



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

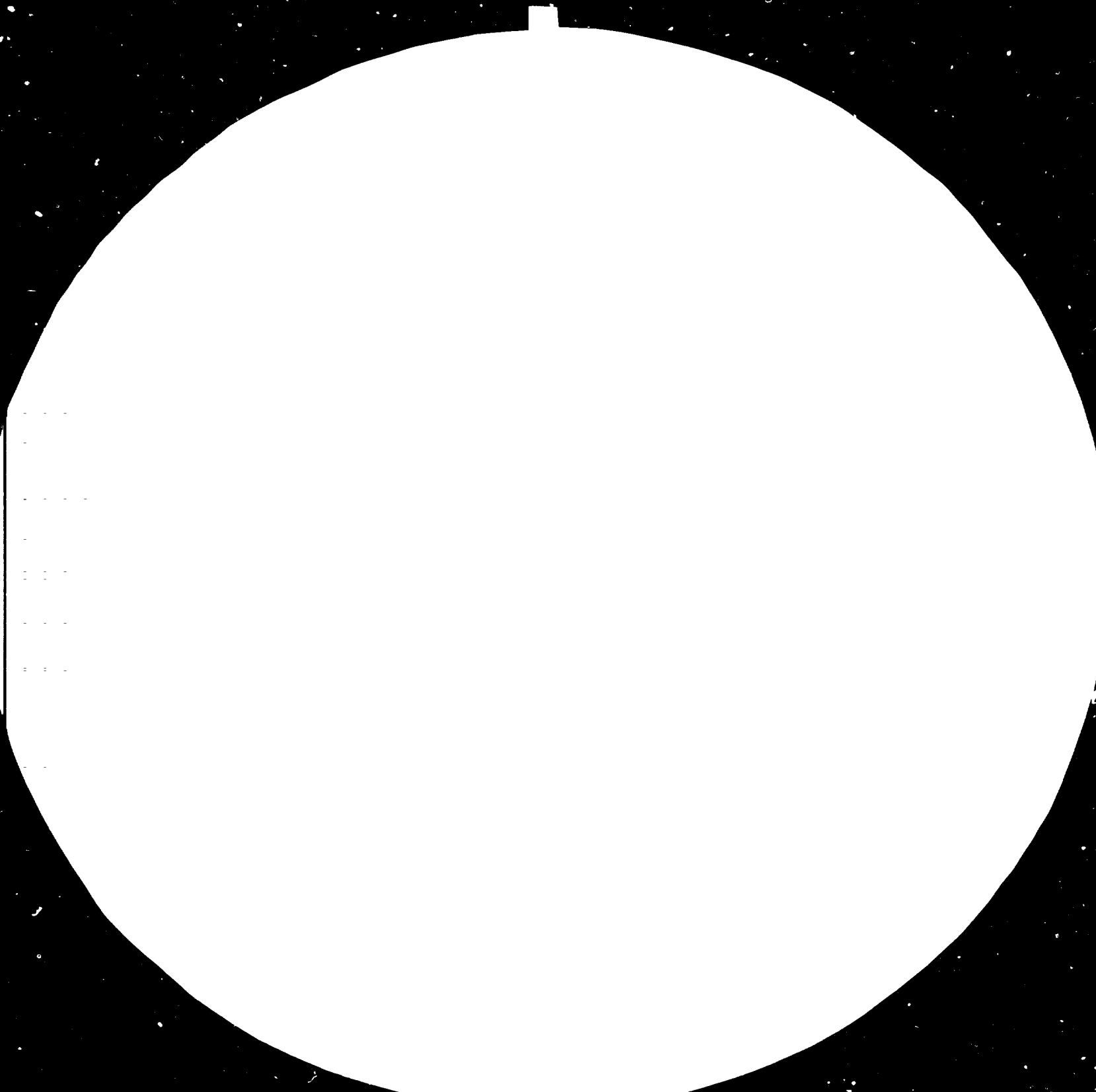
FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org





MP-1000 Eyeglass Tester, by Topcon, Inc., 1000

St. Louis, Mo. 63103, (314) 426-1000



12750



United Nations Industrial Development Organization

Distr.
LIMITED

ID/WG.398/11
23 June 1983

ENGLISH

UNIDO/UNCTC/IDC **

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

Zagreb, Yugoslavia, 15-17 September 1982

Yugoslav Co-operation with Developing Countries *
in the field of the Transfer of Technology

By

Visnja Samardzija
Institute for Developing Countries

253

* This report has been reproduced without formal editing.

** IDC: Institute for Developing Countries.

The question of the transfer of technology has not been systematically studied in Yugoslavia, and Yugoslavia's co-operation with developing countries (DCs) in this field has been limited to particular areas. The Institute for Developing Countries carried out a pilot-study in this field at the beginning of 1982 with the aims of establishing the modalities in which co-operation with DCs in particular areas had taken place and of setting up a system for evaluating the advantages Yugoslav technology might have on the markets of these countries.

