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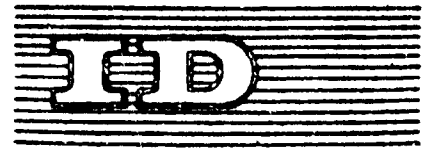
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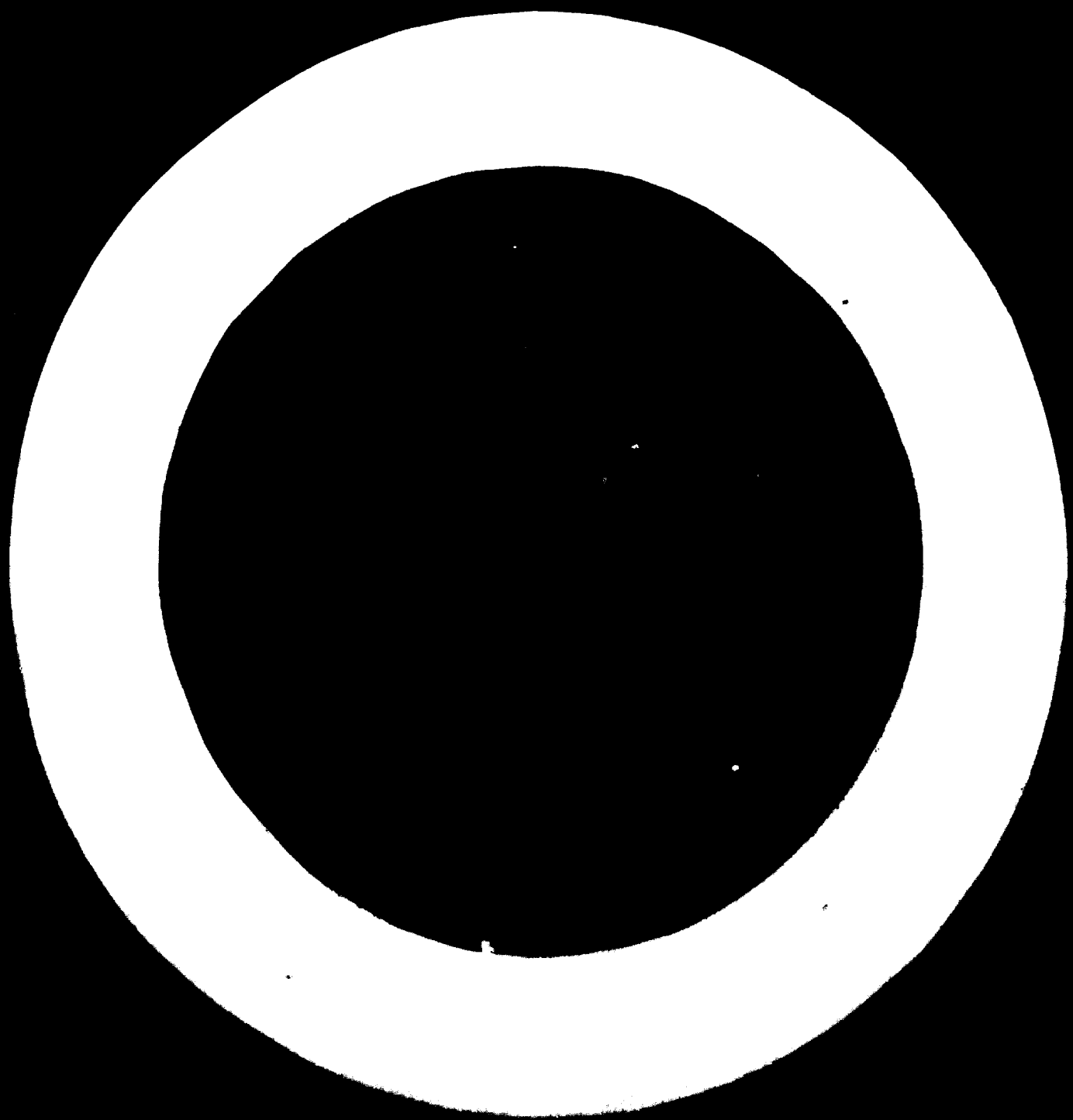
VENEZUELA ^{1/}

by

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^{1/} The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO.

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SUMMARY

Present situation:

- Considerable number of bodies putting out information with problems of cataloguing and dissemination;
- Large number of libraries which have accumulated or are accumulating material with great duplication of effort (lack of co-ordination);
- Some documentation centres still in their initial stages;
- Little use of highly qualified personnel in the administration of libraries (public, school and even university and specialist libraries);
- Lack of university programmes stressing technical documentation for qualified librarians;
- Reasonable inclination on the part of industrialists to co-operate economically through their industry associations in the development of sectoral productivity centres and the dissemination of technological information specifically for their sectors;
- Considerable willingness on the part of the Government to collaborate in setting up a national system in order to ensure flexible and efficient channels of information;
- A plan being carried out at the national level for the establishment of working bodies (national centre for scientific and technical information and information on the social sciences) which will co-ordinate the activities of other bodies, from the documentation centres and libraries of pure and applied research institutes (IVIC, INVESTI, IME, CIA, etc.) to school libraries, to be set up and developed through a co-ordinating body (CONADI) coming under the central organizational responsible for national planning (CORDIPLAN).

