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ORIGINAL: ENGLISH

List of United Nations and UNIDO Sales Publications,  
Articles, Reports and Mimeographed Documents  
on Small-scale Industry

PRODUCTION IMPROVEMENT IN SMALL-SCALE MANUFACTURING. (11)

- A. General (Size of Plant)
- B. Choice of Technology and  
Appropriate Technology
- C. Capital Intensity
- D. Quality Control
- E. Standardisation
- F. Maintenance and Repair
- G. Model Schemes/Profiles/Plant Models



The following lists of United Nations and UNCTAD Sales Publications, Articles, Reports and Monographed Documents on Small-scale Industry are also available:

UNCTAD/ISID/45/Rev. 1

**PROMOTION AND DEVELOPMENT OF SMALL-SCALE INDUSTRIES (GENERAL)**

- A. Industrialization in Countries at Early Stages of Development
- B. Small-scale Industry Outside Metropolitan Areas/Rural Industrialization/Regional Industrial Development
- C. Self-Help/Co-operatives/Burgers

UNCTAD/ISID/45/244. 1/Rev. 1

**EXTENSIVE SERVICE OF TRAINING AND TECHNICAL FACILITIES FOR SMALL-SCALE INDUSTRIES**

UNCTAD/ISID/45/244. 2/Rev. 1

**INDUSTRIAL ZONES, INDUSTRIAL AREAS AND FREE ZONES**

UNCTAD/ISID/45/244. 3/Rev. 1

**FINANCING OF SMALL-SCALE INDUSTRIES**

UNCTAD/ISID/45/244. 4/Rev. 1

**EMPLOYMENT OF SMALL-SCALE INDUSTRIES**

UNCTAD/ISID/45/244. 5/Rev. 1

**MARKETING OF SMALL-SCALE INDUSTRIAL PRODUCTS**

- A. Domestic Marketing
- B. Export Promotion
- C. Subcontracting
- D. Government Procurement Procedures

The publications, reports and documents listed relate not only to policies, programmes and measures directly concerned with the development of small-scale industry, but also to certain broader issues of financing, marketing, subcontracting, technological research, choice of technology, and other matters which have a bearing on the development of this sector. Studies on the broader aspects are included when directly relevant to the main subject matter of this list. In a few cases, reference is made to studies of more general scope.

The following list is arranged by main subjects and, under each heading, by date of publication or proposed publication.

For each document, the number of pages indicated is that of the English version.

A. GENERAL (SIZE OF PLANT)

Articles published in the Industrialization and Productivity Bulletin

**Index No.**  
**4.11.24**

**Title**

**Author**  
**E P S**

- "Plant Size and Economics of Scale" (Bulletin No. 2), United Nations, New York, 1961, 10 pages.

In this article, the relationship between plant size and economics of scale is studied with reference to a certain number of industries. Two main types of economics of scale - technical and organizational - are distinguished and their relative importance in the cost structure analyzed. Attention is drawn to the fact that the economies derived from production organization are independent from the size of plant and that even small-scale industrial enterprises can benefit from them, with the assistance, as necessary, of appropriate servicing institutions.

(The question of size of industrial plant in the developing countries has been dealt with, in some aspects, in two studies published by the United Nations in Bulletin No. 2 (Sales No. 59.II.B.1) entitled "Problems of Size of Plant in Industry in Underdeveloped Countries" (in ammonia fertilizers and glass container industries) and in Studies of Economics of Industry, No. 1 (Sales No. 59.II.B.1), entitled "Cement - Nitrogenous Fertilizers Based on Natural Gas")

B. JUDGE OF TECHNOLOGY AND APPROPRIATE TECHNOLOGY

Printed Publications

Serial No.

Title

Language

67.II.B.30  
(IN/SEA.X/1)

- Small-scale Manufacturing Studies, No.1, Bicycles - A Case Study of Indian Experience, United Nations sales publication, New York, 1969, 87 pages.

E F S

This study is the first in a series on the contribution of small-scale industries to the production of consumer and producer goods to the development of industrializing countries. It is almost entirely based on the experience of India, but it is likely that most of its recommendations are applicable in other developing countries. The treatment of the subject in this study goes beyond that of a model scheme or industry profile. It discusses types, designs, specifications, and manufacture of parts and components of bicycles, costs, subcontracting, marketing and distribution.

