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FINAL REPORT

ON THE REGIONAL WORKSHOP ON IMPROVED EFFICIENCY IN THE
METAL PRODUCTS MANUFACTURING AND PROCESSING INDUSTRIES,

Buenos Aires, 23 November - 1 December 1976

id.76-7134

INTRODUCTION

A workshop to study the possibilities of improving efficiency in the metalworking and engineering industries of the Latin American countries was held from 23 November to 1 December 1976.

The workshop was sponsored by UNIDO, which invited the Latin American countries to send as delegates, at UNIDO's expense, persons who would also represent the metalworking sector.

The workshop was hosted by the National Institute of Industrial Technology (Instituto Nacional de Tecnología Industrial) of Buenos Aires, which placed at the disposal of the delegates not only its facilities, but also a highly competent technical staff, which was responsible for planning and organizing the attached programme (see Annex I).

UNIDO experts, together with the delegates, presented papers on the various topics included in the programme.

A total of sixteen delegates from the eleven participating countries attended the workshop (see list in Annex II).

IMPLEMENTATION OF THE PROGRAMME

The programme began with the introduction of the different delegates and a review by each of them of the problems and difficulties his or her country was encountering in the development of its metalworking and engineering industry. These difficulties can be traced to seven basic factors, whose negative effects vary from country to country.

These factors are:

1. Training. All countries except Nicaragua made reference to inadequate training of workers and middle management; some even spoke of inadequately trained senior managers.
2. Market conditions. All the participants drew special attention to the fact that small markets, limited either in respect of the number of consumers or by insufficient absorptive capacity, constitute a serious obstacle to the achievement of satisfactorily rapid and linear growth in the metalworking sector and to the attainment of the required high levels of productivity.

There were also expressions of regret at the delays in implementing the resolutions of the Cartagena Agreement (Andean Pact), the Central American Common Market and the Latin American Free Trade Association (LAFTA).

It was noted that certain clauses of the agreements in question are occasionally violated and that, for certain products, the allocations made have not always taken into account actual production capacity, particularly with regard to time-tables.

3. Transfer of technology. Despite the different levels of development achieved by the participating countries, it is important to note their common desire to find a better system for the transfer of technology for the benefit of the least developed countries. It became clear that it was necessary to establish rules and appropriate channels to ensure that these transfers are negotiated on more favourable economic terms and are not made conditional on the purchase of production equipment of a particular origin or make.

The point was also made that very often the absence of efficient channels for the acquisition of imported technology leads to efforts to copy it, with results that are frequently questionable in terms of technology and the economic benefit derived.

4. Financing. The problem of financing takes on different aspects depending not only on the extent of the country's industrial development, but also on the economic support which industry receives from the Government.

In general, there is a demand by private industry in the countries represented for adequate financing facilities, and it is hoped that more forward-looking domestic economic policies will be introduced, particularly with respect to financial backing for possible export activities.

5. Raw materials. The supply of basic or semi-finished raw materials raises problems mainly for the smaller countries. It was noted that both the instability of these countries' currencies and the continuous fluctuations in international prices pose a serious obstacle with regard to the proper planning of profitable production programmes.

The workshop supported the establishment of a Regional Information Centre to operate as a clearing-house for information on the availability of raw materials and semi-finished products.

6. Equipment. Some countries mentioned that because of financial difficulties they have been unable to replace obsolete equipment; others said that, for the same reason, they have had to buy used equipment which did not perform satisfactorily, even to the point of making them unable to compete with other producers using more up-to-date equipment.

On the other hand, a number of delegates noted that it also happens that highly sophisticated equipment may prove ill-suited to an entrepreneur's general economic situation.

7. Social progress. Social policies that are too advanced are not always compatible with a country's productivity requirements.

RECOMMENDATIONS

It is recommended that, as soon as possible, a Technical Economic Centre be established at the regional level to contribute to the promotion and the organic and rapid development of the metalworking and engineering industries of the Latin American countries, with particular attention to the economically least developed of them.

The Centre should be open to participation by the Latin American countries and by such international organizations and industrialized countries as may wish to contribute to the afore-mentioned goal.

The proper organization to undertake the practical work of establishing this Information Centre is UNDP, working through UNIDO as its executing agency.

