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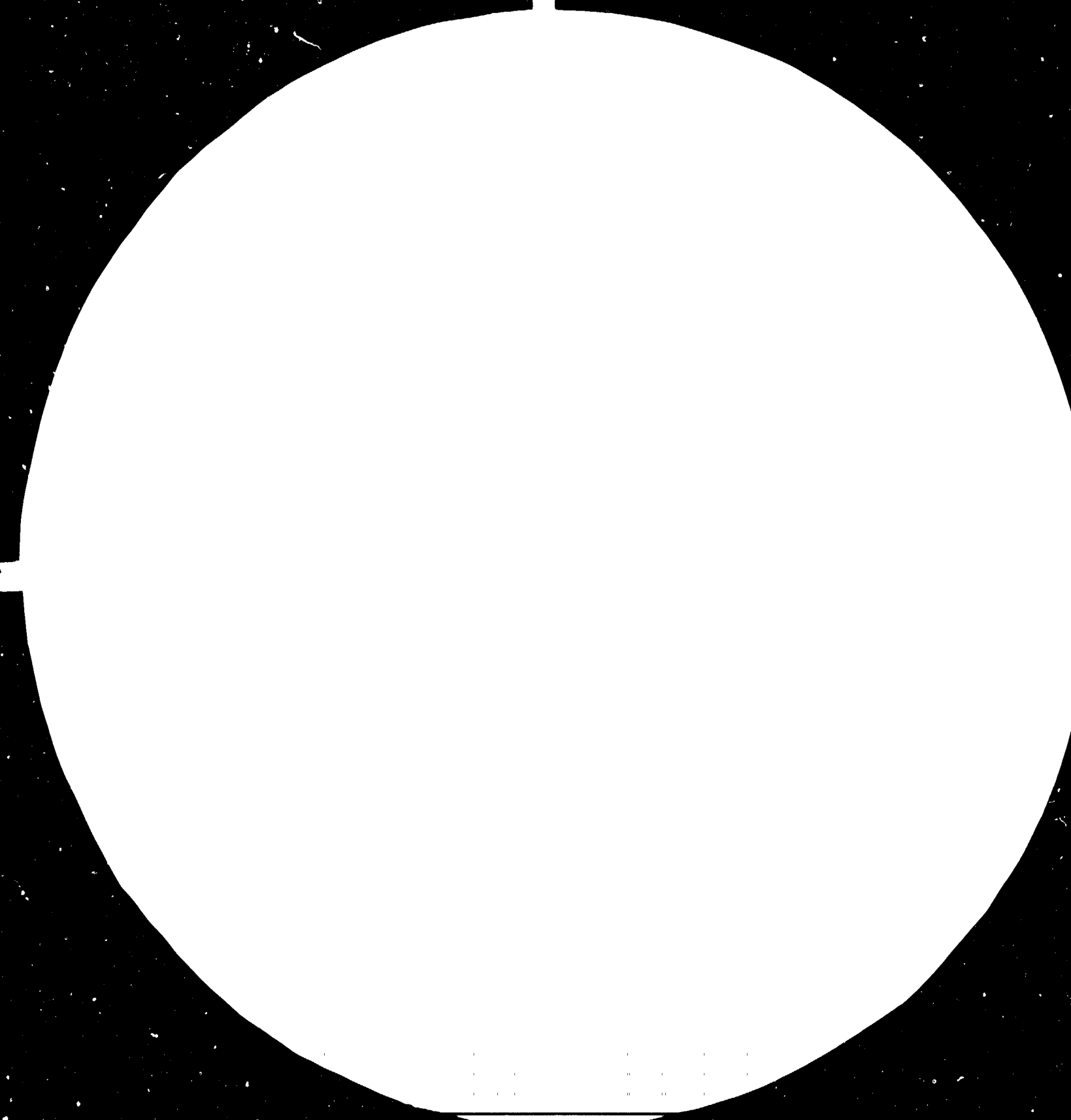

