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**INDUSTRIAL
DEVELOPMENT
CENTRE,
FEIRA
DE SANTANA**

DP/BRA/70/512

BRAZIL .

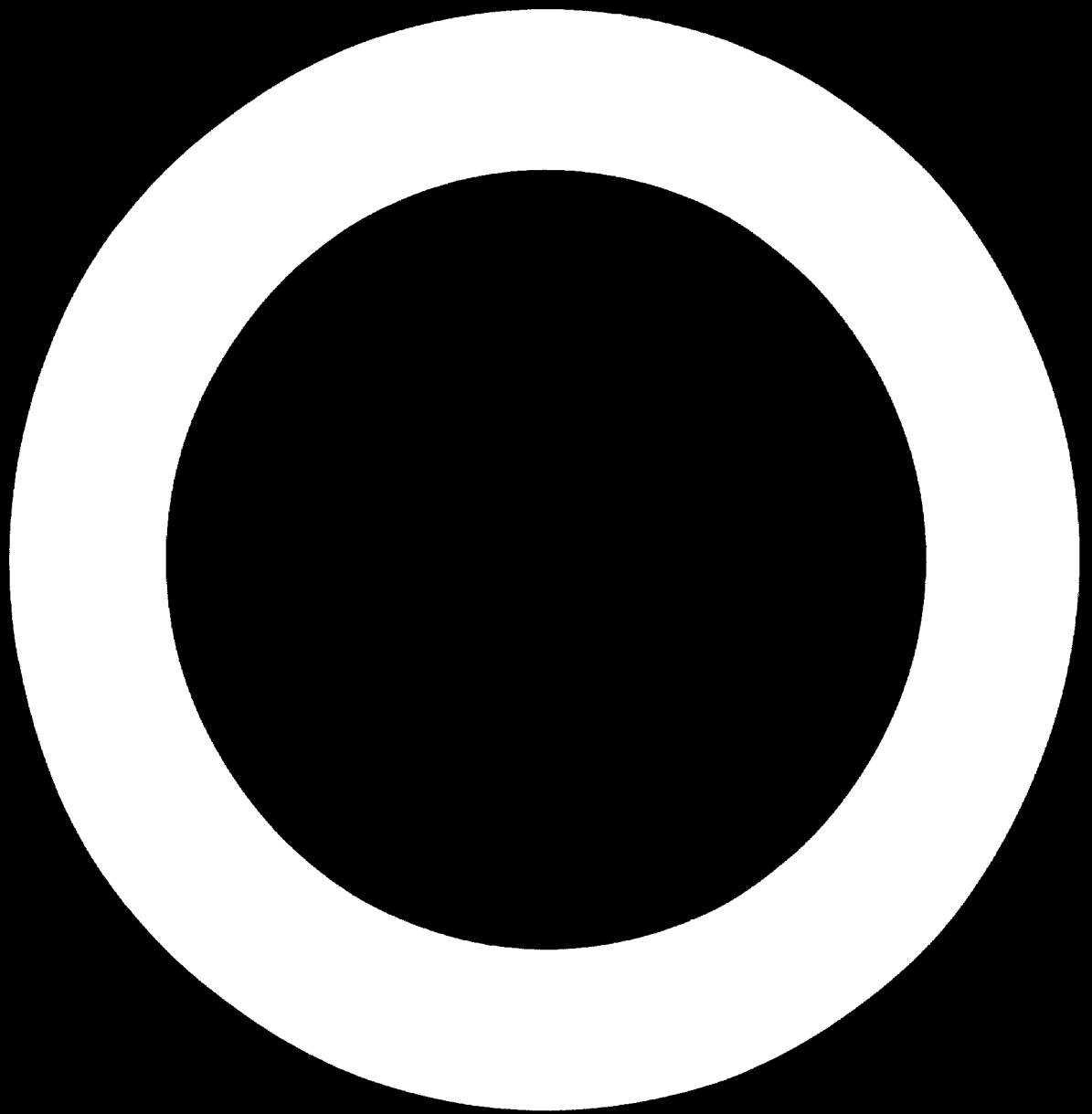
TERMINAL REPORT

**Prepared for the Government of Brazil by the
United Nations Industrial Development Organization,
executing agency for the
United Nations Development Programme**



United Nations Industrial Development Organization

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United Nations Development Programme

INDUSTRIAL DEVELOPMENT CENTRE

FEIRA DE SANTANA

IP/IRA/70/544

BRAZIL

Project findings and recommendations

**Prepared for the Government of Brazil
by the United Nations Industrial Development Organization,
executing agency for the United Nations Development Programme**

**United Nations Industrial Development Organization
Vienna, 1975**

Explanatory notes

The conversion rate of the cruzeiro (\$Cr) was in July 1974: \$US 1 = \$Cr 6.65.

The following abbreviations are used in this report:

CEDIN	Centro de Desenvolvimento Industrial (Industrial development centre)
CEPED	Centro de Pesquisas e Desenvolvimento (Research and development centre)
CFI	Coordenação do Fomento à Indústria (Co-ordination of industrial promotion)
DIC	Departamento da Indústria e Comércio (Department of industry and commerce)
ITAL	Instituto Tecnológico de Alimentos (Institute for food technology)
NAI	Núcleo de Assistência Industrial (Centre for industrial assistance)
PROINTER	Programa para o Desenvolvimento Industrial do Interior (Programme for the industrial development of the interior)
SUDENE	Superintendência para o Desenvolvimento do Nordeste (Agency for the development of the north-east)

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SUMMARY

The project, "Industrial Development Centre, Feira de Santana" (DP/BRA/70/544) formally terminated its field activities, as stipulated in the original Plan of Operation, with the departure of the subcontractor personnel, in mid 1973 after two and a half years of operation. However, implementation of the fellowship programme and ad hoc training activities of local professionals by three UNIDO advisers extended the project operations up to mid 1974. The first version of this report (mid 1973) did not include the final reports of the three advisers who submitted them separately. This final version now includes the findings of the three advisers. Several of the recommendations in the report were followed up by another UNDP/UNIDO project (BRA/73/008), attached to the Secretariat of Industry and Commerce of the State of Bahia. Within the framework of this project, the project manager stayed on in the project area and continued supervising the work of the three experts and the follow-up. During its operation (until mid 1974) the project has provided extension services in 145 cases. Assistance in the organization of these services was given by the expert in industrial extension services who was in Salvador for the project from September 1973 to March 1974. Some 53 financial studies were elaborated, involving the establishment, extension, modernization and relocation of industries, as well as 36 studies concerning tax exemption. An industrial information unit was organized, which published 27 technological informative bulletins. A management training unit was established, including a film library and an audio-visual training unit with modern equipment, and some 80 business administration courses took place with the participation of over 1,900 entrepreneurs. A programme of courses covering all aspects of industrial management was set up (some 20 to 30 courses a year of a duration of 10 to 20 hours each). These courses are held not only in the capital, Salvador, and in Feira de Santana but also in all the other major cities of the State of Bahia.

Assistance was given in organizing an industrial studies unit, which produced some 90 specific studies such as industrial profiles, sectoral studies, plans for new industries and industrial estate studies. The estimated investment resulting directly from feasibility studies undertaken by

project personnel, amounted to \$US 17 million and involved six industrial areas for an investment of \$US 6.5 million. A further \$US 13 million have been generated indirectly as a result of market surveys and technological advice. At the end of 1974 in the industrial areas in the interior alone, some 145 industries had signed options for industrial land. The total investments represented by such industries amounted to \$US 149 million and created over 9,000 job opportunities. By mid 1974, \$US 25 millions had already been committed and more than 2,800 jobs had been created.

INTRODUCTION

The availability of natural resources, mainly petroleum, gas and minerals, and the abundance of hydroelectric power constitute valuable assets for realizing accelerated industrial development in the State of Bahia which forms a part of the north-east region of Brazil and constitutes a relatively less developed area within the country. Fiscal and financial incentives are provided by federal and state governments.

An important step in accelerating industrial development was the creation in 1965-1970 of the industrial park Aratu, near the state capital of Salvador. The park occupies an area of about 436 km², including two port terminals for ocean-going ships. Some 160 industries have to-date reserved areas in the park and 50 of these industries are already in production. The total investment generated by the establishment of these industries is estimated at \$US 560 million, creating employment for some 30,000 workers.

However, the development of industries in the Salvador area was not followed by any significant progress in the interior of the state. The state government in late 1967, established a special programme for the industrial development of the interior (PROINTER), which in 1968 became a small and medium-scale extension service centre (NAT), connected with the programme of the Federal Agency for the Development of the North-East (SUDENE) for assistance to these industries through bankable project preparation, industrial consultancy and management training courses.

The state government decided to expand the programme with the establishment of an industrial development centre in Feira de Santana, the second city of the state and an important town on the roads into the interior. Assistance was requested from the United Nations Development Programme (UNDP) in 1968 in the establishment of this centre.