The libraries and documentation centres will keep in touch with users through institutions which are in direct contact with them (for example, in the case of industrialists, regional development corporations, finance corporations, productivity centres, etc.).

Area of activity

Collection and storage

- Specialist libraries, documentation centres, patent office, statistics office, etc.

Reference information

- National centre for scientific and technical information
- Centre for economic and social information, etc.

Contacts with users

- Institute of Productivity
- Regional development corporations
- Finance corporations, etc.

Users

- Industrialists
- Various bodies
- Others

SOME ASPECTS OF INFORMATION RELATING TO THE
TRANSFER OF TECHNOLOGY IN VENEZUELA

INTRODUCTION

Much has been written recently on the troublesome subject of the transfer of technology. It is a standard subject of conversation in economic circles and is undoubtedly one of the great problems that have to be solved if we are to develop. Technology is the magic word which can transform backward countries into industrial powers; but technology is not improvisation. It is the product of national scientific systems or, in their absence, of the rational transfer of information from advanced industrial societies to others and from them to those which are just beginning.

It has to be recognized in this connexion that our weakness in scientific research indirectly holds up our efforts to create our own technology. But the seriousness of the situation becomes dramatically evident when we consider that we have not yet shown ourselves capable even of adapting imported technology or, worse still, of making an effort to understand it better so that we can make a better choice of this essential development input.

THE CASE OF VENEZUELA

One cannot be in the least original when speaking of Venezuela in a Latin American context, because Venezuela belongs to a particular group of countries with very similar development problems.

The participants in this Seminar are asked, as the sponsoring organizations have indicated, to submit papers on the state of technical information in each country, as the basis for the transfer of technology, and it has been suggested that each participant should do so in his own name.

In order to describe the present situation with regard to the transfer of technology in Venezuela, I shall take the liberty of repeating the basic information given by the Venezuelan delegation to the UNCTAD Inter-governmental Group on the Transfer of Technology at its first session in Geneva in June 1971, because I think it gives a good idea of the situation.^{1/}

^{1/} See memorandum, page 6 ff.

In Venezuela an alarming situation has grown up with regard to the use of such foreign technology, which can be summed up in the following four points:

1. We pay a very high price for the foreign technology we use. We have estimated that in the last ten years such payments have amounted to more than 30,000 million bolivars (US\$6,666 million).^{1/}
2. A series of studies on technology payments which Venezuela has periodically been making have also brought us to the conclusion that the technology we import leads to unemployment of national factors and employment of imported factors, thus having a bad effect on the physical and social efficiency of our economy. Evidence of the first phenomenon is the low employment capacity of our industry and the high rate of idle capacity (40 per cent),^{2/} which is a result of using technology designed to save labour and to operate on a bigger scale than is necessary for the Venezuelan market.

The second (the employment of imported factors) can be seen from the fact that over 50 per cent of our imports are accounted for by raw materials^{3/} and that 40 per cent of the inputs used by Venezuelan industry are of foreign origin, which is the result of using technology designed for other countries' production factors.^{4/}

3. The constant flow of foreign technology has discouraged national innovation. This is reflected in the fact that the number of patents taken out by Venezuelans has been steadily decreasing, and is now half what it was five years ago.^{5/}

1/ La Balanza de Pagos con Estados Unidos (The balance of payments with the United States), a special report by the Central Bank of Venezuela, October 1970. Regalias pagadas por Empresas Manufactureras (Royalties paid by manufacturing enterprises), Second Industrial Survey by CORDIPLAN

2/ Second Industrial Survey by CORDIPLAN.

3/ Importaciones venezolanas agrupadas de acuerdo con la CIU y su destino final, 1962-1969 (Venezuelan imports grouped according to the International Standard Industrial Classification and their final destination), 1962-1969, Ministry of Development, 1970.

4/ Fourth National Plan, CORDIPLAN, Caracas, November 1970.

5/ Statistics on patents registered in Venezuela, Ministry of Development, Department of Industrial Property.

4. The technology we use in Venezuela has been rationed and managed to suit the suppliers. This can be seen firstly from the fact that the technology introduced into the Venezuelan economy does not go beyond the assembly and manufacture of certain parts and has rarely involved the study, development and design of products and processes suitable for Venezuela by Venezuelans. Secondly, there is the fact that modern technology is patented and in the hands of foreigners, who allow it to be used as best suits themselves, imposing restrictions on exports, charging high royalties, attaching strings with regard to the sources of raw materials and technical assistance, etc.