A study on this Centre is attached as Annex III.

It should be noted that UNDP's contribution towards the establishment of the Centre would amount to some 0.25 per cent of its total contribution earmarked for the Latin American countries.

ANNEX I

Agenda and Programme of Work

Tuesday, 23 November 1976

8.30 to 9.30 a.m.

Registration of participants

10 to 10.45 a.m.

Opening ceremony

3 to 6 p.m. 1st meeting

Election of President, Vice-President
and Rapporteur

Approval of the agenda

Introduction of the participants

Selection of the committee to draft the
final report

Wednesday, 24 November 1976

9 a.m. to 12 noon 2nd meeting

Importance of the metalworking and
engineering industry in the national
economies

Reports by the delegates

- (a) Survey of the metalworking and
engineering industries in the countries
of the region
- (b) Supply and demand in respect of
metal products, particularly pressed,
stamped and forged products
- (c) Labour problems

3 to 6 p.m. 3rd meeting

Analysis of economic and technical aspects
(UNIDO)

- (a) Developments relating to various
economic and technical aspects of
metalworking
- (b) Trade and investment policies relating
to the establishment and promotion
of metalworking and engineering
industries
- (c) Regional co-operation
- (d) Technology for metalworking and
engineering industries in developing
countries
- (e) Cost factors
- (f) Degree of mechanization

Thursday, 25 November 1976

7.30 a.m. to 7.30 p.m.

Visits to plants

Friday, 26 November 1976

9 a.m. to 12 noon 4th meeting

Requisites for modern industrial production

- (a) Development of design, research and production engineering
- (b) Quality control (metrology)
- (c) Maintenance and repair
- (d) Reconditioning of machinery
- (e) Replacement policies
- (f) Standardization in metalworking

Monday, 29 November 1976

7.30 a.m. to 7.30 p.m.

Visits

Tuesday, 30 November 1976

9 a.m. to 12 noon
3 to 6 p.m.

Round-table discussion of problems
Conclusions and recommendations

Wednesday, 1 December 1976

9 a.m. to 12 noon

Final review

Approval of the final report

- (a) Address by the President
- (b) Remarks by the participants

ANNEX II

List of Participants

Chile

1. Waldo Parra Gajardo
Chief of Metal-Mechanical Centre of CIFA
Residence: Hanga-Roa 5830
Las Condes, Santiago, Chile
Office: Ejército 353, Santiago, Chile
2. Gerardo Jacob Schmidt
Production Manager
Espoz 5091, Santiago, Chile (residence)
Office: Sociedad de Construcciones Metálicas
Avenida Pepper 1621, Santiago, Chile

Dominican Republic

3. Teófilo Guesta Ortega
Secretary, Industrial-Technical Department
Secretary of Industry and Commerce
Office: Departamento Técnico-Industrial
Secretaría de Estado de Industria y Comercio
Santo Domingo, Dominican Republic

Ecuador

4. Angel Manuel Loaiza Rossillo
Plan Administration and Sales
(Steel furniture)
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El Salvador

5. Julio Roberto Gochez
In charge of agricultural implement production
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Santa Ana, El Salvador

Guatemala

6. Enrique Leonel Borja Rodríguez
Chief of Industrial Division
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Guatemala City, Guatemala
7. Julio Roberto Chavarría Smeaton
Plant Manager (Wire)
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Guatemala, C.A.
8. Luis Augusto Rivera Echeverría
Manager (Design and Fabrication of Metal
Products)
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Guatemala City, Guatemala

Nicaragua

9. David Alvarez Morazan

General Manager and Sales (Metal Products)
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Managua, D.N.

Panama

10. Georgina I. de Pérez

Director of Technical Assistance
(Industrial Development and Productivity)
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Ministerio de Comercio e Industrias
Apartado 7639, Panama City 5, Panama

11. Antonio Ducroix

General Manager of steel company
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Paraguay

12. Juan Malerba

Director, Manager of metallurgical firm
Office: General Garay 571
Asunción, Paraguay

Peru

13. Carlos Arrieta Parodi

Plant Superintendent (auto parts)
Office: P.O. Box 1260, Lima, Peru

14. Luis Guillermo Vega Monteferri

Director of Operations (auto parts)
Office: P.O. Box 1260, Lima, Peru

Suriname

15. Win Sanson

Owner/manager of sheet metal plant
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P.O. Box 2099, Paramaribo, Surinam, S.A.

