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DO 1884

Distr.
LIMITED
ID/WO.62/1
22 October 1970
ORIGINAL: ENGLISH

United Nations Industrial Development Organization

Symposium on Maintenance and Repair in Developing Countries

Duisburg, Federal Republic of Germany, 10-17 November 1970

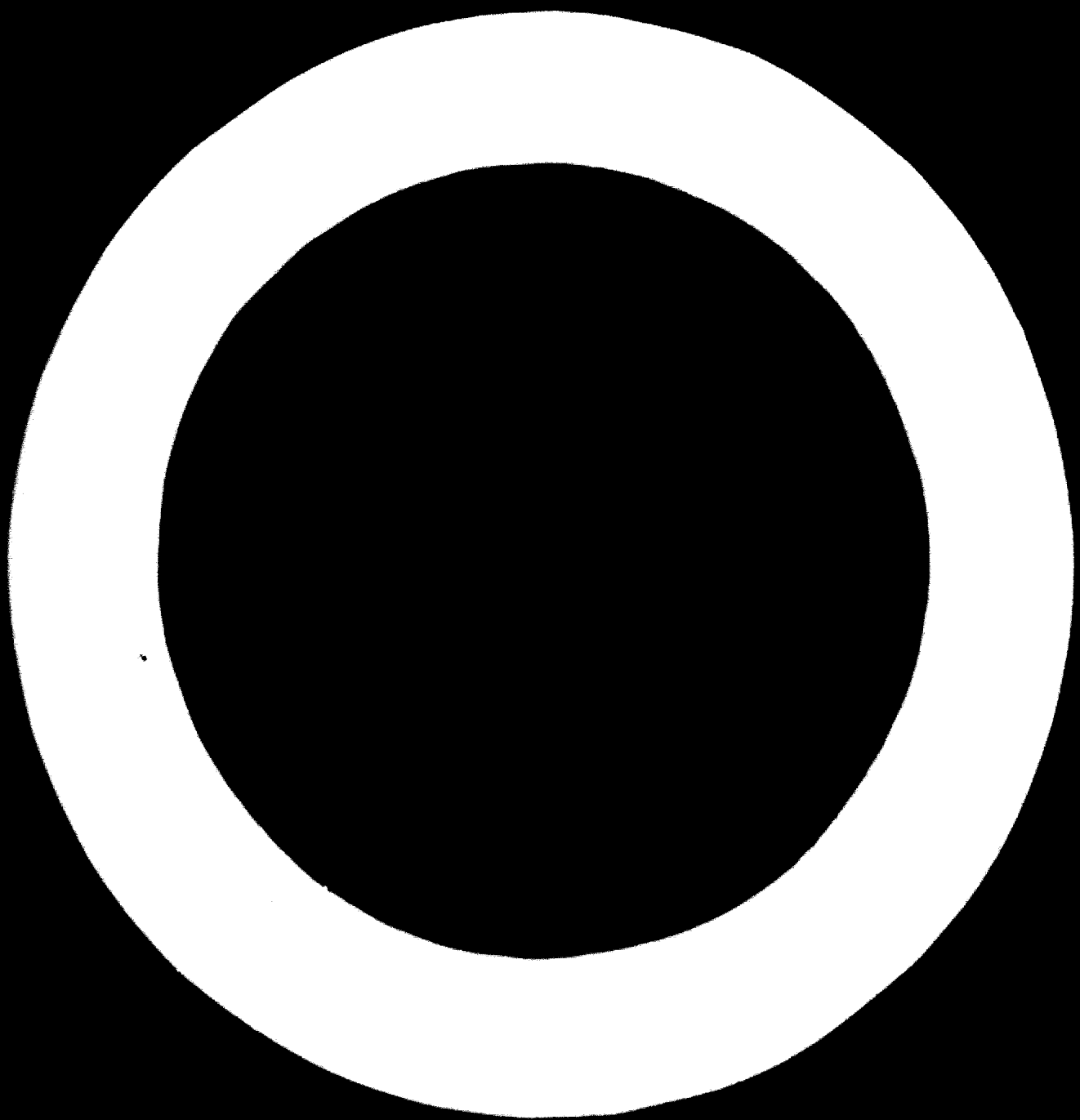
ANNEXED AGENDA

**Organized in co-operation with the German Foundation for
Developing Countries and the German Association of Machinery
Manufacturers (VIMA).**

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An Introductory Note.