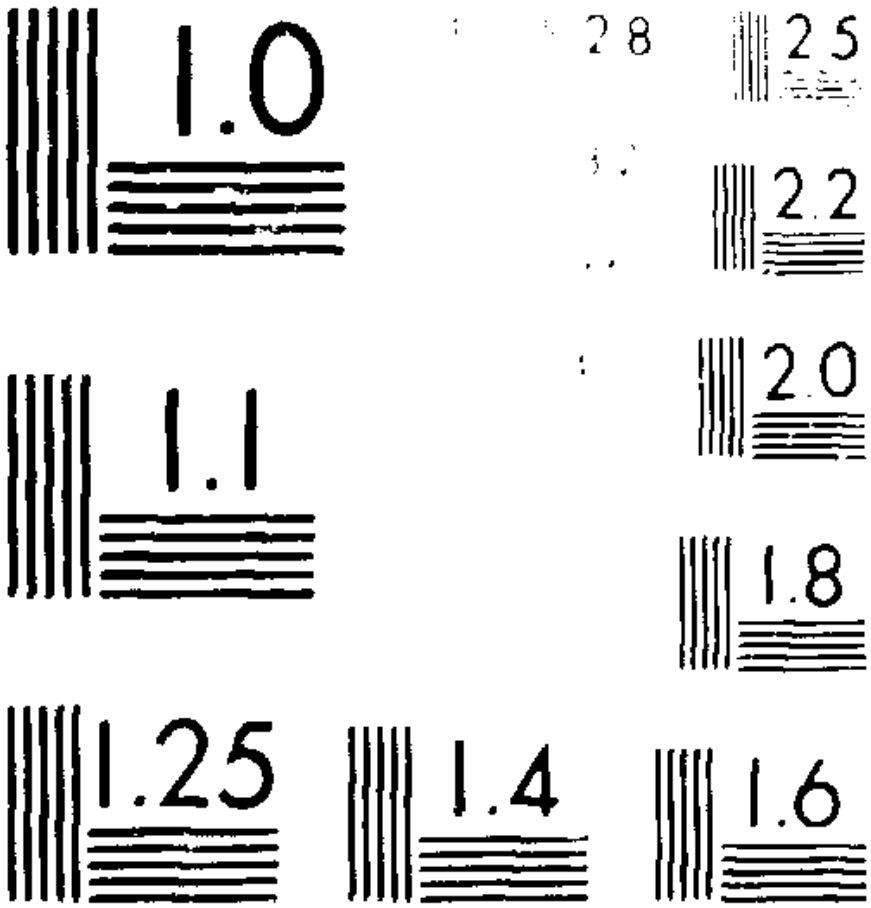
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"The Tenth Round Table of Developing Countries Industrial Development and Co-operation among Developing Countries from Small-Scale Industry to the Transnational Corporations"

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The Issues of Co-ordination and Management in * Industrial Co-operation among Developing Countries (DC's)

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** IDC: Institute for Developing Countries.

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1. General Analysis

1) It has been widely accepted that co-operation among developing countries (DCs) is not only convenient and possible but necessary, in order to reach the expected level of economic and social development of the countries involved.

2) Several developing countries like Brazil, India, Korea and others, have accumulated a large experience in "tropicaly-sing" the technology transferred from developed countries. This know-how cannot be found elsewhere in the world and should be available to other DCs. But is must be emphasized that those technologies shall be transferred to other countries in a different way as it has been practiced by developed countries. Otherwise we would only repeat the traps of creating dependency instead of tapping the resources for increased self-reliance. Co-operation and effective transfer are the key issues instead of just selling the technology with all the negative consequences that can arise from that practice.

3) The ability of developing countries to absorb and develop new technology, including advanced ones, depends essentially upon the availability of technicians, engineers

and scientists. Thus, an increased exchange of information, the creation and development of research laboratories and the promotion of management training are important prerequisites for technology transfer and development. It is necessary that the partner participating in technology exchange does not play a passive role, but takes part actively in this operation.