A. Financial contribution

The project was approved in January 1970. The project received UNDP Governing Council earmarking of \$US 663,900 and a Government counterpart contribution to the equivalent of \$US 898,000. The Bahia State Secretariat for Industry and Commerce was designated as government co-operating agency

and the United Nations Industrial Development Organization (UNIDO) was designated as participating and executing agency. The Plan of Operation was signed on 14 March 1971 and field work was initiated upon the arrival of the UNIDO project manager on 31 March 1971.

Owing to difficulties in receiving nominations of candidates for fellowships, the budget allocation for fellowships was cut down from \$US 47,600 to \$US 13,425 by agreement between the Government, UNDP and UNIDO. The savings were utilized for additional expert services. An amendment of the Plan of Operation has been signed to this effect. International and counter-part staff of the project is listed in annex I.

B. Objectives of the project

The purpose of the project according to the Plan of Operation, was to assist the Government in expanding and improving the Industrial Development Centre (CEDIN) at Feira de Santana, with a view to promoting accelerated industrial development and to improving the efficiency of industrial enterprises of the State of Bahia.

The project was expected:

(a) To stimulate the establishment of new industrial enterprises, chiefly small and medium-size units, and improve the operation efficiency of existing and new enterprises in the state;

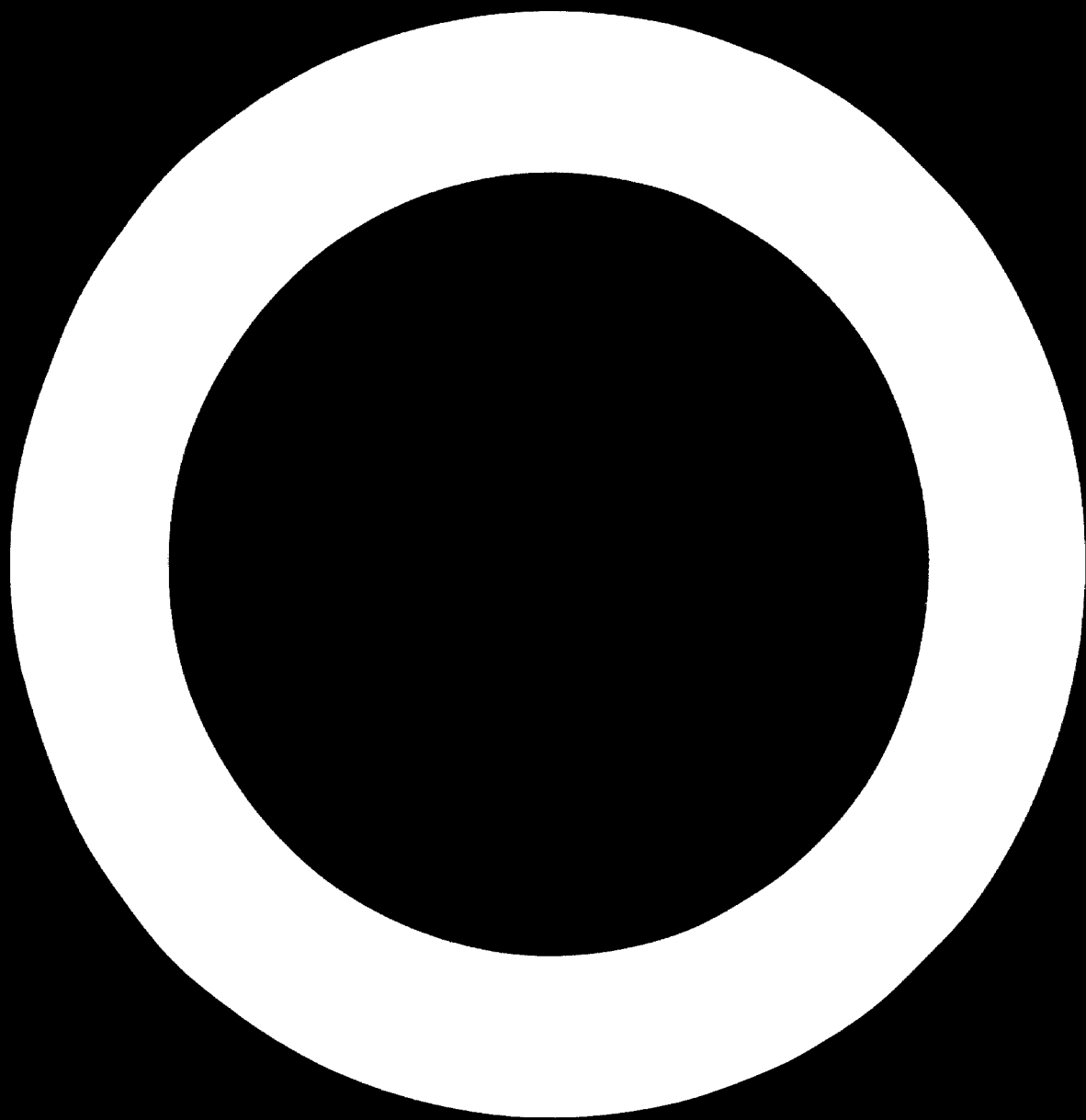
(b) To generate additional income and employment thus preventing or reducing the exodus of rural manpower to the Salvador area or south of the country;

(c) To secure, as far as possible, balanced industrial development between the different zones of the state and, especially, to lessen the growing disparity in the economic development between the Salvador area and other sectors of the state.

C. Documentation

During the period of the project, CEDIN produced an impressive amount of scheduled and ad hoc technical reports. Some 260 requests were executed for entrepreneurs, development bodies, and other clients in the form of technical reports. Some 98 of these technical reports were prepared by the subcontractor Industrialconsult and 10 reports were prepared by other international personnel. From the outset of the operation of the project, the

State Secretary requested that no reports should be prepared without the active participation from one or more Brazilian counterparts. Based on co-operation between national and international professionals through on-the-job training, this method of work was followed throughout the operation of the project. The rapid industrialization of Bahia requires that ad hoc pre-investment reports reach the government and private promotional agencies as rapidly as possible. All reports were translated into Portuguese. In several cases the reports were subjected to a revision by government professionals in order to fit into the format used and required by development agencies. Annex II lists the scheduled and ad hoc technical reports prepared by the international personnel. The list follows the classification made in the work plan of the Plan of Operation.



I. PROJECT OPERATIONS

A. Implementation of activities

The work plan of the Plan of Operation indicated the main activities the project was to undertake. Because of the institutional framework in the Secretariat for Industry and Commerce those activities were considered in two groups.

The first group of activities related to industrial studies and industrial planning that have been undertaken in close collaboration with the Department for Industry and Commerce (DIC), a department of the Secretariat.

The second group of activities related to extension services for small and medium industries, i.e. consulting services, financial assistance and management training courses.

Industrial studies and planning

Industrial planning and programming

The lack of reliable statistical data on the input, output and location of existing industries in Bahia and other states of the north-east, made it extremely difficult to determine the basic needs and, therefore, to introduce meaningful industrial programming. An industrial survey was undertaken through a subcontract by Techniberia early in 1971. As this survey was of limited value, it was followed up continuously with the aim of getting up-to-date and accurate data on existing and projected industries in the area. Some 200 industries were visited and analysed, with the material later processed in the form of a data bank.

In an ad hoc technical report prepared by the subcontractor Industrial-consult, it was proposed to establish mechanical industries to supply equipment and machinery for the second petrochemical complex to be established in Bahia. A simplified matrix on interrelations between the mechanical industries and the petrochemical complex was elaborated.

Proposals were made on regional industrial development suggesting diagnosis of future development poles of the interior, in addition to those municipalities having a planned industrial park. The basic idea was to include industrial zoning as a component in planning urban centres of the micro-regions.

The project assisted both the CEDIN and the DIC in introducing programming of work and ad hoc industrial studies. For industrial planning purposes, it was suggested preparation of project data sheets, that are now continuously followed up on implementation aspects.

Industrial investment promotion

In order to provide the recently created investment promotion unit in the Secretariat for Industry and Commerce with information on identified industrial opportunities, a number of industrial profiles were prepared. Industrial processing of the following products was suggested: desiccated coconut, brushes and brooms, doormats, twine, cashew nuts, various local fruits (such as umbú, maracujá and goiaba), tomato paste, lime juice, plastic bags, horse-shoes, skins and hides, banana sweets, ceramic tiles, soluble paint, cassava starch and medicinal cotton.

Ad hoc assistance was given in organizing foreign missions with the aim of promoting industrial investment. Special emphasis was laid on the leather and wood-processing sectors. Assistance was given to the state secretariat in preparation of an industrial investment promotion bulletin. Suggestions were made as to the preparation of municipality information briefs.