BACKGROUND OF STUDIES ON THE TRANSFER OF TECHNOLOGY IN VENEZUELA

To enable the Venezuelan delegation to place its policy within the context of the growing interest and attention accorded in official circles in Venezuela to questions relating to the transfer of technology, we give below an account of what has happened in this area over the past year.

From 16 to 20 February 1970 the First Meeting on the Transfer of Technology, convened by the Board of the Cartagena Agreement, was held in Bogota, Colombia. This meeting was convened on the basis of articles 5 and 6 of the Agreement reached by the heads of the national planning offices of the countries in the Andean Group at a previous meeting in Lima in October 1969.

The First Meeting on the Transfer of Technology was attended by delegations from each of the countries belonging to the Andean Pact (Bolivia, Chile, Colombia, Ecuador and Peru) from OAS and from Venezuela, which took part as an observer.

PROPOSALS ON THE WORK PROGRAMME OF THE INTER-GOVERNMENTAL GROUP

In document TD/B/AC.11/6, entitled "Preparation of a Programme of Work - Suggestions for a possible programme of work", UNCTAD puts forward a list of subjects to be dealt with by the secretariat. The commission of representatives of Venezuelan organizations agrees that this programme is appropriate for the study of this question. It considers, however, that the following two items should be added:

- (a) Study of the international supply of technology, so that countries can learn about the different alternatives available on the international technology market, so that they can choose those best suited to their factor endowment and level of development;
- (b) Study of the international legal system governing industrial property in relation to the interests of the under-developed countries.

In the commission's view, the most effective contribution international organizations can make to eliminating the obstacles to the transfer of technology is to help to throw light on the points mentioned above. These obstacles and the high cost of transferring technology are an outcome of the international legal system governing industrial property, which has been developed to suit the interests of the developed countries. Similarly, ignorance of the technological alternatives is a factor limiting the choice of technology for under-developed countries.

The commission also considers that the UNCTAD secretariat should work out a methodology as a basis for carrying out studies in countries selected for the purpose and should prepare a programme for training officials in the countries selected to apply this methodology in their countries, the UNCTAD secretariat providing the necessary co-ordination.

This programme should cover the same points as those listed as main areas in document TD/B/AC.11/6, together with those mentioned above.

The Commission considers it essential that Venezuela should be selected as one of the countries in which UNCTAD will carry out studies.

It also thinks that if the training programme is approved Venezuela should be chosen as the headquarters for it in Latin America. We can offer facilities for such a programme if and when UNCTAD and/or the countries finance the travel and subsistence of the participants and we are also sent the necessary instructor staff.

The Venezuelan delegation was led by a representative of the Board of CORDIPLAN and also included representatives of the Ministry of Finance (Department of Economic Research), the Ministry of Development (Office of the Legal Counsel and Department of Industrial Surveys and Statistics), the Ministry of Foreign Affairs (Department of Economic Policy), the Central Bank of Venezuela (Co-ordination of Economic Studies), CONICIT (Consultancy) and another representative of CORDIPLAN (Human Resources).

At the Bogota meeting it was agreed that five studies should be made on the subject, which might serve as a basis for the formulation of a common policy for the Andean Pact countries. It was also agreed to make use of the technical and financial assistance of OAS, which has a programme for the establishment of a technological bank and a technology agency for the LAFTA countries.

A reply was received from OAS on 26 March 1970, announcing that experts were to be sent to give advice on the request.

Nevertheless, of the programme drawn up, the only item carried out in Venezuela was the appointment of an inter-ministerial commission, through which was to be channelled the contribution of each participating ministry or organization, the necessary co-ordination being undertaken by CORDIPLAN. Circumstances attributable to the very nature of committee work, however, prevented any serious progress from being made.

Later, in July 1970, an attempt was made to re-establish the inter-ministerial commission, including also the Venezuelan Development Corporation.

This new attempt to make a serious start on the studies resulted in three surveys, which gave rise to a report on the transfer of technology to Venezuela. One of these studies dealt with patents registered in Venezuela, another with the royalties paid by a group of enterprises of United States origin and the third with the consequences of unregulated importation of foreign technology. The report just mentioned, entitled "Transferencias de Tecnología" (Transfer of technology), which was prepared by officials of the Ministry of Development, CORDIPLAN and the Venezuelan Development Corporation, summarizes the conclusions and the three surveys.

Three questionnaires were also drawn up. One, which is now being approved by staff of the Venezuelan Development Corporation, is designed to collect information on the technology used by Venezuelan industrialists, its origin and the criteria on the basis of which it is selected. The other two questionnaires, which will be sent out through the Office of Industrial Property, are designed to obtain information on the possibility of actually making use of the patents registered in Venezuela and to determine the degree of sophistication of the research leading to the inventions patented.