Venezuela

16. Rosa Cristina Romero de Pisani

Economist (metal-mechanical sector)
Ministerio de Fomento
Torre Sur, Piso 6º, Oficina 614
Centro Simón Bolívar, Caracas, Venezuela

UNIDO Experts

17. Carlo Ferrari (Italy) Project Manager in Colombia
18. A.F. Roux (Argentina) Metal Industries (Venezuela)

UNIDO Staff

19. Curt F. Knepell

Argentina

20. Carlos O. Sanio National Director for Technology and Extension
Programmes of the National Institute of
Industrial Technology (INTI)
21. Roberto Henning Adviser on international relations to the
Office of the President, INTI
22. Fernando Morales Technical Director of the Machine-Tool
Research Centre (CIMHER), INTI
23. J.C. Bertone Delegate
24. Pedro Luis Lanzi Delegate
25. Enrique Jensen Buhl Delegate
26. Carlos Nartinez Delegate

Drafting committee for final report
selected at the first meeting

Luis Vega Monteferri
Waldo Parra Gajardo
Carlo Ferrari
Fernando Morales
Julio Chavarría Smeaton

ANNEX III

ESTABLISHMENT OF AN INFORMATION CENTRE FOR THE TECHNICAL AND
ECONOMIC DEVELOPMENT OF THE METALWORKING AND ENGINEERING
INDUSTRIES OF THE LATIN AMERICAN COUNTRIES

Responsible international organization: United Nations Development Programme (UNDP)

Promoting agencies: The Latin American Governments

Executing agency: United Nations Industrial Development Organization (UNIDO)

For UNDP

UNIDO

For the Governments

National planning agencies

Background

The lack of a sound technical and economic policy for the development of the metalworking and engineering industry in the Latin American countries has led to serious problems, as reflected in the scope of the programmes that have been undertaken in this sector.

These problems are:

- (a) Inadequate training, not only for workers and middle management, but also, in some cases, at the higher administrative level as well; a transfer of technology that is inadequate and, in some cases, incorrectly negotiated and applied; inadequate financing that obstructs the execution of action programmes of desirable scope and vigour; the limited size of the national markets, requiring more effective measures to expand them, either through regional co-operation or the promotion of export (such measures are not always easy to take and require medium- and long-term action);
- (b) Difficulties in the supply of basic or semi-finished raw materials stemming from the very size of the markets, the diversity of requirements, the lack of standardization, and the problems created by equipment that is inadequate, obsolete or of the wrong size.

Objectives of and justification for the Centre

Immediate objectives

To promote the flow of information regarding the availability of raw materials, semi-finished products and components among the countries of the area;

To promote technical contacts among the countries of the area and between the latter and the more developed countries;

To advise newly established industries on matters concerning installed capacity and production capacity;

To promote training fellowships for technical personnel at all levels, inside and outside the region, depending on the level of training required.

Long-term objectives

To achieve such quality standards as will permit regional products to compete in the international market;

To achieve a considerable degree of complementarity in the metalworking and engineering sector at the regional level so as to make possible economies of scale;

To achieve the kind of efficiency that only accurate technical and economic information can make possible;

To achieve greater inter-regional integration of metalworking and engineering industries;

To contribute to the development, by the Latin American countries themselves, of an advanced technology appropriate for the requirements of regional growth and compatible with international standards of efficiency;

To encourage the development of more sophisticated products and capital goods;

To examine the usefulness of establishing an inter-regional exchange system to provide products and services for the metalworking and engineering industry;

To promote joint production projects through regional enterprises.

Institutional promotion agencies

The planning agencies would operate through their technical and entrepreneurial bodies.

Work plan

A work plan is proposed for the Centre's first year of operation. Once the Centre has been established, it will of course submit its own detailed plans and short-, medium- and long-range action programmes.

It is thought that the first two months will be devoted to obtaining the installations and the staff as well as the furnishings, office equipment, transportation facilities, documentation and other items required for its operation.