Industrial studies

Meat processing and slaughter-houses. In connexion with the study on a slaughter-house in Itapetinga, a preliminary survey of the meat-processing sector was undertaken. The slaughter-house is to have a daily capacity of 300 heads of cattle and a total investment of \$US 1.7 million.

Milk processing. An analysis of the milk distribution in the State of Bahia and proposals for its improvement was made by Industrialconsult. Subsequently a pre-investment study was prepared for cheese production in the south of Bahia with an investment of the order of \$US 0.6 million. Two more projects were requested and are under current study.

Fruit processing. This sector was studied for future development of agro-industrial plants. Industrial profiles were prepared.

Wood processing. Two sectoral studies were prepared for the projects on sawmilling and wood furniture. A technical report on the possibility of establishing an integrated wood complex in the south of the state was prepared

by Industrialconsult. This complex has a projected annual capacity of 50,000 m³ of lumber for decorative panels, plywood and plane wood for building construction. The projected investment is around \$US 3 million, with an estimated operating income of \$US 6 million.

Clothing industry. This sector was studied in depth by a specialist from Industrialconsult. Six industrial pre-investment studies were finalized. Investment generated into this sector will be of the order of \$US 0.6 million.

Leather industry. A detailed survey of the hide and skin sector was undertaken by Industrialconsult. A seminar was held on the subject with the participation of cattle breeders, tanners, and hide exporters. Three pre-investment studies were elaborated. These project studies will result in investments of \$US 8 million for three hide tanneries and \$US 12 million for two goatskin and sheepskin tanneries. Interest has also been shown in investment in shoe production.

Industrial financial incentives

An analysis of existing sources of credit for small and medium-scale industries was carried out during the pre-operational stage of the project. As there exist numerous financial arrangements provided through the State Development Bank by the Bank of Brazil, the National Development Bank, and the Bank of the North-east, the proposal of new financial arrangements as indicated in the Plan of Operation, was given low priority by the state authorities. Nevertheless, a technical report on establishing a leasing agency for new production equipment was prepared by a UNIDO consultant. The proposal for the financing of construction of standard factories for small industries was accepted for one industrial estate in Feira de Santana. Five factory buildings are at present under construction, with financial assistance from SUDENE. The buildings, with a factory area of 280 m², will be rented to entrepreneurs at a monthly rate of 3 times the highest minimum wage prevailing in the country. This first experiment of its kind in the north-east has been received with enthusiasm by the entrepreneurs. The industrial estate expert, who assisted CEDIN at the end of the project, suggested various types of standard factories, adapted to the needs of the industrial areas of the interior of Bahia.

Industrial parks

From the outset, the project assisted the CEDIN and the division of industrial parks in the planning aspects of industrial parks. The project headquarters, situated at the industrial park of Feira de Santana, had close contact with the superintendency of Subaé. Advice was given in estimating water supply, infrastructural requirements, etc. The project assisted in site selection of the industrial park of Vitória da Conquista - Imborés - which covers 450 ha.

Based upon studies by Industrialconsult, the industrial park of Juazeiro was divided into two nuclei, one close to the trunk-road between Recife and Salvador, and the other, bordering the river São Francisco. Suggestions were made for provision of standard factories as well as for a warehousing system in the area. Industrialconsult also evaluated locational parameters for Rio das Contas, the industrial park of Jequié.

All five industrial parks have now been implemented and it is estimated that the total investment amounts to \$US 4 million. The investment made considerable use of the project services in the physical planning of the parks. An industrial estate expert assisted in training CEDIN staff on the promotion of medium and small-scale enterprises in those parks. Advice was also given to the architects of the municipalities where the industrial parks were installed.

Subcontracting arrangements for small industries

Studies were carried out by Industrialconsult on the possibilities of the supply of services and components by small enterprises of the interior to large enterprises (situated both inside and outside the State of Bahia).

Industrial extension services

Proposals for over-all improvement of the industrial extension services were included in scheduled technical reports submitted separately to the Government (see annex II). These reports were prepared by Industrialconsult and UNIDO experts. The Industrialconsult expert worked directly with the industrial extension division of CEDIN helping individual industries. The UNIDO expert evaluated the work of the same division and suggested new methods and procedures.

Industrial extension services also advised on better management procedures for small industries. Assistance in this field was given by a group of technical staff, which organized courses in this field. The experts of industrial extension gave some limited assistance in this field but it was only from January to May 1974 that a management training expert, directly recruited by UNIBO, made a more systematic contribution in this field. He improved the training procedures and reviewed the work programme of CEDIN in the cities of the interior.

B. Assessment of project operations

Concept and planning of the project

The original request from the state government of Bahia indicated that the centre would be an autonomous organization with administrative and financial independence. It was also the intention to merge the centre and another body in the state secretariat, i.e. the "Coordenação de Fomento a Indústria" (CFI). According to the Plan of Operation, the centre was to be a semi-autonomous body with its own budget, rules and salary scale.

The report of the UNDP mission in May 1969, following discussions with the Bahia Government, recommended a project of 354 man-months expert services over a period of four years. After further discussions, a final request to UNDP specified 192 man-months expert services for two years and an equipment component of \$US 75,000. The Plan of Operation makes provision for 36 man-months expert services plus 116 man-months subcontracted experts, i.e. a total of 152 man-months expert services. During the above-mentioned scaling down of the project, its ultimate objectives remained unchanged.

The project became a multi-purpose industrial organization with components of management training, economic studies and programming, extension services for small-scale industries and planning and operation of industrial estates and some industrial research. The body was not limited to small and medium-scale industries, it also dealt with some problems of general industrial development. In fact, the CEDIN was supposed to perform all activities, which were included in the work programme of the State Secretariat for Industry and Commerce and the DIC with its divisions, industrial districts division, industrial promotion and information division, industrial incentives division and industrial consultancy division.

Adaptation of the project to local conditions

It was evident, right from the start of project operations, that the CEDIN was not to be an autonomous body functioning independently from the state Secretariat of Industry and Commerce, but would have to work within its framework. It was also clear that some of the activities attributed to the CEDIN project in Feira de Santana could only be performed close to the State Secretariat in Salvador.

In fact, the location of all the activities of CEDIN in Feira de Santana caused problems. Temporary facilities had to be used and difficulties in communications with Salvador caused national and international staff to shuttle between the two cities, thus affecting their productivity. This situation was partly solved when entering the new building of CEDIN, although the team sent by the subcontractor preferred to live in Salvador and commute to Feira de Santana every day. In the early stage of project operations, the project manager, upon the request of the state secretary for industry and commerce, who also is the president of the board of directors of CEDIN, undertook an analysis of the work programme and terms of reference of both the DIC and the CEDIN. The study made recommendations aiming at a division of work between the two bodies, which were accepted by the parties concerned. The recommendation to open a branch office of CEDIN for closer contacts with the Development Bank was not accepted until much later. The decision to concentrate the industrial studies activities in Salvador further improved project operations. Proposals to decentralize extension service operations in close co-operation with the industrial parks authorities was also accepted and the superintendents of the parks are now the extension officers of CEDIN. A formal agreement was reached in August 1972 between the two bodies establishing formally the previous informal division of work. The organization chart of the CEDIN and the DIC is shown in annex III.

Effects on training and instructions

The Plan of Operation made provision for 84 man-months of fellowships of a duration of 6 months each. In September 1971, seven candidates were proposed for fellowships for the year 1972. However, owing to change of local management and the increase in the workload of the CEDIN, the Government decided to cancel its proposal until the operations of the CEDIN were

consolidated, and more professionals had been contracted to cope with the increasing operations of the centre. In December 1972, six professionals in industrial development were proposed as candidates for fellowships of between 2 and 3.5 man-months each, or in total 16.4 man-months. The main purpose of this training was the study of the operations of development institutions similar to the ones in Bahia. Special emphasis has been placed on regional aspects of development. Only three of these fellowships were implemented during the period October 1973 to July 1974, amounting to a total of 6 man-months. Another candidate was proposed by the Government for a fellowship of 3.5 man-months in August 1973 bringing the total implemented fellowships to 9.5 man-months. The reasons for this reduction was not only the workload of the counterparts, but also a lack of knowledge of English or another working language which reduced the possibilities of their being trained abroad.

The funds liberated by the reduced fellowship programme were utilized in recruiting three more experts who would concentrate on the training aspect of the project. An adviser in extension methods was recruited for six months and a management training adviser for four and a half months. These two experts have given seminars for the professionals of CEDIN in various areas of its operations: e.g. teaching methods, personnel management, production management, marketing management, financial management and management accounting. An adviser in industrial estates was recruited for twelve months. The expert trained his counterparts on methods to manage industrial estates and to attract small industrialists; he also advised architects of various municipalities on physical planning methods for the industrial parks.

It was proposed in 1971, to hold a seminar in industrial estate planning within the framework of the CEDIN operation. However, this seminar was later held by SUDENE on a regional basis for all the north-east of Brazil. Seminars were held in April 1971 on Area Surveys and Industrial Sectoral Analysis and in March 1972 on Hides and Skins Industrialization. The project personnel participated in seminars with technical reports on ceramics, extension services operations, industrial estates, industrial information and industrial promotion.