To be  
published

- Small-scale Manufacturing Studies, Sewing Machines (Study on the Contribution of Small-scale Industries to the Manufacture of Sewing Machines) by A. D. Paton, is to be published as a United Nations sales publication.

E

This study will be the second in a series on the contribution of small-scale industries to the production of consumer and producer goods in the development of industrializing countries. It discusses economics of scale and development, designs, types and specifications, processes of production, assembly and market planning, pricing, distribution, recommendations on industry structure and regulations, and technical assistance.

B. CHOICE OF TECHNOLOGY

Articles published in the Industrialization and Productivity Bulletin

<u>Sales No.</u>	<u>Title:</u>	<u>Language</u>
60.II.B.1	- "Choice of Industrial Technology: The Case of Wood-working", by G. K. Boon, ( <u>Bulletin No. 3</u> ), United Nations, New York, March 1960, 5 pages.  Method of appraisal of alternative production processes at different levels of mechanization, including the use of multipurpose <u>versus</u> specialized machines in the manufacture of wooden window frames and furniture.	E F S
60.II.B.2	- "Choice of Techniques", by Saburo Uchita, ( <u>Bulletin No. 4</u> ), United Nations, New York, April 1961, 8 pages.  A study on the appropriate combination of factors of production in relation to their endowment, in the light of the experience of Japan. (Studies of broader scope are published in <u>Bulletin No. 1</u> (Sales No.: 58.II.B.2): "Choice of Technology in Industrial Planning", by J. Tinbergen, and in <u>Bulletin No. 5</u> (Sales No.: 64.II.B.1): "Choice of Capital Intensity in Industrial Planning".)	E F S
63.II.B.1	- "Adaptation of Processes, Equipment and Products" ( <u>Bulletin No. 6</u> ), United Nations, New York, 1963, 19 pages.  A general review of the problems of transfer and adaptation of industrial technology to the conditions prevailing in the developing countries, some of which are particularly relevant to the requirements of small-scale industries (Some institutional aspects of the problem are discussed in "Establishment of Technological Research Institutes in Under-developed Countries" in <u>Industrialization and Productivity Bulletin No. 2</u> (Sales No. 59.II.B.1), which reviews general problems including those of providing services to small undertakings).	E F S

**B. CHOICE OF TECHNOLOGY**

**Mimeographed Documents**

**Symbol:**

**Title:**

**Language:**

The following document was prepared for the Ad Hoc Meeting of Experts on the Role of Advanced Skills and Technologies in Industrial Development, New York, 22 - 29 May 1967:

**ID/WG.3/DP.6**

- Local Industry and the Choice of Techniques in the Planning of Industrial Development in Mainland China, by Carl Riskin, May 1967, 21 pages.

**E**

This paper discusses, among other things, the role assigned to small-scale industry in the industrialization of China in the period 1958 - 1960 and subsequent years.

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The following document was prepared for the Meeting on Promotion of Small Industries in the RCD Countries, Tehran, Iran, 11 - 17 April 1971:

**ID/WG.93/7**

- Appropriate Technology, Including Research and Prototype Development (Iran), by Behrouz Ali Azami, 13 July 1971, 5 pages.

**E**

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The following document was prepared for the Regional Seminar on Machine Tools for Countries in Latin America, Buenos Aires, Argentina, 16 - 25 October 1972 and Sao Paulo, Brazil, 26 to 27 October 1972:

**ID/WG.113/19**

- Small-scale Machine Tool Production, by L. Faria, 31 August 1972, 20 pages.

**E S**

**UNIDO/ISID.14**

- - New Perspectives: Industrial Development in the Third World, by J.E. Stepanek, 16 June 1971, 119 pages.

**E**

A paper on technologies appropriate, among others, for small-scale industries.

**STD/5/WPCA/IND/1**

- Technologies Appropriate for Industry in the Developing Countries, by J. E. Stepanek, 7 March 1966, 71 pages.