A computer programme and patents classification have also been worked out by which statistics can be obtained on the subject.

In March 1971, a delegation was sent to the Second Meeting on the transfer of technology, held in Lima, which offered an opportunity to learn about the results of the studies agreed upon at the First Meeting held a year previously in Bogota. At the Second Meeting it was agreed to go on with the studies and to further develop exchanges of information between the teams of each of the Andean Group countries (including Venezuela).

In May 1971, an offer of advisory services and resources was received from the OAS secretariat, which once more raised the need to set up a proper work team in our country to make systematic studies on the transfer of technology and at the same time to channel the international resources made available to us for this purpose.

INFORMATION

The projects at present being prepared at the national level are based on the establishment of an information committee (CONADI), which it is envisaged should be sponsored by CORDIPLAN (the central planning body). This committee should include representatives of all the bodies involved at the national level in setting up and putting into operation a co-ordinated system of documentation and information, ranging from the scientific research body (IVIC) to the central school library service (Eduplan) and institutions connected with industry, both from the regional development standpoint (development corporations) and from that of technical and financial assistance, together with the State records and patents bodies.

Since CONADI will be responsible for co-ordinating the activities of all these bodies, it is planned to set up an operational centre for science and technology, which, according to the current national plan (the fourth), will be the responsibility of CONICIT.

CONICIT, as the centre has initially been baptized, will be an institution providing services designed to facilitate access to and dissemination of scientific and technical information, in an appropriate form and in the shortest possible time, for any Venezuelan institutions or persons that desire it.

CONICIT is at present considering the basis on which such an institution can be set up. It can be assumed, however, that the operational plan will be more or less based on the planned use of all available means in order to decentralize some functions and centralize others. The centre's co-ordination activities will be founded on agreements between the various elements in the system, which will be promoted by CONICIT in order to ensure that the services are compatible and to facilitate communications.

There can be no doubt that whatever policy is decided upon the first need will be to establish efficient information networks.

IN-PRO in the National Information System

The Venezuelan Institute of Productivity, as a body dealing directly with enterprises, through its work of technical assistance and management training programmes and through its sectoral and national research studies on productivity, is well placed to serve as a useful link between the proposed scientific and technical information centre and industrialists.

IN-PRO (as the Venezuelan Institute of Productivity is known in the country) has noted with great interest the concern aroused in Venezuela by the serious problem of the transfer of technology and is at present making efforts (which can be described as important) to set up a documentation centre specializing in productivity and connected with the national system already described. To this end, a project for such a centre is now being prepared with the assistance of United Nations advisers in Moscow, taking advantage of a course which is at present being given there. The project is based on a preliminary project prepared by the person responsible with the advice of CONICIT experts, who are working on the scheme at the national level.

It is worth noting for reference the importance which IN-PRO has attached to sectoral activities as a framework for the establishment of genuine transfer-of-technology centres, which will act as nuclei of productivity, in the sense that they will undertake assistance in organization and training (together with other consultancy bodies and private firms), establishing ties with industrialists in the sector in question and aiming at the setting up of information centres for the sector. It is thought that the next stage will be to appoint technologists and advisers in technology applicable in the sector.