Expert and subcontractors

The expert component made provision for one project manager 30 man-months and 6 man-months for consultants. Under a subcontract with Industrialconsult,

96 man-months of long-term expert services were to be provided for an industrial economist/market analyst, an industrial engineer, an industrial extension adviser and a mechanical engineer; and 20 man-months of sectoral short-term specialists.

After some difficulties arising from the unsuitability of certain long-term experts provided by Industrialconsult, it was decided to lay greater emphasis on sectoral specialists. Finally, the services provided by the sub-contractor amounted to 69 man-months of long-term experts and 35 man-months of sectoral specialists. Due to the higher cost of short-term specialists this resulted in an over-all decrease from 116 man-months to 103 man-months.

Equipment

Equipment to be provided by the UNDP according to the Plan of Operation included library books and equipment for laboratory and workshops on the order of \$US 10,000 and \$US 60,000 respectively. The selection of equipment was to be made by the project manager in consultation with the Government.

The amount allocated for technical books and publications was spent in full. The library has now some 2,500 items catalogued and is well organized with a co-ordinated index system, enabling quick references on specific technical matters.

Two basic ideas were prevalent at the planning stage of the project in 1968 concerning the laboratory and workshop for the Feira de Santana industrial park. The first was the establishment of common service facilities (such as a heat treatment shop), the second was the establishment of laboratories for testing raw materials and finished products and improving processing techniques. The industries that were established in the industrial park, however, were factories with modern machinery such as electronic lathes and up-to-date foundry facilities, many even with their own laboratories, and had little use for common service facilities. Furthermore, during the pre-project period 1968-1971, the Government decided to establish a research and development centre (CEPED) for quality control, production trouble-shooting, product and process improvement in the fields of food industries, non-metallic minerals industries, petrochemical industries, wood processing, and fiber processing.

After discussions with the Government, it was decided to utilize the equipment component for establishing the following:

- (a) Audio-visual training unit;
- (b) Technological testing unit;
- (c) Technical information unit.

After studies made by the Industrialconsult, the equipment was chosen and installed.

Government counterpart contribution

The construction of the CEDIN headquarters building, scheduled to be completed in January 1971, was delayed, seriously affecting the efficient operation of the centre. The building was finally completed in August 1972. Office furniture, office machines and five vehicles were provided at the start of project operations. Further equipment was procured during the course of the operations. The centre has now seven cars and modern and excellent office furniture and machines.

On an average the centre has had about 20 professionals and some 30 administrative personnel. Out of a total 357 man-months of engineering counterpart personnel to be provided by the Government, only 95 man-months were provided, i.e. 26%. This fact has been the most serious constraint on project operations. The Government committed itself to provide 540 man-month professionals in economics, business administration and accounting. Some 375 man-months were provided, or 69%. The turnover among the professionals was extremely high and this factor has had a negative effect on the continuity of project operation.

Socio-economic perspective and investment generated

Feira de Santana, the second largest city in Bahia, was some four years ago mainly an agricultural marketing town, with practically no industries. The decision to include an industrial park as part of the urban master plan and establish an industrial extension services centre close to the park has transformed the socio-economic perspective of the city fundamentally. During the last two years, the city has acquired its first two modern hotels and its first modern air conditioned cinema; a university has been opened, a water

system constructed and a telephone and telex system installed. Some 5,000 new job opportunities have been created as the result of the industrial park. In total, 31 industries have decided to establish themselves in the parks, representing a total investment of about \$US 90 million. At the time of termination of the project, 8 plants were in production and 12 were under construction. Practically all of these industries have received various forms of assistance from CEDIN.

Besides the implementation of the CEDIN industrial extension services centre in Feira de Santana, representing an investment of \$US 0.6 million, the investment, generated indirectly from pre-investment planning work carried out by the project, for implementation of the industrial parks of Imborés, São Francisco, Jequié and Feira de Santana is in the order of \$US 2.9 million. The investment generated directly from the findings and recommendations of the studies carried out by the project, represented by industrial projects where the promoter has taken a decision on implementation, is estimated at \$US 36 million aimed entirely at the industrialization of the hinterland of Bahia. By mid 1974, \$US 25 million were already committed for the installation of factories in the industrial parks, Vitória da Conquista, Juazeiro, Jequié and Ilheus, and 2,800 jobs were created (see annex IV).

II. CONCLUSIONS AND RECOMMENDATIONS

A. General

1. Dispersion of scarce resources

A special feature of public and private administrations in developing countries is the proliferation of development centres and/or institutes. This is also true in Brazil and in Bahia. Analysing the past histories of such bodies, of which some have managed to survive after operating in parallel to new bodies with similar or even the same functions, one is led to believe that some of these bodies have been built not to fill a need but rather around the personality of one executive and/or administrator. In a developing area with limited executive resources especially in the technical field, there is a danger that the development body at some occasion will lose its creator and/or prime mover. This has been the case of some institutions in Bahia, and CEDIN has been no exception in suffering from leadership problems. The original creator and prime mover of CEDIN who negotiated the project with UNIDO and UNDP was replaced on the eve of the start of operations.

The Government is recommended to undertake a careful study on existing and proposed development bodies with a view to studying ways and means to:

Decrease administrative costs

Utilise scarce technical executive management resources to achieve optimum effect of the bodies

Avoid duplication of activities between existing development organs

Institutional strengthening

Like every federal or state organization in Brazil, CEDIN had difficulties in attracting professionals, especially industrial engineers, the salaries given

by private industries being much higher than the salaries CEDIN could offer. It succeeded in attracting more economists and business administrators. CEDIN might have been able to attract more industrial engineers by concentrating all activities related to industrial studies in Salvador. Salvador being the capital, industrial engineers could be better attracted to CEDIN if its projects division which is now in Feira de Santana were transferred there. Close work with the State Development Bank would also make the projects division more efficient and enable it to tap the intellectual resources already existing in the capital. In order to continue to propose its will to develop its interior, the State of Bahia could prefer that the industrial extension division, now in Salvador, be transferred to Feira de Santana. This would put CEDIN physically, but also psychologically, nearer to the industrialists of the small towns.

3. Industrial credit schemes for small-scale industries

During the project the problem of credit arrangements for small-scale industries was not considered a high priority. Now that industrial estates have to be filled by such small-scale industries and the extension service of CEDIN is expanding, it seems necessary to consider special credit schemes for small and medium-scale industry, which would be adapted to the conditions of interior of the State of Bahia. Special credit lines exist in other states of the north-east of Brazil. CEDIN could also make use of the experience of the Development Bank of the State of São Paulo where a special credit programme for small and medium industries (PROPEME) has been set up. Taking an active role organizing such a credit scheme would enhance the influence of CEDIN in the state credit organizations.

Another credit scheme which was discussed during the project is a leasing system for machinery and equipment to be distributed to small manufacturing and

service enterprises. CEDIN could examine again the proposals made by a UNIDO expert in this respect. It is recommended that CEDIN then request follow-up assistance of several months duration for an expert to work out the financial and technical data for such a scheme.

4. Industrial data bank ,

The north-east of Brazil is probably one of the most studied areas of the world from various development aspects. The data of surveys and studies in their detailed form, however, are seldom available for state planners. Almost every state has one or more industrial censuses, with industrial parameters that are insufficient for planning purposes. It might be argued that the data collected in an industrial census could be used for planning purposes. However, whereas this is theoretically feasible, it is not possible because the individual data are not published and are treated as confidential. The same is the case concerning tax declarations for industrial enterprises. The responsible government bodies quite naturally are reluctant to make these data available for economic planners. Correct and reliable industrial data are not only needed for sector-level programming but also for plant-level programming. A prerequisite for planning of the industrialization of the state is the collection of statistical data from available sources, classification of these data and implementing a system for processing the data. This should be given highest priority by the state government. Completed individual questionnaires are available also from some project operations, i.e. the industrial inventory of Feira de Santana, the area surveys of Vitória da Conquista and Juazeiro as well as from sectoral studies on milk processing factories, saw mills, slaughter-houses and wood furniture.

5. Industrial information unit

In the work plan of the centre it is indicated that a technical library should be maintained in order to provide backstopping for technological extension

services (production trouble-shooting, product and process development or improvement, quality control systems and techniques). It was realized, however, in the initial stage of the project, that a technical library alone was not sufficient in fostering industrial development. The normal concept of a reference library - as a collection of books - had to be abandoned in favour of a dynamic industrial information unit.

It was felt that such a unit is imperative in any industrial development process. It was proposed that the unit should have the following basic functions:

Question and answer service

Dissemination of information service

Publishing of a technological newsletter Cedinforma

The unit, owing to several factors such as distance from the capital, language knowledge of local staff etc., has not developed according to programme. The Government is therefore invited to consider transfer of this important activity to Salvador.