Information about the transfer of technology was gathered by means of a survey. The survey was restricted to Croatia, so it has only an indicative character; however, it can serve as a guide for future research in this field. The survey included enterprises, both large and small, which had either taken part in co-operation with DCs or were planning to do so, regardless of the form of co-operation. The enterprises do business in the following fields: design and assembly, civil engineering and building material production, ferrous and non-ferrous metalurgy, metal manu-

facturing, petrochemicals, ship-building and agricomplex.

The number of companies participating in the survey was 32. Thus the sample was too small and, besides, it consisted only of those enterprises which were known, or were thought, to have taken part in certain forms of co-operation with DCs. Consequently, the results of the survey can serve only as indicators of the level of co-operation in this field. The survey showed that only certain forms of co-operation are well developed. Most of the enterprises co-operated with DCs in the field of engineering, fewer co-operated in the fields of technical co-operation and consulting, and the least number did so in the fields of the transfer of industrial property rights and productive co-operation. Most of the enterprises which co-operated with DCs in the field of engineering did so in various forms, from designing to turn-key projects. Designing was the most frequent form of co-operation, followed by the delivery of equipment and by either assembly or assembly supervision. There were a few examples of enterprises offering a complete service to their partners. It is very indicative that only one enterprise undertook maintenance of equipment it had installed; this shows that insufficient efforts are made to maintain lasting business relations with DCs. According to the enterprises questioned, co-operation in the field of engineering should expand in the field of turn-key projects, in which geological, technological, economic, financial and market research is followed by the designing, constructing, equipping and putting into operation of the plant. Technical co-operation is somewhat less frequent. In recent years, it

has taken place primarily in the form of personnel training, ranging from training personnel for the needs of specific projects that were in the process of being carried out to educating students at Yugoslav universities. The former type of training, directed towards the performance of an actual task, was the most frequent type of personnel training. There are increasingly frequent examples of the setting up of training centres for personnel from DCs at the initiative of Yugoslav enterprises which undertake additional forms of co-operation with these countries.

There were a few cases of the provision of consultancy services. Most of them consisted of co-operation in working out investment programmes and studies together with consulting; other forms of co-operation (organization of work and the organization of the marketing of products) were rare.

There were very few cases of the transfer of industrial property rights, and all of them were cases of the transfer of know-how. In most cases, know-how was connected with engineering (civil engineering and the delivery of equipment); cases of transfer which were not linked with other forms of co-operation were rare. Great competitiveness in prices and quality is required in this field of co-operation; in addition, there are many other problems, such as the lack of qualified personnel in DCs, the language barrier and administrative inertia which is out of step with such a form of co-operation. Productive co-operation is one of the least developed forms of co-operation.

Most cases consisted of the mutual delivery of semi-manufactured and manufactured products; this should be expanded in such a way that the foreign partner offers the developing country the product's finishing process, which later becomes a part of that country's production process. There were only four cases of the setting up of joint enterprises even though this form of co-operation has a bright future because of the broader integration it entails.

The following cases of the co-operation are worth mentioning for their success by enterprises which took part in the survey:

- the hydroelectric plant in Kenya, which was completed ahead of schedule and which brought "INGRA", the coordinator of the projects, a special award from the Kenyan electrical power industry;
- the transfer of technology for the production of decolourant clay in Iraq, which was highly rated both for being optimally suited to Iraq's needs and because the offered technology was more acceptable than that offered by highly developed countries ("INA", Zagreb);
- hydrogeological research in Venezuela, including research, drilling and supervision ("TEB", design office);
- irrigation projects in Iran ("Elektroprojekt");
- the delivery to Egypt of a system of irrigation pumps which were praised for their high quality ("Jugoturbina" - "INGRA");
- the transfer of technology in tillage and market gardening with the aim of increasing yields and testing - co-operation with Sudan on the basis of experiments in production ("IPK", Osijek);

- the designing, constructing and assembly of transmission lines in the Central African Republic ('Dalekovod');
- the delivery of post and telecommunications equipment and the construction of a post and telecommunications network in Syria ('Nikola Tesla');
- the construction of a large number of radio-broadcasting stations in Libya ('RTZ', Zagreb).

However, a great number of the projects which Yugoslav companies offer DCs are not accepted. Only 5 of the enterprises in the survey stated that the majority of their projects were accepted, while those involved in the building industry reported that about 10% of their projects were accepted. Most of the unaccepted projects were concerned with engineering, but the main reason for the non-acceptance of a project is less linked with the field or form of co-operation concerned but more with the terms under which it is offered.

The main constraints to the co-operation seem to be:

- the unsatisfactory level of organization of the Yugoslav participants in co-operation; the lack of adequate organizational forms;
- the limited capacity to extend credit to the foreign partner;
- uncompetitive prices and unsuitable terms for carrying out projects;
- insufficiently defined long-term programmes for better access to the markets of DCs;
- the inadequacy of Yugoslavia's internal regulations concerning the transfer of technology.

In order to ensure long-term co-operation and lasting links with DCs, it is necessary to organize a joint approach by the Yugoslav enterprises participating in the transfer of technology, to participate more fully in the economic currents in DCs by establishing co-operation with analogous enterprises and development institutions in these countries, to set up appropriate information systems and to pass regulations concerning the transfer of technology that will ensure, at least in part, its financing.