The agenda is organized so that maintenance as such is first discussed. The main aspects of maintenance activities, namely economical, engineering, and organizational aspects are then discussed, each in a separate session. A complete day is allotted to each session. Presentation of background papers relevant to the aspect under discussion will take place in the morning with a short discussion to follow each presentation to allow participants to have more information on the subject presented. A general debate will follow in the afternoon of the same day on the particular aspect as a whole (for the managerial aspect, the debate will take place on the morning of Sunday, 15 November since the Mercator Halle will not be available to the Symposium on the afternoon of Saturday, 14 November). An issue paper has been prepared by the UNIDO Secretariat for each aspect of maintenance to help participants in the debate and to outline a number of issues suggested for discussion. It is not claimed that the background papers presented and the issue papers cover all relevant points of the aspect under discussion or all the issues which could be raised and discussed. It is thus hoped that, in addition to the relevant background and issue papers, the background and experience of participants will surely be of great value in bringing the standard of the debate to the required level.

The different subjects relevant to maintenance are divided into groups under the different aspects only for convenience. There is no sharp division line between the different aspects and many subjects are certainly the concern of economists, managers and top technical personnel.

1. Inauguration of the Symposium and opening statements.
2. Election of chairman, co-chairman and rapporteur.
3. Adoption of the Agenda.
4. Session I - Maintenance.
 - a) Introductory speech;
 - b) Maintenance problems, implications and requirements;
 - c) General debate on maintenance.

The aim of this session is to discuss the different maintenance activities, their aim and inter-relation. The suitability of these activities to conditions prevailing in developing countries and how they could be adopted and perhaps modified to be more suitable is a main topic of discussion.

Background papers:

The Importance and Objectives of Maintenance Engineering

by D. Parkes (ID/WG.62/20) in English

Preventive Maintenance

by UNIDO Secretariat (ID/WG.62/40) in English

5. Session II - Economic Aspects of Maintenance.
 - a) Role of maintenance in industrial development;
 - b) Renewal and repair;
 - c) Maintenance costs;
 - d) Incentives;
 - e) Adoption of Drafting Committee's report on maintenance;
 - f) General debate on the economic aspects of maintenance.

Economic policies and regulations affecting maintenance activities, particularly at the country and sectorial levels will be the main theme of this session.

Background papers:

The role of Maintenance and Repair for the Economic Development
of the Manufacturing Industry

by J. Nolsberger (ID/WG.62/24) in English

Maintenance in Perspective

by A. J. Havelock and P. Jones (ID/WG.62/31) in English

A Study on Renewal, Repair and Maintenance

by V. Nesvera (ID/WG.62/22) in English

Maintenance or Renewal

by A. Ullman (ID/WG.62/29) in English

Cost of Downtime

by UNIDO Secretariat (ID/WG.62/48) in English

Maintenance and Production Costs. Economics of Downtime

Forecastings and Controlling of Costs

by J. Martin (ID/WG.62/3) in English

Incentives for Maintenance

by H. B. Maynard and Company (ID/WG.62/26) in English

Issue paper on Economic Aspects of Maintenance

by UNIDO Secretariat (ID/WG.62/34) in English

6. Session III - Engineering Aspects of Maintenance.

- a) Consideration of maintenance and repair problems in design and procurement of installations;
- b) Central maintenance and repair shops;
- c) Use of design and metal working centres in maintenance and repair;
- d) Repair and maintenance facilities for small industries;
- e) Adoption of Drafting Committee's report on economic aspects of maintenance;
- f) General debate on engineering aspects of maintenance.

The different types of maintenance and repair facilities and technical facilities, such as design centres, would be reviewed and their suitability for conditions prevailing in developing countries will be discussed. An important subject is the studies and steps to be taken before equipment is ordered and it is hoped that the Symposium will give particular attention to it.

Background papers:

Maintenance Guidelines at a Tendering Stage

by K. Sward (ID/WG.62/6) in English

Maintainability

by H. B. Maynard and Company (ID/WG.62/25) in English

Organisation and Importance of Company Standards

by G. H. Weber - Deutsche Stiftung für Entwicklungsländer
(ID/WG.62/39) in English

Central Maintenance and Repair Shops

by A. Labrenz - Verein Deutscher Maschinenbau-Anstalten e.V.
(ID/WG.62/41) in English

**Use of Design and Metal Working Centres in Maintenance
and Repair**

by F. Hussein (ID/WG.62/42) in English

Maintenance and Repair Facilities in Small Scale Industries

by G. Sain (ID/WG.62/33) in English

Consideration of Problems in Design of Installations

Maintenance and Repair in Developing Countries

by J. Holub (ID/WG.62/17) in English .