6. Internationalization of industrial development administrators

The federal authorities have given special attention to technological forecasting, that is of fundamental importance, especially in the economy of Brazil, with a GNP growth rate of above 10% (Bahia about 15%). There is no doubt that Brazil, in terms of GNP, in 1980 will compare with some of the major European countries. It has been estimated that Brazil up to 1972 imported about \$US 230 million in technological know-how in the form of patents, technical assistance, etc., and about \$US 400 million in the form of machinery and equipment. On the same basis, it has been estimated that Brazil will have to import some \$US 2,000 million in industrial technology up to 1980.

The import of industrial technology is closely connected with the previous paragraph on the establishment of an industrial technology information unit. Though a substantial amount of know-how for the industrialization of Bahia will be derived from the south-central part of the country, it is evident that "internationalization" of this unit would be of outmost importance as an assistance to existing and future entrepreneurs. A survey made in the United Kingdom of Great Britain and Northern Ireland some years ago on the language break-down of periodical literature in technology demonstrated the following: English 46%, Russian 14%, German 10%, French 9%, Japanese 4%, Spanish 3%, Italian 3%, Portuguese 2% and other 9%.

From the above, it is evident that language training and knowledge has to be introduced in the development administration apparatus in Bahia. The Plan of Operation foresaw two bilingual secretaries and two interpreters, of which only a half-time bilingual secretary was provided. In the professional staff of the centre and the state secretariat, some fifty people, there were only two who have working knowledge of English. The state secretariat realizing this deficiency has embarked on intensive training of senior officials recently. It is however recommended that considerations should be given to recruit bilingual secretaries and professional interpreters.

7. Industrial administration, planning and programming

The decision to establish Brazil's second petrochemical complex in Bahia and the possibility of the creation of mechanical and metallurgical industries, will put great responsibilities on industrial development bodies of the state. The Government is recommended to study the functions, duties, procedures and structure of existing development bodies with a view to strengthen its administrative apparatus in industrial development. With the "discovery" of Bahia

some five years ago as a possible alternative for industrial location by entrepreneurs from the south-central part of the country and the recent interest on the part of foreign investors, the need for industrial planning and project identification has become more acute.

The need for industrial studies on industrial sectors and regional development poles will increase and has to be carefully programmed. It is recommended that the execution of such jobs be made according to the system adopted by the centre. The study should have clear objectives, terms of reference, and a realistic plan of work including chronogram flowchart with detailed description of each phase and what each professional should accomplish during an indicated period of time.

8. Co-operation with other development bodies

Considering the difficulties in balancing the concept of the centre from management consultancy towards technological assistance as well as the limitation in recruiting engineers and technologists, a close co-operation with other bodies was recommended, particularly with those engaged in technological activities.

As a consequence of a seminar on development of hides and skins promoted by the centre, an agreement was signed between the CEDIN and the Tannery School in Rio Grande do Sul. The chemical engineer, who was the counterpart to the expert in hides and skins, will maintain close co-operation with that school on technological problems.

After various contacts between the centre and a UNDP large-scale project on forest development and research, an agreement was reached in January 1972 whereby the project will assist the CEDIN on technological problems in wood processing industries in Bahia.

On fish development, similar contacts were maintained between the centre and a UNDP project on fishery development and research. The result of these contacts could not be followed as this project's area of activities goes from the State of Espirito Santo and southwards.

Continuous contacts have been maintained with the CEPED, with particular reference to the processing of tropical fruits. Initial negotiations have been held in order to formalize an agreement on collaboration. The CEPED, according to the programme of work, will cover the following areas: food processing, ceramics, non-metallic minerals and petrochemicals.

Contacts have also been maintained with the Institute of Food Technology (ITAL), which covers a number of important development areas, e.g. meat processing, coffee, cereals and bakery products, distilleries, fruit processing, milk and milk products, oils and fats, fish processing and vegetables processing. It is recommended that CEDIN studies a form of collaboration with ITAL that has accumulated an impressive know-how on improvement, modernization and technological assistance for the food industry during ten years of its existence.

It must, however, be stressed that CEDIN should actively follow up these agreements by arranging for participation of the technological bodies in technical assistance jobs and by promoting joint seminars or workshops on specific technological problems.

B. Specific

9. Export processing zones

With the recent introduction of the federal law enabling foreign investors to establish or relocate factories in Brazil provided their productions are

geared for export, a study on the establishment of export processing zones within the existing or planned industrial parks merits attention. During recent years, a new concept of free zones, different from the traditional commercial free zone functioning as ware-housing, distributing and re-exporting depots, has received more and more attention especially in developing countries. This is the so called export processing zone or industrial free zone. These zones constitute an arrangement for importing articles free of duty and manufacturing or processing them in an enclaved area created for the purpose of safe-guarding the customs boundary. The main advantages for Bahia would be:

Transfer of industrial management and technology

Creation of new job opportunities

Increase of export volume and foreign exchange savings

The advantages for the foreign investor are obvious, when considering the high salary scales in some industrialized countries. Added to the fiscal and financial incentives offered by SUDENE, the Development Banks, state authorities, PROMOEXPORT etc., it is felt that the establishment of export processing zones would be a further stimulus for attracting foreign investment.

Very few examples of this type of export processing free zones exist. A typical example for such a zone is Kaohsing in Taiwan. It was established in 1966 and started functioning in 1967, covering an area of about 70 ha. The projections made in the feasibility study of that zone were 120 enterprises, investment \$US 18 million, annual sales \$US 72 million, and 15,000 employees. However, five years later, the following impressive achievements of the zone were a fact: 157 industries in operation (225 projects approved), total investment \$US 45 million, annual sales value about \$US 300 million and 54,000 people employed.

The state government is recommended to consider studies of establishment of export processing zones in connexion with the ports of Aratú and Itkhús.

10. Financial incentive in form of standard factories

The high percentage of insolvencies and bankruptcies among the industrial projects financed by the development bodies suggests the necessity of either improvement of the control and the follow-up of loans or introduction of other forms of financial incentives. The CEDIN has, during its operation, suggested a leasing agency for industrial machinery. Another possibility is the creation of standard factories in the industrial parks. The successful experiment in Subaé suggests that the establishing of standard factories is an effective financial incentive for attracting new industries as well as for relocalizing existing ones.

The expert in industrial estates has recommended to the state government to consider elaborating a scheme for erection of standard factories in all five industrial parks of the interior. Although the construction cost of the Subaé modules appears reasonably low, about \$US 50 per m², it was recommended that a study be made on designs, with special consideration to the environment, expansion plans, space requirements etc.

11. Follow-up of a study on metallurgical industries

In 1971 the state requested a survey of the metallurgical industries from the UNIDO/SIS programme. The survey was undertaken by a contractor, Techniberia. The study considered the possibilities of utilization of the metallurgical raw materials (iron, copper, manganese, chrome, lead, barite, magnesite, and aluminium), the projected demand of metallurgical products and gave recommendations for establishing new production units or expanding existing ones. The study

concluded that Bahia offered a good starting basis for the installation or expansion of extractive metallurgical industries, provided that mining and concentration processes were improved. Improvement in transportation methods from the mining sites to the processing plants would have to be made. The study also revealed a deficiency in technical personnel and specialized man-power in the metallurgical field.

The state has realized the necessity for specialized "know-how" and technical assistance in order to follow up the recommendations made in the study and for further support of the development of the Bahian mineral extraction and metallurgical industries. The state government is recommended to consider the establishment of a specialized metallurgical technology unit attached to one existing development organization. Such a unit should be geared to introduction of modern technologies, such as installation and operation of prototype plants, evaluation of new processes, specialization of testing analysis and examination of samples, and to assistance to industries.

12. Study on the possibility of establishing a mechanical industries pool

The Federal Government has defined that the country's second petrochemical complex will be established in the State of Bahia. Out of the total investment for the complex - about \$US 1.2 billion up to 1980 - it has been estimated that about half will consist of machinery and equipment. According to development authorities, national industries participated by 20% in the construction of the oil refinery in Bahia. The corresponding figure for the building of the oil refinery at Duque de Caxias in the south was 55%. It has further been estimated that some 47% of the machinery and equipment installed at the construction of Brazil's first petrochemical complex near São Paulo originated from national industries.

Considering the high concentration of mechanical industries in the south of the country (over 90%), whereas the north-east share of mechanical manufacturing amounts to merely 1% (Bahia 1%), the state government has given highest importance to increasing the state's share in machinery and equipment input for the establishment of the petrochemical industries.

Based on studies by project personnel, a study is recommended on the feasibility of establishing a mechanical pool in Bahia. In particular, the study should include concrete proposals for new industries, expansion of existing industries and requirements for machinery and equipment for petrochemical industries.