**E**  
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**Symbol**                      **Title**    **Language**

The following document was prepared for the Third session of the United Nations Conference on Trade and Development, Santiago, Chile, 13 April 1972:

TD/COSTA/7                      - Transfer, Adaptation and Development of Technology in Industry in the Developing Countries, by UNIDO, 24 March 1972, 16 pages.                      E

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The following document was prepared for the Seminar on Industrial Information for the ECA Region, Addis Ababa, 17 - 26 April 1972:

IN/IB.119/3                      - Institutions for the Transfer of Technology, by the Geneva Branch, United Nations Office for Science and Technology, 17 March 1972, 19 pages.                      E

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The following document was prepared for the OECD Seminar on the Role of Small-scale Industries in the Transfer of Technology, Schloss Hornstein, Austria, 5 - 8 July 1973:

UNIDO/IBIB/36                      - Technologies for Small Industries in Developing Countries, by the Secretariat of UNIDO, 20 June 1973.                      E

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C. CAPITAL INTENSITY

Articles published in the Industrialization and Productivity Bulletin

<u>Sales No.1</u>	<u>Title1</u>	<u>Language</u>
58.II.B.2	- "Capital Intensity in Industry in Under-developed Countries", by the United Nations Bureau of Economic Affairs ( <u>Bulletin No.1</u> ), New York, April 1958, 20 pages.  A review and assessment of recommendations made to Governments by technical assistance experts on general industrialization policies, selection of industries and degree of mechanization in individual industries. (Studies on capital intensity in a specific industry offering a wide range of technological alternatives - engineering construction include: "Capital Intensity in Heavy Engineering Construction", <u>ibid.</u> , and "Capital Intensity and Costs in Earth-moving Operations", <u>Bulletin No.1</u> (Sales No.: 60.II.B.1).	E P S

**D. QUALITY CONTROL**

**mimeographed documents**

<u>Serial</u>	<u>Title</u>	<u>Language</u>
	The following documents prepared for the Training Workshop in Quality Control, Cairo, Arab Republic of Egypt, 12 - 21 February 1972 discuss quality control in industry. Most of them are relevant to small-scale manufacturing and are included for that reason in the present list.	
ID/MS.100/4	- Aspects of Regional Co-operation in Quality Control Activities, by Mahmoud Sa'ana, 16 September 1971, 11 pages.	E F
ID/MS.100/5	- Quality and Standardisation, by V. Kouchar, 16 September 1971, 16 pages.	E F
ID/MS.100/6	- Quality Training, by Leslaw Wasilowski, 16 September 1971, 22 pages.	E F
ID/MS.100/7	- Inspection, Sampling and Testing, by Leslaw Wasilowski, 16 September 1971, 30 pages.	E F
ID/MS.100/8	- Organisation and Management of Quality Control Programs for Successful Industrial Development, by E. Blanco Loiselier, 27 September 1971, 14 pages.	E F
ID/MS.100/9	- Quality Control in Selected Fields: Building Materials, Textiles, Food Processing, Engineering Industries, by F. A. Sobhy, 27 September 1971, 8 pages.	E F
ID/MS.100/10	- Quality, Quality Motivation, Reliability and the Consumer, by Lennart Sandholm, 13 October 1971, 21 pages.	E F
ID/MS.100/11	- The Concepts of Quality and Quality Control and Criteria for their Definition, by Agnes H. Zaludová, 23 October 1971, 42 pages.	E F
ID/MS.100/12	- The Role of Quality and Quality Control in Industrial Development, by Agnes H. Zaludová, 5 January 1972, 14 pages.	E F
ID/MS.100/15	- Final Report (of the Training Workshop), 1 September 1972, 49 pages.	E F

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**Serials**

**Titles**

**Language**

The following document was prepared for the  
Expert Group Meeting on Domestic Marketing  
of Small Industry Products in Developing  
Countries, Dublin, Ireland, 29 May -  
3 June 1972:

IS/MS.124/5

- Improving Product Quality in Small Industries  
in Developing Countries, by David J. Edmund,  
28 February 1972, 105 pages.

8

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The following document was prepared for the  
Study Tour Workshop on Quality Control and  
Certification Marking for Industrial Pro-  
ducts, Singapore, 20 - 25 May 1974:

IS/MS.100/1

- The Key Role of Quality Control and Certifi-  
cation Marking Programs in Developing Coun-  
tries, by Donald S. Erner, 22 April 1974,  
32 pages.