Issue paper on Engineering Aspects of Maintenance

(ID/WG.62/35) in English

7. Session IV - Managerial and Organizational Aspects of Maintenance.

- a) Maintenance and repair organization;
- b) Preventive maintenance, policy and organization;
- c) Upgrading of maintenance and repair personnel;
- d) Spare parts procurement, storage and distribution;
- e) Adoption of Drafting Committee's report on managerial and organizational aspects of maintenance;
- f) General debate on managerial and organizational aspects of maintenance.

Maintenance and repair organization differs materially according to type and size of industry and local conditions. It even differs sometimes between the same size and type of industry in one country. Prevailing conditions in developing countries have a great effect on the type of organization to be used and this would be the main theme of discussion. The different types of organization and their suitability to developing countries would also be discussed.

Background papers:

- Maintenance and Repair Organisation in Industrial Enterprises**
by J. D. Edwards (ID/WG.62/11) in English
- Preventive Maintenance**
by UNIDO Secretariat (ID/WG.62/40) in English
- Preventive Maintenance Schedules and Practices**
by H. Kress (ID/WG.62/8) in English
- Upgrading of Maintenance and Repair Personnel**
by I. L. O. (ID/WG.62/30) in English
- Handling and Storing of Spare Parts and Materials for
Maintenance Purposes on the Plant Level**
by W. H. Brown (ID/WG.62/23) in English
- Size and Composition of Inventories of Spare Parts and
Maintenance Materials**
by E. Arneberg (ID/WG.62/28) in English
- Inventory Control System in a Process Industry**
by H. C. Herens (ID/WG.62/46) in English
- Procurement, Storage and Distribution of Spare Parts**
by H. Eichler - Verein Deutscher Maschinenbau-Anstalten e.V.
(ID/WG.62/51) in English
- Human Relations in Industry with Special Reference to the
Maintenance/Production Relationship**
by G. Corder (ID/WG.62/9) in English
- Planning and Control of Maintenance of Groups of Similar
Equipment**
by W. Geraerds (ID/WG.62/45) in English
- How to Manage Maintenance**
by J. Wilkinson
- Presenting Technical Information to Maintainers**
by E. White (ID/WG.62/21) in English
- Developments in Predictive Maintenance**
by J. D. Quinn (ID/WG.62/49) in English
- Issue paper on the Managerial and Organisational Aspects
of Maintenance**
by UNIDO Secretariat (ID/WG.62/36) in English

8. Session V - National Action and International Co-operation in Improving Maintenance and Repair Facilities in Developing Countries.

- a) Contribution of developed countries to maintenance in developing countries;
- b) Contribution of industries, institutions and associations in industrialized countries;
- c) UNIDO's campaign in improving maintenance and repair facilities in developing countries;
- d) Role of developing countries in improving their maintenance and repair facilities;
- e) Adoption of the Drafting Committee's report on the managerial and organizational aspects of maintenance;
- f) General debate on national action and international co-operation.

Exchange of views in this session between developing countries, industrialized countries and UNIDO on how best to make use of bilateral and international assistance would be the main topic of the debate. It is important for developing countries to be more aware of the potentiality of industrialized countries and international organizations in this respect and what they can do. It is also important for industrialized countries and international agencies to know what is expected from them.

Background papers:

Contribution of Developed Countries to Maintenance in
Developing Countries

by A. Fuchs - Deutsche Stiftung für Entwicklungsländer
(ID/WG.62/47) in English

After-Sales Maintenance in the Automotive Field

by M. Bosia/Fiat (ID/WG.62/27) in English

UNIDO's Campaign in Improving Maintenance and Repair in
Developing Countries

by UNIDO Secretariat (ID/WG.62/38) in English

Role of Developing Countries in Improving Their Maintenance
and Repair Facilities

by J. Mirsa (ID/WG.62/50) in English

**The Strategy for Introducing and Operating Systems of
Maintenance and Repair in the Developing Countries -
An Institutional Approach**