4) Co-operation in technological innovation, human resources and finance are mutually dependent. It can be imagined as a system to be managed simultaneously through an iterative process. To solve the problem means to control adequately all the variables in order to find at least a feasible solution. The next step is to move from a feasible solution to the optimal solution, or to a better suboptimal solution. In order to optimize such system all the independent variables must be identified, arranged in subsystems and combined into a better solution. But how to proceed in order to achieve this? Which are the variables? What kind of equations we have? How does this system look like? There is no quick and easy answer. But, anyway, here is a sketch of a few ideas.

2. General Proposition

1) Since there is no doubt about the possibility of co-operation, the question that arises is how to improve it effectively. The proposal concentrates on this aspect, i.e. coordination and management.

2) Even though bilateral and specific projects of co-

operation should be stimulated, in order to be more efficient it is necessary to work on the basis of an international programme. This programme can focus on a specific problem of technology or on the general aspect of industrial development. These are some of the information that should be contained in the programme:

- countries interested in co-operation;
- areas of interest for co-operation and short analysis of the industrial sector;
- list of technologies, services and financial facilities available in each country;
- mechanisms, instruments, forms and means for stimulating co-operation;
- main obstacles that inhibit a better co-operation.

Besides, the analysis should take into account specific questions concerning product and process development, industrial design, training and formation of human resources at all levels, information, dissemination of technology, infrastructure, finance of technology and industrial development, quality control, industrial property, standardization, characterization of local materials and resources, etc.

3) To accomplish the objectives of this programme the same methodology has to be used in every country. Only in this manner a comparative analysis is possible. This is a precondition to act in a co-operative way. The responsibility to apply this methodology should be assigned to a national organization like a Council for Science and Technology.

4) Each industrial sector has its own particularities;

what is appropriate for capital goods, is not necessarily appropriate for consumer goods. Industrial development cannot be treated as a homogeneous set specially when we are dealing with aspects of technological innovation. As an illustration we suggest to subdivide the general programme into the following sectors:

- Capital goods (custom-built, tooling machinery, agricultural machinery and standardized machinery)
- Basic metallurgy and metallic intermediary products (iron and steel metallurgy, foundry, non-ferrous metals, etc.)
- Chemical, petrochemical and pharmaceutical industries (petrochemical and basic industry, intermediary materials, materials and inputs of natural origin, and pharmaceutical materials)
- Non-metallic intermediary products (cellulose and paper, cement, lime, ceramic, insulation materials, glass and gems and precious metals)
- Transport material (automotive, aeronautical, conveyors and pipelines, railroads and trains, ships and intermodal systems)
- Consumer goods (the basics: food processing, leather and shoes, furniture, textiles and garments)
- Instrumentation and electronics (electronic equipment, laboratory equipment, medical and hospital equipment and process control equipment).

5) Each country should work out an efficient control system for the importation (and exportation) of technology. The government should know and control the flow of such values and items.

3. Specific Recommmendations

1) Organize an annual meeting at ministry level to discuss and analyse the implementation of the co-operation programme. The group could work as an advisory body to the programme.

2) Establish, at UNIDO or at any United Nations Organization, a working group responsible for defining and international industrial co-operation programme in the framework presented. This working group could function as an execution secretariat to the advisory group.

3) Choose in each country the organization responsible for the definition and implementation of the national programme.

4. Final Remarks

1) The process of planning and implementation of the programme described cannot be entirely developed at once. In the beginning some countries can organize themselves faster than others. A few industrial sectors can be selected. Of course, the results will be visible on medium terms only.

2) It is recommended that all the organizations related to the programme be involved right from the beginning of the planning process. The commitment of those organizations is necessary. There is also a learning process involved with mutual benefits.

3) Bilateral and regional co-operation projects should be stimulated independently of the general programme, in the beginning.

4) The Technical Coordination Group can make use of all the experience in particular countries in organizing such programme by asking for advice and support. The co-operation commitment has to be present all the time. If the proposal is approved we can assure that everyone will make the efforts to guarantee a success of the programme.