The next four months will be given over to contacting by letter the different regional bodies interested, these initial contacts being followed up by personal visits by an official of the Centre to the various countries, for the purpose of establishing personal links with the participating institutions.

During this period, the Centre's technical staff will be compiling and selecting information for incorporation into a file on regionally and inter-regionally produced machine-tools, gathering data on the production capacities of the various countries and the supply of and demand for raw materials and semi-finished goods, and the identification of technological requirements and metalworking and engineering projects.

At the same time the Centre will initiate action to place Fellows in more advanced countries for training to enable them to take better advantage of the opportunities available in these countries, many of which go unused for lack of proper information and suitable channels of communication.

At least during this initial stage, it is expected that it will be necessary to conduct a semi-annual review of programmes and actions based on emerging needs, in pace with the organization and development of the Centre.

In this way, it is thought that, before the end of the first year - which the Centre will require to become established, begin operations and publicize its existence and objectives - it will be able to submit to UNIDO a comprehensive work plan covering the next four years.

Expected requirements

The basic requirements for setting the project in train are as follows:

Contributions by the headquarters or host country: adequate premises and office space, with the necessary materials, office equipment, communication systems and administrative staff;

Contributions by the participating Governments: four experts on assignment in rotation for periods of from three to six months. The experts' salaries at home and on assignment will be paid by their respective Governments;

UNIDO contribution: one international co-ordinator; local transport facilities; travel expenses of the national experts to and from their countries and per diem in the country of assignment for the duration of their mission.

Temporary headquarters

In order that the project may begin with as little delay as possible and enjoy from the very outset the kind of infrastructural services that will help it to achieve its objectives, the National Institute of Industrial Technology (Instituto Nacional de Tecnología Industrial) in Argentina is proposed as the headquarters for the Centre's initial activities.

The most suitable alternative locations will be determined on the basis of studies and other measures to be undertaken during the first half-year, through agreement between the countries pledging to participate in and support the institution.

Planned budget for the first year of operation. 1977

United Nations contribution

| | | \$US | |
|--|-----|---------------|---------|
| | m/m | Standard cost | Total |
| <u>Personnel</u> | | | |
| 1 expert, co-ordinator for the Centre | 12 | 4,000 | 48,000 |
| <u>Miscellaneous expenses</u> | | | |
| Per diem for personnel provided by Governments | 12 | 1,200 | 14,400 |
| Travel between the home country and the Centre for personnel provided by Governments (8 x 800) | | | 6,400 |
| Information material and publications | | | 25,000 |
| Inter-regional travel | | | 20,000 |
| <u>Equipment</u> | | | |
| 1 automobile | | | 6,000 |
| Operating costs (driver, etc.) | | | 12,000 |
| Stationery and miscellaneous expenses | | | 12,000 |
| | | <u>Total</u> | 143,800 |

Contribution of Governments

| | | | |
|------------------|----|--------------|--------|
| <u>Personnel</u> | | | |
| 1 engineer | 12 | 2,000 | 24,000 |
| 1 engineer | 12 | 2,000 | 24,000 |
| 1 engineer | 12 | 2,000 | 24,000 |
| 1 economist | 12 | 2,000 | 24,000 |
| | | <u>Total</u> | 96,000 |

Host Government contribution

| | | | |
|------------------------------|----|--------------------|---------|
| Offices | | | 24,000 |
| <u>Personnel</u> | | | |
| 1 administrative assistant | 12 | 700 | 8,400 |
| 1 bilingual secretary | 12 | 800 | 9,600 |
| 1 secretary/shorthand typist | 12 | 600 | 7,200 |
| 1 secretary/typist | 12 | 500 | 6,000 |
| | | <u>Total</u> | 55,200 |
| | | <u>Grand total</u> | 151,200 |