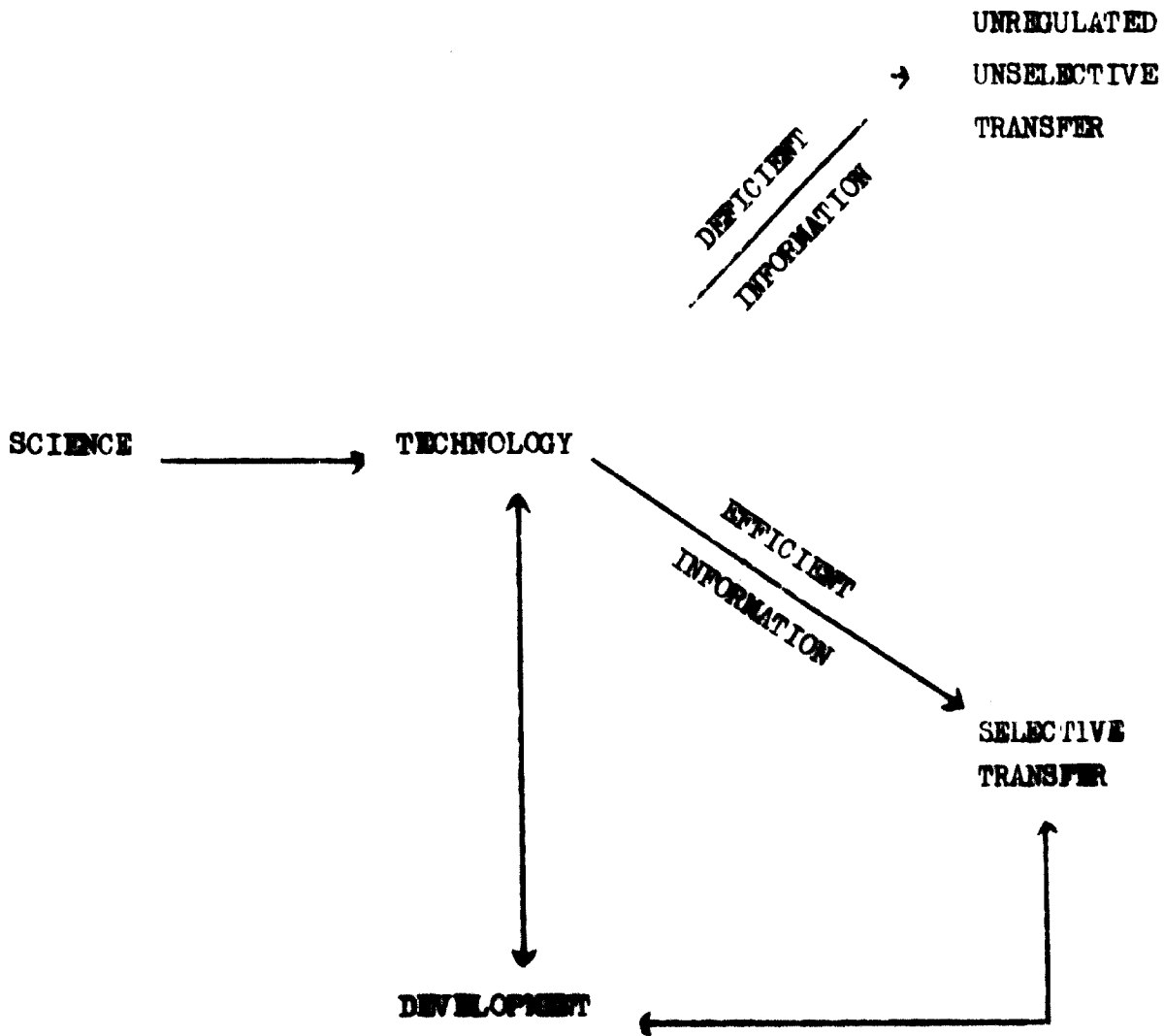
In this connexion, the development of the national information system can be assisted by IN-PRO through its machinery for contact with enterprises so that it will take on the role of evaluator of the needs of the sectors chosen, with the intention of expanding these activities further, both vertically (sectors) and horizontally (areas of intervention in the transfer of technology).

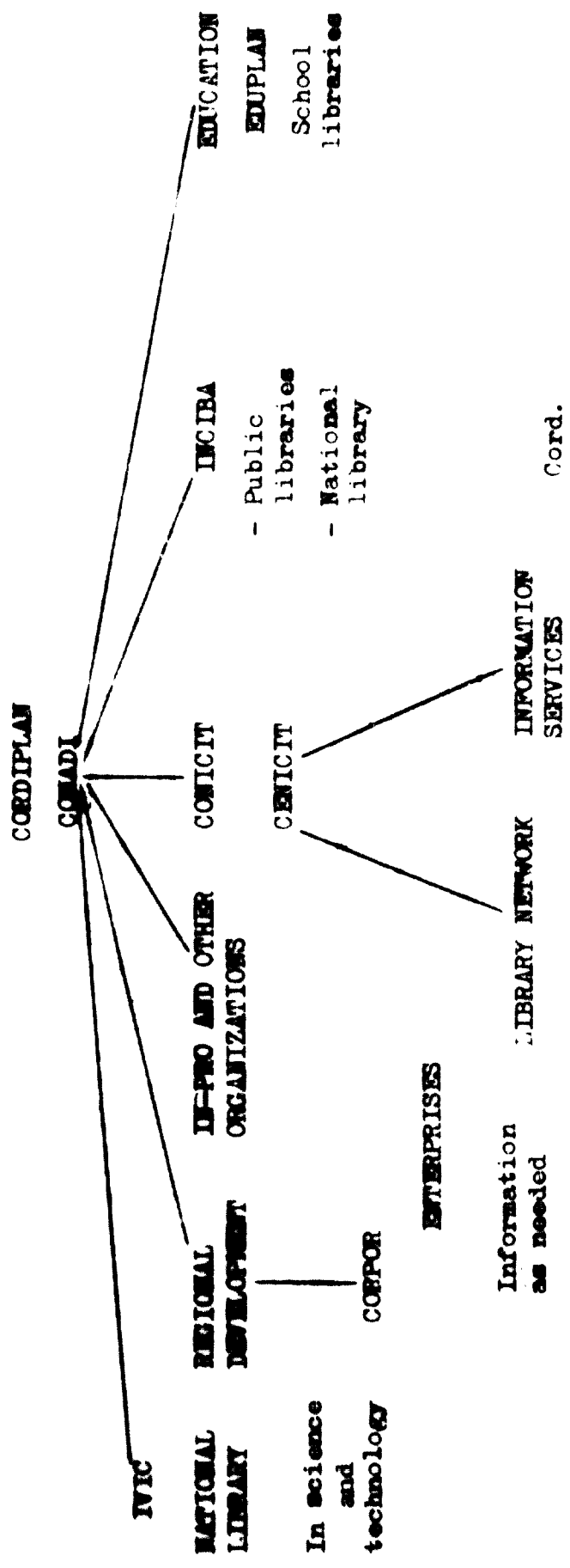
These criteria are in accordance with the recommendations of the OAS pilot project for technical co-operation on technological information services to industry, submitted by the Washington study and analysis unit in April of the current year.