8

IS/MS.100/11

- Final Report (of the Study Tour Workshop)  
5 August 1974, 26 pages.
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**B. BIBLIOGRAPHY**

Articles published in the *Industrialization and Productivity Bulletin*

<b>Index No.</b>	<b>Title</b>	<b>Page No.</b>
44.11.2.1	<p>- "Standardization in a Developing Economy", by Lal C. Verman, (<i>Bulletin No. 1</i>). United Nations, New York, 1964, 18 pages.</p> <p>The article discusses the need for standardization in the industrializing countries, particularly in the context of development plans and programmes, the applicability of the knowledge and practice acquired in the advanced countries to the conditions prevailing in the less developed ones, and the organization of standardization at both the national and international levels, against the background of the Indian experience in the past fifteen years. The article has some relevance to small-scale manufacturing.</p>	278

**I. STANDARDIZATION**  
**Manographed Documents**

<b>Symbol</b>	<b>Title</b>	<b>Language</b>
	The following document was prepared for the Training Workshop for Personnel Engaged in Standardization, Addis Ababa, Ethiopia, 17 - 24 November 1970:	
IB/MS.71/12	- Final Report (of the Training Workshop), 24 February 1971, 83 pages.	E
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	The following document was prepared for the Seminar on the Organization and Administration of Industrial Services in Latin America, Santiago, Chile, 23 November - 2 December 1971:	
IB/MS.101/7	- Standardization - Its Role in the Developing Countries, by Hugo Brangier, 13 October 1971, 25 pages.	E S
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<b>Note:</b>	Further information on standardization in industries irrespective of size is contained in documents IB/MS.71/2 to IB/MS.71/9 prepared for the Training Workshop for Personnel Engaged in Standardization, Addis Ababa, 17 - 24 November 1970.	E
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**F. MAINTENANCE AND REPAIR**

**Printed Publications**

**Index No.**

**71.XI.B.16  
(IN/87)  
(IN/88-00/  
94/Rev.1)**

**Title**

**- Maintenance and Repair in Developing Countries.  
Report of the Symposium held in Duisburg,  
Federal Republic of Germany, 10 - 17 November 1970,  
United Nations sales publications, New York,  
1971, 90 pages.**

**Language**

**E P S**

The publication contains the conclusions and recommendations of the Symposium. It describes the economic, engineering, managerial and organisational aspects of maintenance. It discusses the objectives of maintenance, namely, to extend the life of equipment, to ensure the maximum return from the investment, to ensure instant operational readiness of all equipment and to ensure the safety of personnel.

A chapter on national action and international co-operation to improve maintenance and repair facilities in developing countries is also included.

Many of the conclusions and recommendations of the Symposium are relevant to small industry development.

F. MAINTENANCE AND REPAIR

Articles published in the Industrialization and Productivity Bulletin

<u>Sales No.:</u>	<u>Title:</u>	<u>Language:</u>
71.II.B.19	<p>- "Central Repair Workshops in Developing Countries", based on papers by A. Laborera and G. Sain, (<u>Bulletin No. 10</u>), United Nations, New York, 1971, 7 pages.</p> <p>The article outlines the functions of central repair workshops in improving the maintenance and repair system and the basic equipment needed. The article reviews the special conditions prevailing in India and describes the role that should be assigned to central repair workshops for small-scale industries in rural and urban areas.</p>	E F S
71.II.B.19	<p>- "A Strategy for Introducing Systems of Maintenance and Repair in Developing Countries", by B. N. Bhattasali, (<u>Bulletin No. 18</u>), United Nations, New York, 1971, 8 pages.</p> <p>The author treats the problem of how modern maintenance and repair methods can be introduced in developing countries. He describes the generally difficult conditions and how systems of maintenance and repair could be established through a systematic approach. The special role of institutions at the national, regional and branch levels is emphasized in the creation of awareness of the poor state of maintenance and repair at present and an acceptance of more efficient systems.</p>	E F S



**F. MAINTENANCE AND REPAIR**

**Kinographed Documents**

**Subsidi**

**Taliki**

**Language**

The following document was prepared for the Symposium on Maintenance and Repair in Developing Countries, Duisburg, Federal Republic of Germany, 10 - 17 November 1970:

**ID/WJ.62/33**

- Maintenance and Repair in Small-scale Industries, by Gandharv Jain, 22 September 1970, 74 pages.

**E**

**Notes**

Information on maintenance and repair in industries irrespective of size is contained in documents ID/WJ.62/3 to ID/WJ.62/32 and ID/WJ.62/34 to ID/WJ.62/56 Rev.1 of the above-mentioned Symposium.

**E**

**(F) (S)**

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The following document was prepared for the Seminar on Furniture and Other Secondary Wood Processing Industries, Finland, 16 August - 11 September 1971, and revised for submission to the Seminar on Furniture and Joinery Industries, Lahti, Finland, 6 - 26 August 1972:

**ID/WJ.103/33/**  
**Rev.1**

- Tools and Tool Maintenance, by Erik Minalert, 14 July 1972, 24 pages.