by B. N. Bhattasali (ID/WG.62/32) in English

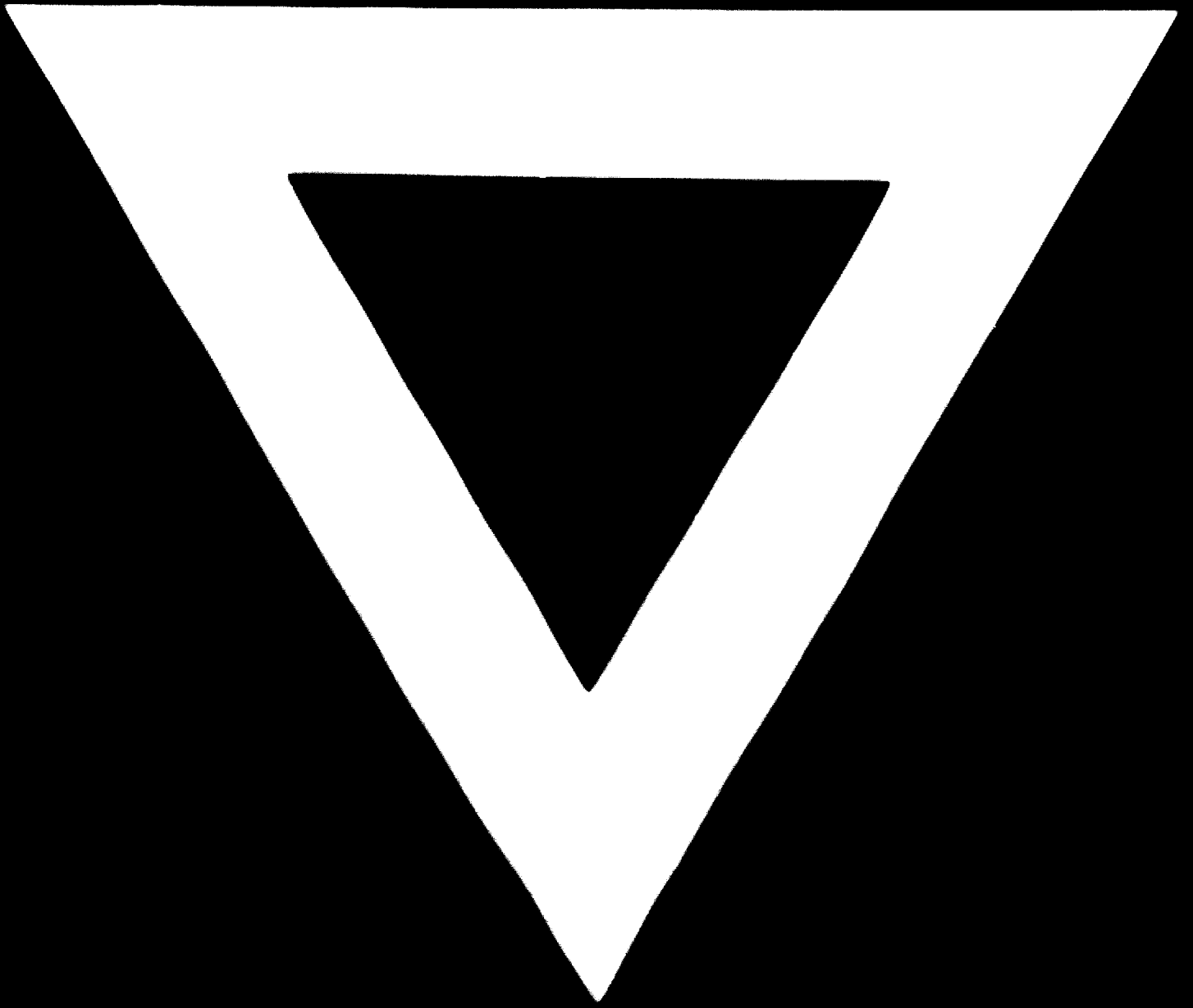
**Issue paper on National Action and International Co-operation
in Improving Maintenance and Repair Facilities in Developing
Countries**

by UNIDO Secretariat (ID/WG.62/37) in English

9. Closing Session.

- a) Adoption of Drafting Committee's report on national action and international co-operation;
- b) Policy and actions taken by certain developing countries in improving their maintenance and repair facilities;
- c) Adoption of the Final Report;
- d) General debate and closing speech.





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