sector which c) has important interrelations with other sectors.^{2/} Furthermore, as mentioned above, the investments have concentrated in three coastal urban centers.

However, these centers cannot be considered as development poles unless they exhibit sustained growth which include agglomeration and attraction effects. The evidence currently available suggests that the 34/18 induced growth may dissipate itself unless backward-linked industries are developed more fully and the poles are more fully integrated with the surrounding regions.

Clearly, national economic growth objectives have been sacrificed with the capital transfers (knowledgeable sources have indicated privately that the incremental capital-output ratio in the Northeast may be twice that of the South). If the regional economic benefits from these sacrifices are to be maximized, additional (or modified) programs and policies are required.

Research Objectives

Research concerning the opportunities and alternatives involved

^{1/} For a comprehensive review of development pole literature, see Niles M. Hansen, "Development Pole Theory in a Regional Context," (Kyklos, Vol. XX, 1967, pp. 702-727).

^{2/} Hansen, p. 717.

in the industrialization of the Northeast can assist Brazilian policy decisions and IBRD lending programs connected with future Northeast development objectives. Although the emergence of even these three large development poles will not be a panacea for the problems confronting this region, it is clear that industrial development must play a key role, and the stimuli afforded these centers by the 34/18 investments should be taken full advantage of.

The primary objective of a research program based on the above considerations should be to create or enforce the development pole effects described above. More specifically, it should identify and evaluate alternative programs for 1) ensuring balanced growth of the industrial centers, 2) maximizing the employment generation of this industrial growth, and 3) spatially dispersing this growth, particularly into the impoverished agricultural regions.

These objectives require answers to some very basic questions such as what is in fact the model of Brazilian industrialization for the Northeast; what have been the employment effects; what is the multiplier for 34/18 investments of various kinds; and what are the locational criteria for Northeast firms and prospective migrant firms.

Research Strategy

The research strategy must depend on the availability of data, the willingness of Brazilian agencies to cooperate, and the capabilities of any Brazilian counterpart(s). However, the nature of the topic is such that partial answers may be obtained with minimal data and participation.

or a comprehensive, long range plan could be devised given strong interest from Brazilian agencies and IBRD willingness to finance data generation such as regional input-output tables.

The first step, therefore, is to assess the quality of industrial data available, and to examine possibilities of constructing a region-specific I-O table.^{1/} However, the most feasible short run approach appears to be to select a few important 34/18 financed industries at a specific potential growth pole (such as Recife); identify their employment patterns; and examine their backward linkages and the regional distribution of the supplying industries. At this stage the data needs can be discerned for the second, potential most fruitful phase of the study, that of examining the potential for using alternative, labor-absorbing processes, dispersing certain types of industry (e.g., agro-processing) into the interior, and of inducing backward-linked industries to relocate in the Northeast.

Expected Output

The study will produce various reports evaluating alternative IBRD/Brazilian programs for stimulating the growth and employment effects of the three urban centers, and several articles concerning the methodological approach used in development pole studies.

Equally important, the study will produce input for a contemplated longer range study of the whole Northeast region and its interrelations with the rest of the Brazilian economy.

^{1/} The 1970 Industrial Census does contain region-specific data, and a new national I-O table is being constructed at IBGE.