**E**

This report is of interest to small-scale wood-working industries in developing countries.

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The following document was prepared for the Symposium on Maintenance Planning and Organisation, Tokyo, Japan, 12 - 17 March 1973:

**ID/WJ.145/17**

- Report of the Symposium on Maintenance Planning and Organisation, 26 June 1973, 20 pages.

**E**

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The following document was prepared for the Joint UNIDO/ECMI Meeting on Special Problems and Requirements of Industrial Development of Selected Countries of the Middle East, Beirut, Lebanon, 25 - 29 November 1974:

**ID/WJ.194/5**

- Maintenance and Repair, by the Secretariat of UNIDO, 30 October 1974, 20 pages.

**E**

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~~SECRET~~

Note

Information on maintenance planning and organization in industries irrespective of size is contained also in documents ID/MS.145/3 to ID/MS.145/14, and ID/MS.145/17 prepared for the Symposium on Maintenance Planning and Organization in Developing Countries, Tokyo, Japan, 12 - 17 March 1973

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**C. ECON. SURVEY/TEXTILE/PLANT :SERIAL**

**Printed Publications**

**SERIAL**

**Titles**

**Remarks**

07.II.B.17  
(12/1952-2/4)

- Industrial Planning and Programming Series, No.4,  
Profiles of Manufacturing Establishments  
Vol.I, United Nations, New York, 1957

B  
(with supplements in  
P, S and R)

08.II.B.18  
(12/1952-2/3)

- Industrial Planning and Programming Series, No.5,  
Profiles of Manufacturing Establishments  
Vol.II, United Nations, New York, 1958

B  
(with P, S  
and R inter-  
Section)

11.II.B.19  
(12/1952-2/6)

- Industrial Planning and Programming Series, No.6,  
Profiles of Manufacturing Establishments  
Vol.III, United Nations, New York, 1959

B  
(with P, S  
and R inter-  
Section)

Volume I to III of the Profiles of Manufacturing Establishments contain data on a few hundred selected sample industries - generally of large size - from developed and developing countries, covering the following industrial groups: food processing, textiles and clothing, chemicals and machinery.

The data are intended primarily to assist in preparing economic feasibility studies for industrial development programmes, evaluating industrial projects, checking information on particular investment opportunities envisaged for project development and evaluating consultant studies and industrial investment offers. The data could also serve as a means of comparison for analyzing the efficiency of existing industrial establishments.

14.II.B.20  
(12/1952-2/6)

- Industrial Planning and Programming Series, No.8,  
Profiles of Manufacturing Establishments  
Vol.IV, United Nations, New York, 1961

B  
(with P, S  
and R inter-  
Section)

The fourth volume of the Profiles of Manufacturing Establishments draws upon material from a three-country survey of export-oriented small-, medium- and large-scale industries. Part One of this volume contains summary tables in a form suitable for intercountry, interindustry and establishment-size comparisons. Part Two contains profile sheets on the production and export characteristics of selected individual establishments divided into six industrial groups: food processing, textiles and clothing, chemicals, non-electrical machinery, electrical machinery and electronics and fine instruments.

**G. RUBER, RUBBER/PROFILES/PLAST RUBBERS**

**Micrographed Documents**

**Number**

**Title**

**Language**

The following document was prepared for the Working Party on Industry Profiles, Beirut, Lebanon, 1 - 7 May 1970.

IB/IB.57/3  
(57/4)  
and Corr.1

- The Analytic Industry Profiles - A Progress Report on a New UNIDO Industrial Programming Data Project, by the Secretariat of UNIDO, 24 April 1970, 12 pages.

B

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The following document was prepared for the Regional Seminar on Machine Tools for Countries in Latin America, 16 - 25 October 1972, Buenos Aires, Argentina, and 26 - 27 October 1972, Sao Paulo, Brazil.

IB/IB.111/19

- Small-scale Machine Tool Production, by L. Paria, 31 August 1972, 20 pages.

B

B

UNIDO/IBIB.61

- Essential Oils: A Study of Production Economics, by S. R. J. Robbins, 7 September 1973, 52 pages.

B

UNIDO/IBIB.62/  
Rev.1

- Green Bean Processing, by G. Flynn, 27 July 1974, 43 copies.