Productivity promotion and information

The Venezuelan Institute of Productivity considers that the promotion of productivity is inevitably bound up with national information systems, as a basic means of achieving a greater multiplier effect, considering that any effort made to improve the use of the available resources is necessarily concerned with increasing productivity.

BASIC SCHEME



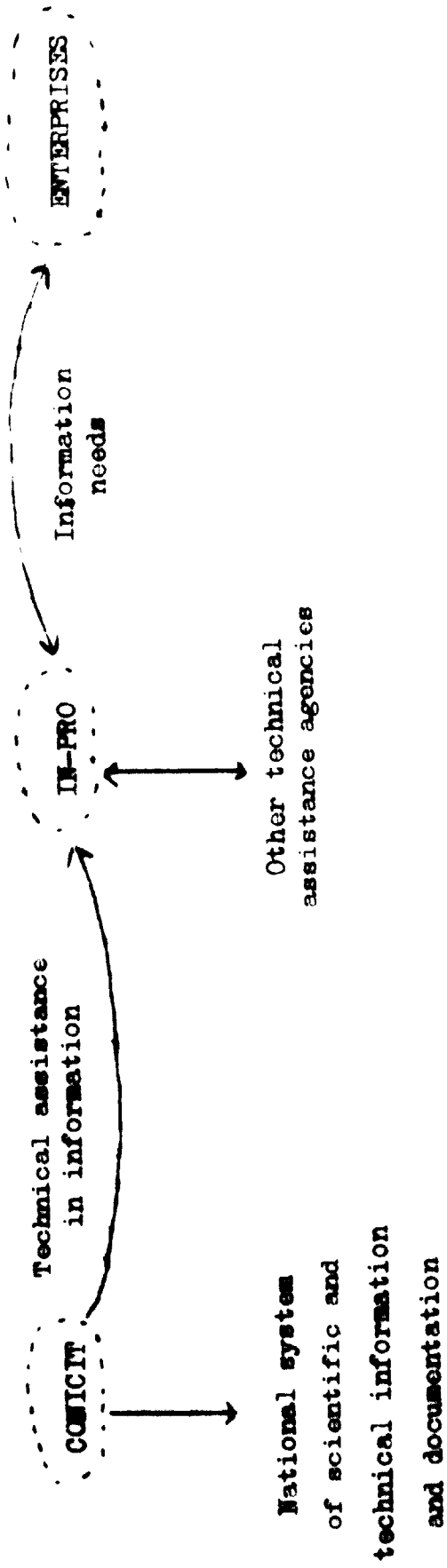


Special subjects (references)

Medic.	Agric.	Economics and Social Sciences Central Bank	Engineering	Law	Inf. Centre
IME	CIA		CIV	B.T.	Construction BANAP