13. Diagnosis and diversification of tobacco industry

During 1972 the state government bodies have begun to pay special attention to development of so-called "traditional industries". An important seminar was recently held on sugar production, which considered various ways and means to increase existing capacity, modernization of production apparatus, special credit lines, utilization of waste and relocalization of factories.

In Bahia the annual production of tobacco is about 30,000 tons. The major part of the tobacco is exported in the form of tobacco leaves for production of cigars, mainly to Denmark, the Federal Republic of Germany, Holland and the United States of America.

The state government is recommended to undertake a study of local manufacturing of cigars and cigarillos, with collaboration of a foreign well-known manufacturer. Special attention should be given to the famous Capeiro tobacco for which Bahia is well-known internationally.

14. Development of fish processing industries

It is estimated that Brazil's requirements for fish and fish products in 1977 will amount to 1.5 million tons. The total annual production of Brazil at present amounts to slightly over 1/3 of this quantity. The State of Bahia's annual catch amounts to about 16,000 tons, which means that a considerable amount of frozen or otherwise processed fish are supplied from the south of the country. A significant factor is that the best species of fish on the continental shelf of Brazil are to be found outside the southern Bahian coastline. In the past, two factors have hindered the development of a fishing industry in Bahia, firstly the low purchasing power of the rural population in the state and secondly the inaccessibility to possible fishing ports in the south of the state.

With the recent completion of the coastal highway joining Salvador and Rio, the opening up of fishing ports is a possibility that merits attention. It is also felt that the present rapid industrialization will result in increased purchasing power and in demand for quality fish.

Annex I

PROJECT PERSONNEL

A. International staff

UNIDO experts

Contract dates

Gunnar Asplund, project manager	31 Mar. 1971	31 July 1972
Frank Ashenden, export promotion expert	1 June 1971	30 June 1971
Franz Helm, extension methods adviser	23 Sept. 1973	4 Apr. 1974
Geoffrey Percival, industrial estates expert	11 July 1973	11 June 1971
René de Vicq, management training adviser	21 Jan. 1974	8 May 1974

Experts provided by subcontractor Industrialconsult

G. Bonomo, ceramic specialist	20 Aug. 1972	20 Dec. 1972
	and	
	25 Feb. 1973	24 Apr. 1973
K.v. Brandenburg, industrial engineer	15 May 1971	21 Apr. 1973
A. Chierici, industrial economist	22 Apr. 1971	19 July 1971
F. Dolsan, clothing specialist	1 Nov. 1972	30 Apr. 1973
L. Gattinara, leather specialist	27 Dec. 1971	11 Mar. 1972
	and	
	28 June 1972	18 Aug. 1972
	and	
	4 Feb. 1973	4 Apr. 1973
F. Iacono, mechanical engineer	9 Aug. 1971	31 Oct. 1972
J. Otto, fruit and vegetable specialist	30 Apr. 1972	15 Dec. 1972
A. Piva, wood processing specialist	9 Aug. 1971	30 Aug. 1971
I. Principe, industrial economist	20 Oct. 1971	13 Apr. 1973
G. Rosa, slaughter-house specialist	9 Aug. 1971	12 Sept. 1971
	and	
	10 Oct. 1971	21 Dec. 1971
A. Saba, industrial programmer	10 July 1972	25 Sept. 1972
F. Snichelotto, industrial engineer	22 Apr. 1971	8 June 1971
A. Spear, wood processing specialist	3 Mar. 1972	12 June 1972
M. Verde, industrial engineer	8 June 1971	21 Apr. 1972

B. Counterpart staff

<u>Industrial development centre (CEDIN)</u>	<u>Contract dates</u>	
João Durval Carneiro, general manager	15 Mar. 1971	11 Aug. 1972
and	21 Nov. 1972	-
José Albano de Araujo Lima, deputy director (mechanical engineer)	15 Mar. 1971	2 Feb. 1972
Jairo Alfredo Oliveira Carneiro, deputy director (lawyer)	18 May 1971	10 Aug. 1972
and	11 Aug. 1972	-
Mauro de O. Albuquerque, economist	24 Apr. 1972	-
Sergio R. de Almeida, business administrator	15 Mar. 1971	-
Mancel O. de Araujo, chemical engineer	16 Sept. 1971	-
Vanderlei B. de Azevedo, metallurgical engineer	15 Mar. 1971	2 Feb. 1972
José Barbosa de Matos Neto, economist	15 Mar. 1971	31 Dec. 1972
Raymundo T. Barbosa, economist	15 Mar. 1971	-
Julio C. Batista, economist	25 Apr. 1972	-
Hildebrando S. de Carvalho, economist	16 Oct. 1972	-
Paulo P. de Carvalho, economist	24 Apr. 1972	9 Oct. 1972
Jaime F. Coelho, mechanical engineer	23 Mar. 1972	-
Diderot H. Correia, business administrator	15 Mar. 1971	2 Feb. 1972
Arthur L. D'Almeida Couto, lawyer	15 Mar. 1971	30 Apr. 1971
Emir de A. Farias, economist	1 Feb. 1973	-
Humberto S. Guimarães, economist	4 Dec. 1972	-
Bernadeth de O. Lopes, accountant	13 Apr. 1971	-
Afonso Maia Bastos, economist	15 Mar. 1971	-
Mersino Matos e Meira, accountant	24 July 1972	-
Artur A.A. Netto, economist	1 Feb. 1973	-
Leonardo L. Nunes, business administrator	15 Mar. 1971	30 June 1972
Francoisco F. Pimentel, chemical engineer	1 Oct. 1971	-
Aderbal A. Pinto, metallurgical engineer	15 Mar. 1971	-

Contract Dates

Raymundo C. Pinto, lawyer	13 Apr. 1971	-
Almir Porte Sá, economist	15 Mar. 1971	1 Nov. 1972
Pedro Reis Aguiar, civil engineer	15 Mar. 1971	-
José Rosemberg, business administrator	15 Mar. 1971	31 July 1972
Antonio de S. Salles, business administrator	6 Jan. 1973	-
Roberto L. e Silva, architect	12 Mar. 1973	-
Humberto V. de Sousa, economist	15 Mar. 1971	30 Nov. 1972
Luis G. de Souza, civil engineer	15 Mar. 1971	-

Secretariat for Industry and Commerce

José Renato Abreu de Campos, economist
Marcos José Alves Rocha, civil engineer
Celia Andrade Modesto, lawyer
Alberico Bouzon, economist
Jurandy Cardoso Vilela, economist
Euvaldo José Cunha Caldas, economist
Paulo R. Dantas Gaudenzi, economist
Rocha Holtz, economist
Francisco Liguori, economist (Director of the Department of Industry)
Edson P. Lima, economist
Marinaldo M. Mello, economist
Ney da Rocha Banoeira, economist
Marco Antonio Rocha Medeiros, civil engineer
Luis Gongara Ribeiro, architect
Firmino Sampaio Neto, economist
Vanda Sampaio de Sá Barreto, sociologist

Annex II

SCHEDULED AND AD HOC TECHNICAL REPORTS^{a/} PREPARED
DURING THE IMPLEMENTATION OF THE PROJECT

A. Scheduled technical reports

	<u>Prepared by</u>
Industrial survey of the State of Bahia	Techniboria
Proposal for establishment of a machinery leasing agency in the State of Bahia	F. Ashenden (UNIDO expert)
Report on improvement of the industrial extension services	G. Asplund (UNIDO expert)
Report on introduction new extension methods	F. Helm (UNIDO expert)
Feasibility study on a slaughterhouse in Itapetinga	Industrialconsult
Feasibility study on a wood processing complex in the south of Bahia	Industrialconsult
Pre-investment study on a leather tannery (500 hides/day)	Industrialconsult
Pre-investment study on a goat and sheep skin tannery (2,000 skins/day)	Industrialconsult
Establishment of a mechanical industries pool in connection with the petrochemical complex in Bahia	Industrialconsult

^{a/} Most reports have been submitted in the Portuguese language only, as requested by the Government.

B. Ad hoc technical reports ^{b/}

Industrial planning policies, programming and financing

Study on the export-oriented industries of Bahia

Demand of electric energy and study on cost of electric energy for industries

Determination of future policy on electric energy supply for industries

Study on cost of industrial water supply in relation to industrialized countries

Industrial inventory of Feira de Santana, Vitória da Conquista and Itapetinga (3 reports)

Analysis of existing financial incentives for investment promotion (2 reports)

Methodology of investment promotion in development poles of the hinterland

Application of market research methods for secondary industries

Application of methods on techno-economic studies for secondary industries

Study on inter-industry relation

Development of agro-industrial processing in Bahia

Study on criteria for definition of small and medium scale industries

Outline for diagnosis of industrial enterprises

Man-power cost survey

Technical report concerning fiscal incentives to clothing factories

Technical report concerning fiscal incentives for a silical-factory

Industrial districts

Final report on industrial estates implementation (by G. Percival, UNIDO expert)

Guidelines for establishing small-scale industrial estates

b/ Prepared by subcontractor Industrialconsult if not otherwise indicated.