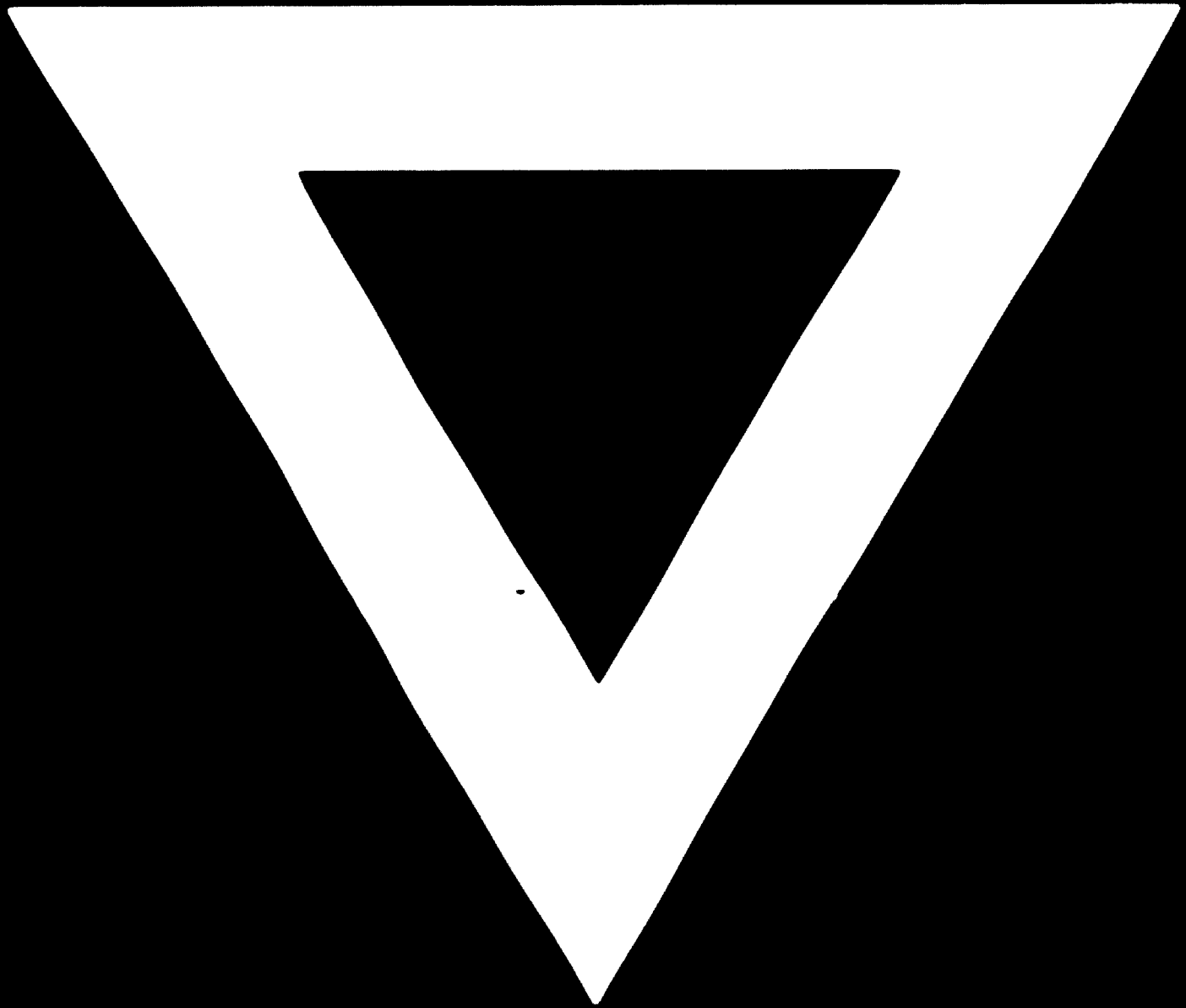
Conclusions

Attention is called to the importance of a number of steps which, it is considered, must be taken in order to ensure the success of this project:

1. To request UNIDO and the Latin American Governments to give their immediate and fullest support to the proposed creation of the Information Centre for the Development of the Metalworking and Engineering Industry;
2. To endeavour to ensure that in their action to achieve rapid progress on the proposed project, the Governments concerned should pay particular attention to the opinions and collaboration of the business groups representing the metalworking and engineering sector in each country;
3. To recommend to UNIDO that it should approach the Governments of the interested countries direct so that it can assist in the establishment of the Centre by providing information and assistance to officials of the national planning agencies and other organizations responsible for implementing the relevant decisions.



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