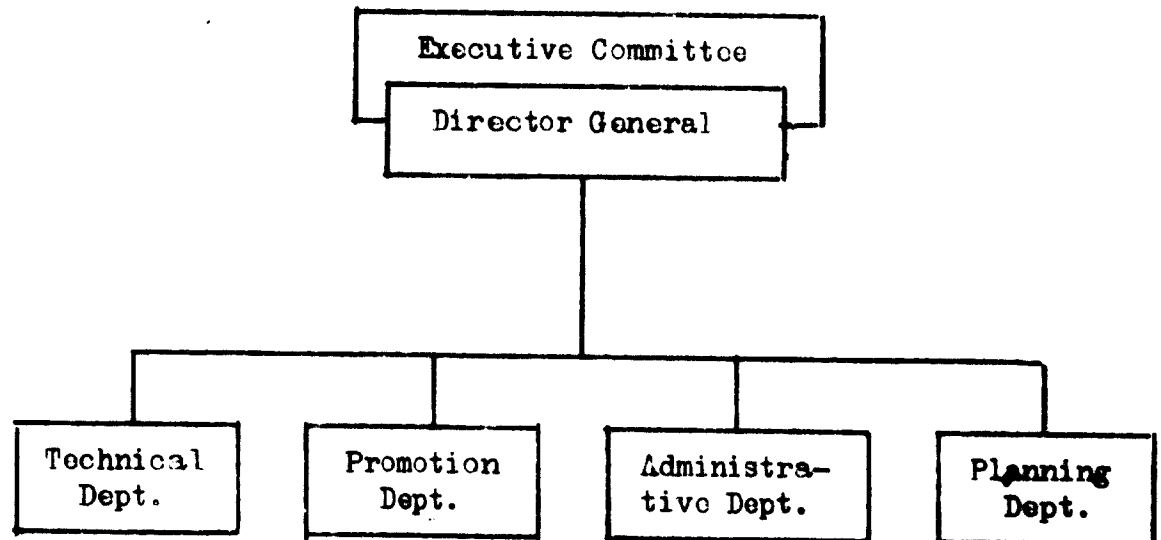
Inf. Centre

ME/7

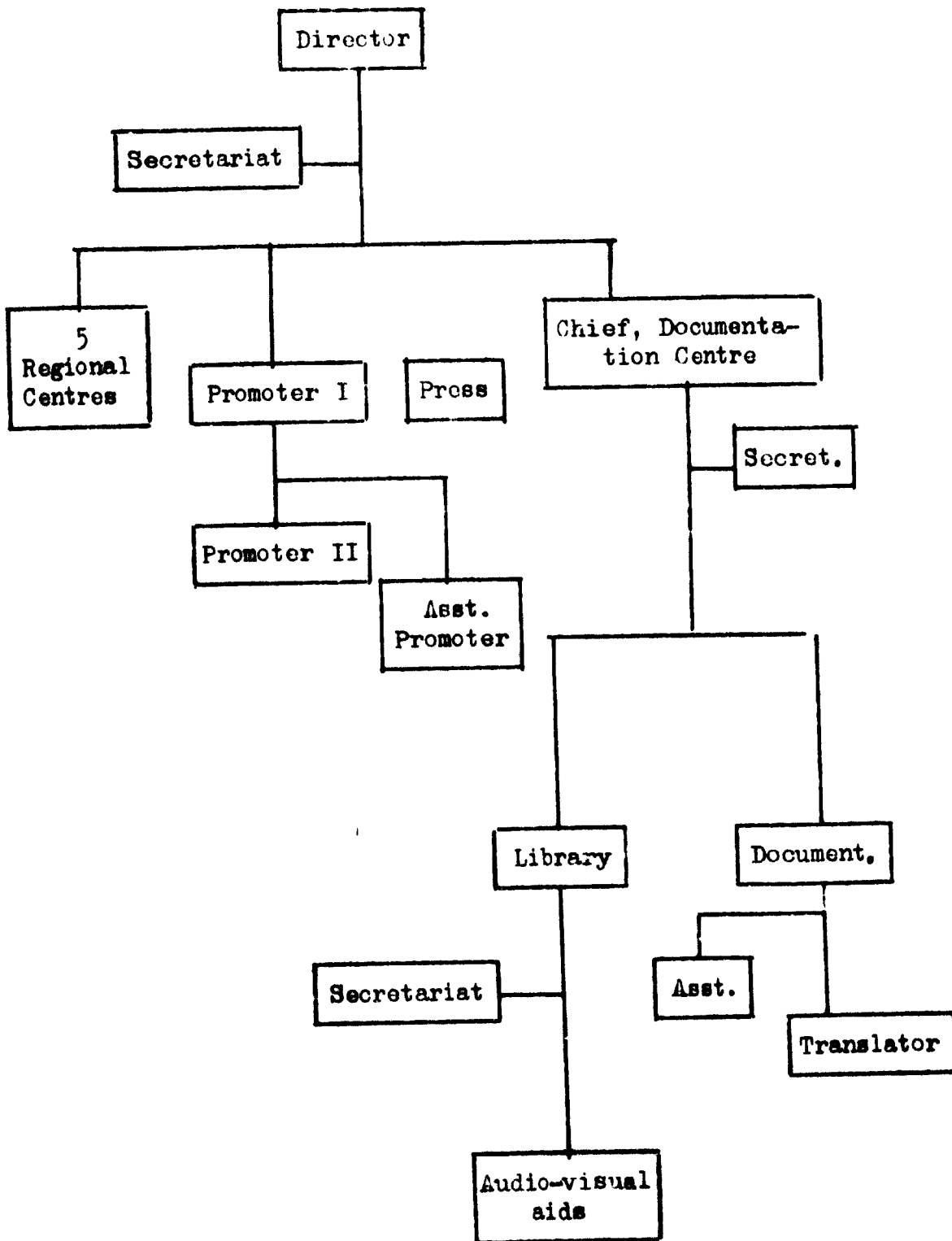


ORGANIZATION OF THE IN-PRO PROMOTION DEPARTMENT

1. Position in the organization:



2. Organization:



Director: Industrial engineer

Promoter I: Graduate in international studies, specialist in productivity promotion