Study on definition of minimum industrial plots

Locational parameters for industrial plants

Suggestions for localization of a wood processing "Kombinat" in south of Bahia

Study on localization of the industrial park of Juazeiro

Proposal for development of small-scale industries in the industrial park of Juazeiro

Study on a project for establishment of a mixed terminal in Juazeiro
(3 reports)

Study on localization of the industrial park of Jequié

Report on site selection of the industrial park in Vitória da Conquista

Economic studies on the localization of industrial areas in Alagoinhas, Sto. Amaro, Irecê and Jacobina (4 reports)

Study on a specialized estate in the industrial park of Jequié

Regional study in connection with location of a wood complex in the south of Bahia

Study of water supply for the Subaé

Study of relocation of 12 small food industries to the industrial park of Feira de Santana

Sectoral studies

Study on wood furniture production

Study on saw-milling

Study on slaughterhouse (in connection with elaboration of feasibility study)

Study on clothing industry

Analysis of bricks-and-tiles factories

Diagnosis of situation for establishing refractory bricks production

Study on ceramic handicrafts industry

Suggestions for improvement of milk collecting and distribution

Comments on a study of development of metallurgical industries in the State
(2 reports)

Outline for a seminar on leather industrialization

Technical report on marketing of hides and skins

Marketing management for tanning industries in Bahia

Study on raw-material supply for future tanneries

Comparative study between ISIC and IBGE classifications on mechanical industries

Job-description for a feasibility study on a mechanical pool in Bahia

Industrial feasibility studies, bankable projects, industrial profiles and similar

Investment brief on conserved pineapple

Industrial profiles

Grape juice

Lime and orange juices

Tomato paste

Maracujá, guava, umbú juices

Banana flour

Dehydrated potatoes and carrots

Mango nectar and purée

Leather tannery (by G. Asplund, UNIDO expert)

Skin tanning

Desiccated coconut (by G. Asplund, UNIDO expert)

Brushes, mats from coco fibre (by G. Asplund, UNIDO expert)

Plastic bags

Medicinal cotton (by G. Asplund, UNIDO expert)

Processing of cashew nuts (by G. Asplund, UNIDO expert)

Processing of banana sweets

Cassava starch (by G. Asplund, UNIDO expert)

Slaughterhouse/cold storage

Pre-investment study cassava pellets

Pre-investment study vegetable oil

Study on a factory for mechanization of horseshoe production

Technical study on utilization of ceramic waste for building blocks

Technical study on establishment of a factory to produce artistic ceramic ware

Industrial extension services

Improvement of a maize milling operation in a factory

Diagnosis of a lime factory

Control of electrical installation for a valve factory

Cost calculations for lighting poles of steel

Calculations for foundation for installation of a foundry

Diagnosis of a cassava mill

Diagnosis of an agricultural implements factory

Preliminary analysis of a mineral water factory

Layout and selection of machines for a mechanical industry

Process improvement for a wood working factory

Financial analysis of a saw-milling operation for three different saw-mills

Preliminary analysis of a coco nut fibre factory

Testing of production capacity of a cassava mill

Assistance in selection of machinery for a tomato paste factory

Suggestions of process improvement (6 cases and 6 different tanneries)

Process improvement in furniture factories (2 reports for 2 factories)

Technical report on a gasoline tank factory

Construction of a rotary drier for cocoa beans

Final report of extension methods adviser (by F. Helm, UNIDO expert)

Introduction of new products in a wood-working factory

Technical assistance for improvement of electrical installation (4 reports and 4 factories)

Technical report on a candles factory

Utilization of waste from a saw-mill

Layout, flow-chart, and process improvement for clothing industry (6 cases for 6 different factories)

Other studies

Technical report of installation of laboratory and testing facilities in CEDIN (3 reports)

Report on treatment of industrial waste with special reference to the industrial parks of Juazeiro and Jequiá (2 reports)

Outline for a programme of industrial security

Market surveys for electric motors, foundry castings, printed products, animal fat (4 reports)

Study on raw-material supply for a fruit-processing factory

Analysis of programming for industrial development in the State of Bahia

Proposal for co-ordinating the work between CEDIN and the Department of Industry

Survey of existing industrial research facilities in the State of Bahia

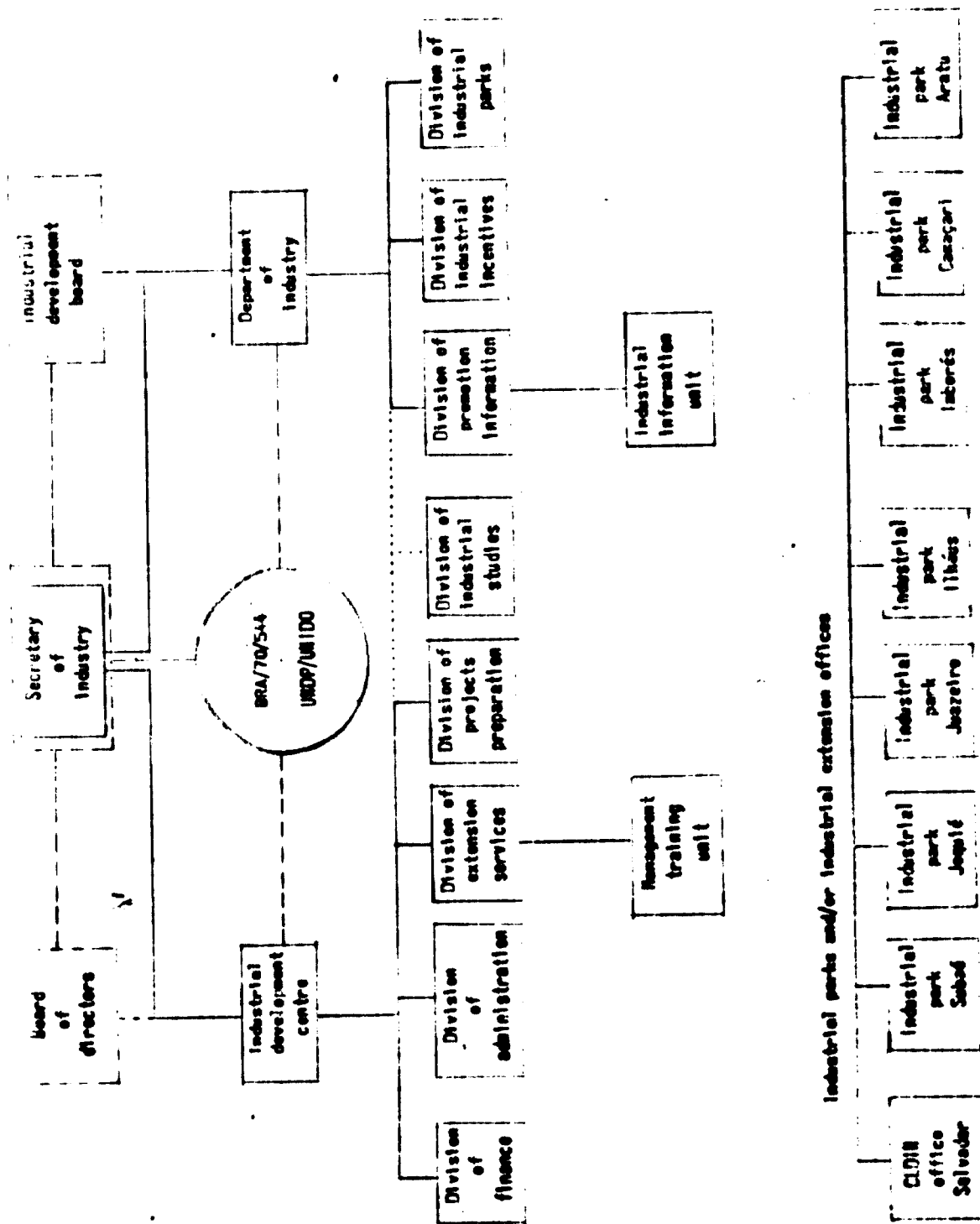
Establishment of a management laboratory

Study on establishment of an industrial information centre

Report on improvement of management training courses (by R. de Vicq, UNIDO expert)

Annex III

ORGANIZATION CHART OF THE INDUSTRIAL DEVELOPMENT CENTRE (CEDIN)
AND THE DEPARTMENT FOR INDUSTRY AND COMMERCE (OIC)



Annex IV

INVESTMENT GENERATED BY THE PROJECT

A. Investment resulting from the studies of industrial sectors

Item	Investment (thousand \$US)		
	1972	1973	Total
Slaughter-house ^{2/}	1 700		
Milk processing factory in Sul	600		
Clothing industry in Estrela		393	
Clothing industry in Granada		15	
Children's clothing in Sacy		236	
Clothing industry in Bremer		170	
Children's clothing in Injer		105	
Shirt factory in River		147	
Children's clothing in Samil		93	
Clothing industry in Sweet		27	
Goat skin tannery in Silveira	1 600		
Hides tannery in Aliança	1 500		
Hides tannery in Itambé	1 000		
Tomato paste in Pinguim	1 600		
Plywood factory in Itamaraju	3 000		
Sawmill in Mosinho	4 300		
Plastic bags in Implasba		466	
Total	15 300	1 652	16 952

^{2/}The slaughter-house will most probably not be implemented in exactly the form described in the study. The project will furthermore be established in the south of Bahia and not in Itapetinga as recommended in the study.