B

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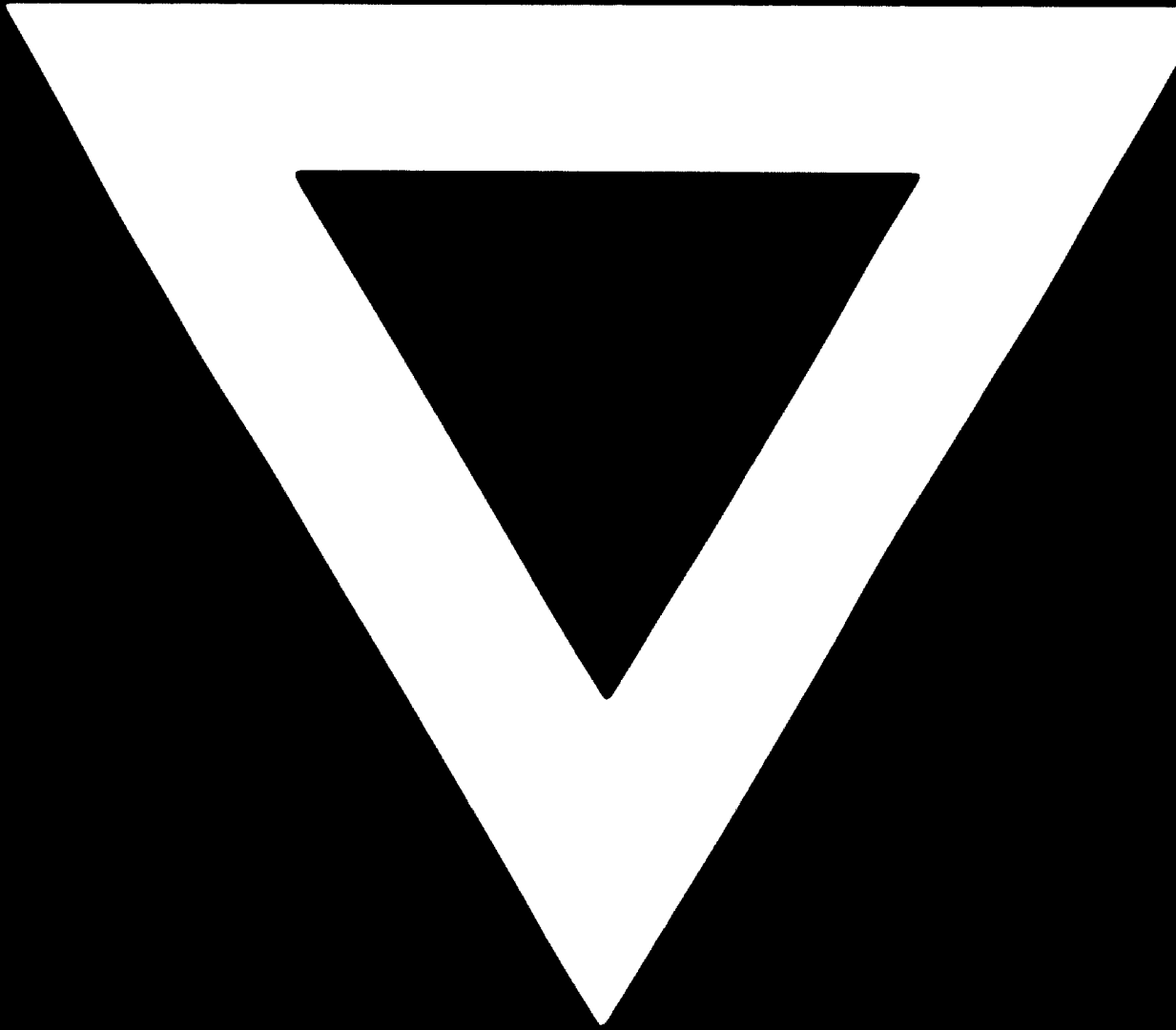
The following document was prepared for the Working Group on Exchange of Experiences in the Foundry Industry of Selected Countries of Asia and the Far East, Calcutta, Jamshedpur, Ranchi, India, 8 - 15 December 1974:

IB/IB.192/1

- Establishment and Operation of Small Cast Iron Foundries: Indian Experiences, by H. C. Chakrabarti, 4 October 1974, 126 pages.

B





**76.01.13**