Promoter II: Sociologist

Assistant promoter: University engineering student

Press: Journalism graduate

Chief, Documentation Centre: Scientific journalism graduate and graduate in librarianship with course on documentation (continued)

Regional centres:

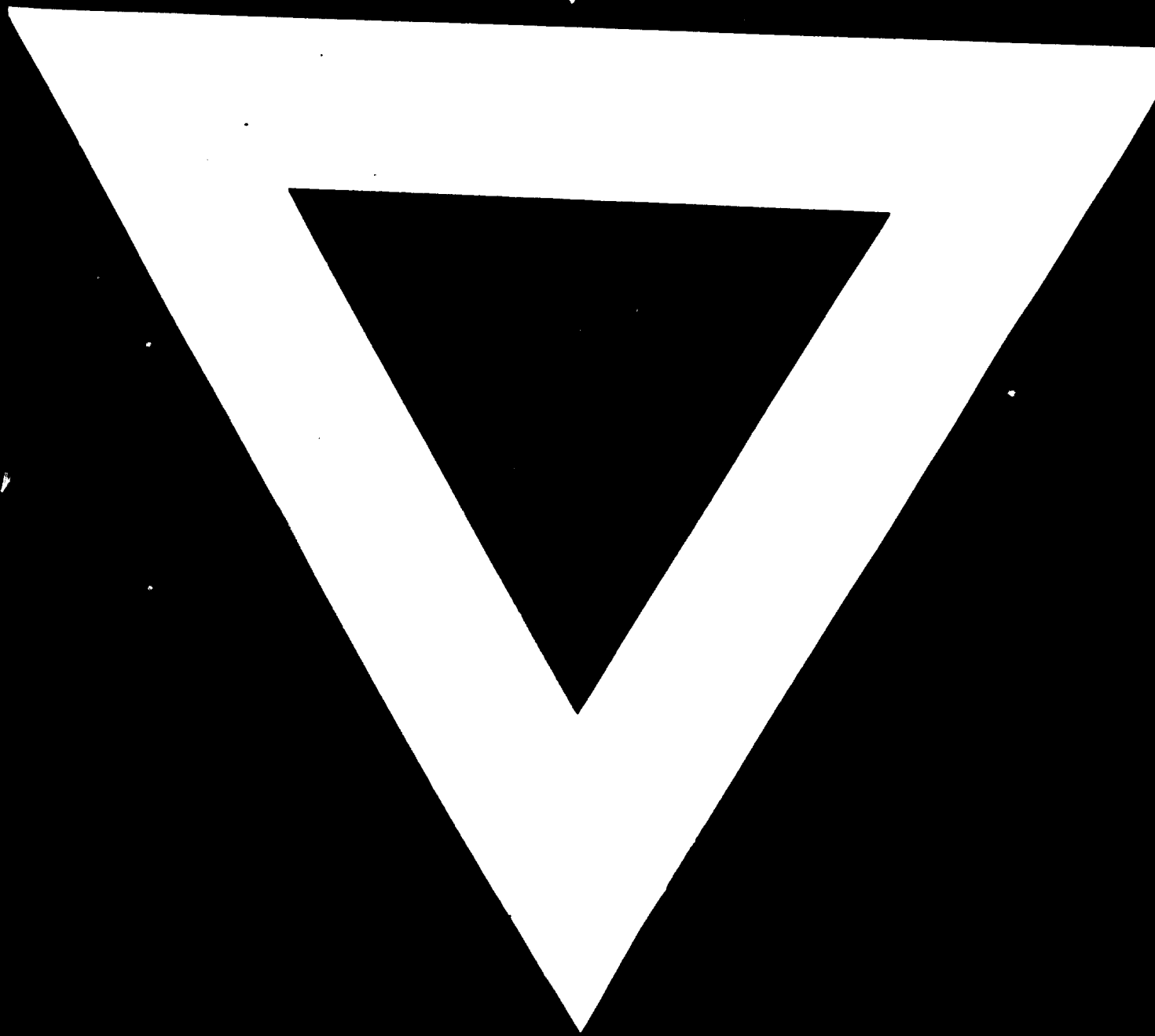
1. One economist, two industrial engineers, two assistants
2. One industrial engineer
3. One promoter
4. One agricultural engineer, one commercial manager
5. One promoter

Chief, Library: Qualified librarian

Audio-visual aids: One audio-visual aids specialist, one publicity designer

Translator: Five languages (English, French, Italian, Russian and Spanish)





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