B. Investment resulting from assistance in planning and establishment of industrial areas

Item	1972	1973	Total
<u>Imborés industrial park</u>			
Master plan	97		
Road systems	439		
Water, sewage and drainage	317		
Electrification	238		
Administrative building	75		
Land expropriation	<u>41</u>		
	1 207		1 207
<u>São Francisco industrial park</u>			
Master plan	97		
Road systems	406		
Water, sewage and drainage	195		
Electrification	248		
Administrative building	75		
Land expropriation	<u>37</u>		
	1 058		1 058
<u>Jequié industrial park</u>			
Master plan	97		
Road systems	293		
Water, sewage and drainage	153		
Electrification	121		
Administrative building	75		
Land expropriation	<u>90</u>		
	829		829
<u>Ilhéus industrial park^{b/}</u>			
Master plan	97		
Road systems	368		
Water, sewage and drainage	156		
Electrification	375		
Administrative building	75		
Land expropriation	<u>134</u>		
	1 205		1 205
<u>Itabela industrial park^{b/}</u> (Wood-processing pole)			
Master plan		66	
Road systems		860	
Water, sewage and drainage		877	

Item	1972	1973	Total
<u>Ilhéus industrial park (continued)</u>			
Electrification		139	
Administrative building		63	
Land expropriation		<u>62</u>	
		2 067	2 067
<u>Subaé industrial park^{b/}</u>			
Standard factories		<u>50</u>	
		50	50
Total	4 299	2 117	6 416

^{b/} The investments were undertaken by the Government with financing from state and federal development banks.

C. Investment resulting from bankable project studies, market surveys and technical advices

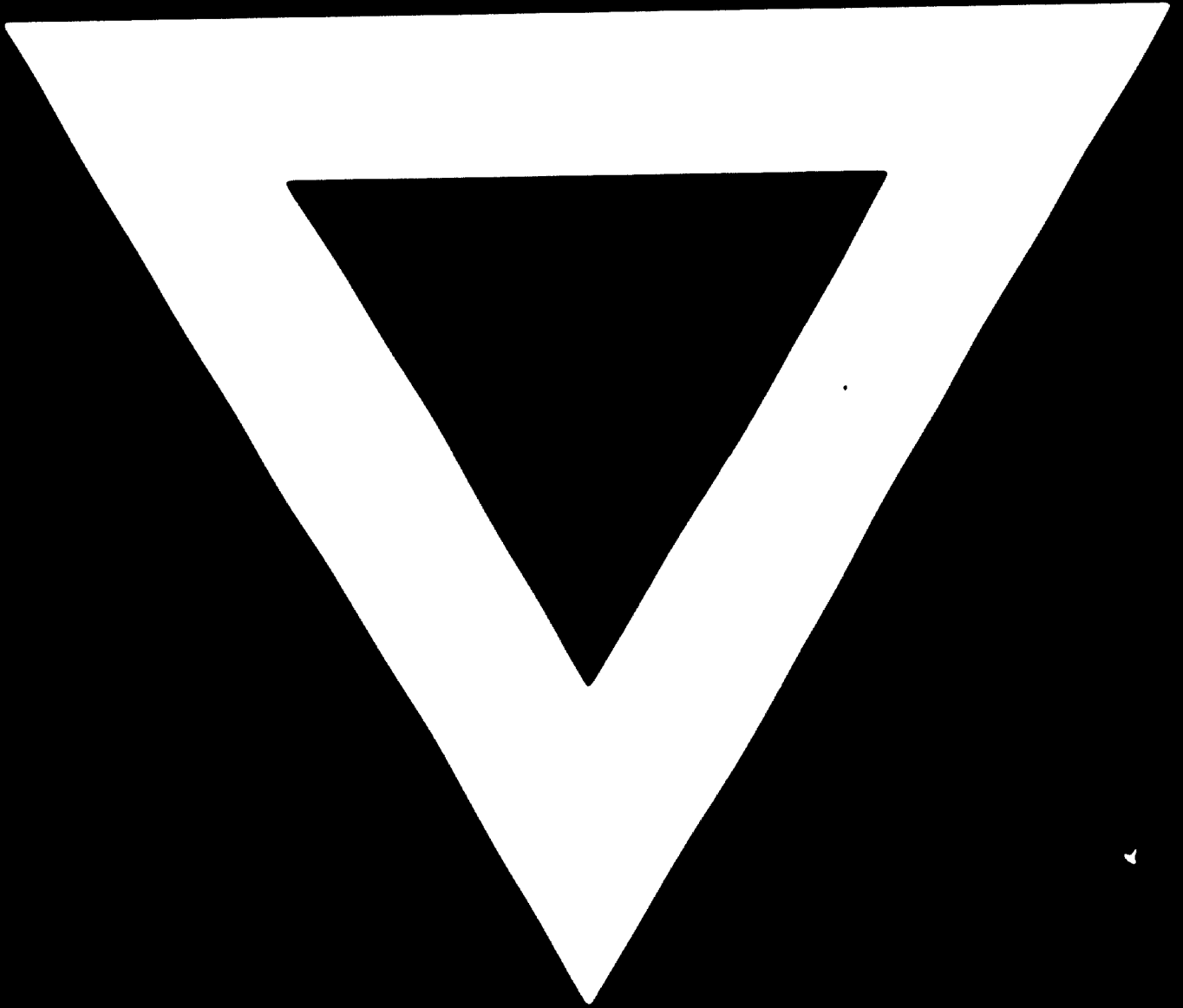
Item	1972	1973	Total
Banana powder	1 000		
Soap production	82		
Bricks and tiles	480		
Aluminium structures	140		
Electrical motors	4 900		
Plastic tubes	2 000		
Pharmaceuticals	1 800		
Brass valves	800		
Diatomite extraction		70	
Cassava pellets		1 500	
Spare parts for lorries		<u>110</u>	
Total	11 202	1 680	12 882

D. Investment in the development poles in the interior of the state

Type of factory	Investment (thousand \$Cr) ^{c/}	Number of employees
<u>Juazeiro industrial park (São Francisco)</u>		
Tomato paste	9 535	225
Fertilizers mixing	4 140	40
Talcum powder	3 400	19
Rubber products	2 000	10
Animal feed and spices	962	51
Barbed wire and nails	1 000	46
Paper bags	180	8
Coffee drying	241	12
Furniture	27	10
Line processing	<u>101</u>	<u>13</u>
	21 586	433
<u>Vitória da Conquista industrial park (Imbore's)</u>		
Bricks and tiles	-	60
Diatomita extraction	50	16
Slaughterhouse for pigs	3 522	200
Concrete products	200	8
Milk products	550	50
Vegetable oil and laundry soaps	2 000	32
Cement articles	50	4
Children's clothing	75	20
Freezing boxes	40	20
Steel structures and metal furniture	10	8
Soft drinks	<u>100</u>	<u>14</u>
	6 597	432
<u>Ilhéus industrial park</u>		
Wood products	2 706	100
Fertilizer mixing	4 800	30
Insecticides factory	2 500	27
Banana flour	300	20
Chicken dressing	270	5
Laminates of wood	4 000	110
Fertilizer mixing	7 600	40
Chocolate pasta/dry products	60 000	500
Chocolate paste	<u>40 000</u>	<u>200</u>
	122 176	1 032

Type of factory	Investment (thousand \$Cr)	Number of employees
<u>Jequié industrial park</u>		
Electrical appliances	1 000	50
Printing press	160	60
Clothing factory (Granada)	100	90
Lime stone crushing and refining	80	40
Laundry soaps	200	60
Clothing factory (Estrela)	1 500	100
Children's clothing (Sacy Perere)	1 080	90
Clothing factory (Bremer)	500	60
Children's clothing (Injer)	400	68
Shirt factory (River)	780	32
Children's clothing (Samil)	580	65
Metal furniture	170	15
Steel structures	463	60
Clothing factory (Sweet)	150	24
Marble cutting	90	8
Rice milling	500	60
Wood furniture	250	25
School books	260	30
Soft drinks	160	9
Concrete products	120	18
Vinegar	<u>90</u>	<u>6</u>
	8 633	970
Total	158 992	2 867

g/ UNDP conversion rate of July 1974 was \$US 1 = \$Cr 6.65.



76.01.13