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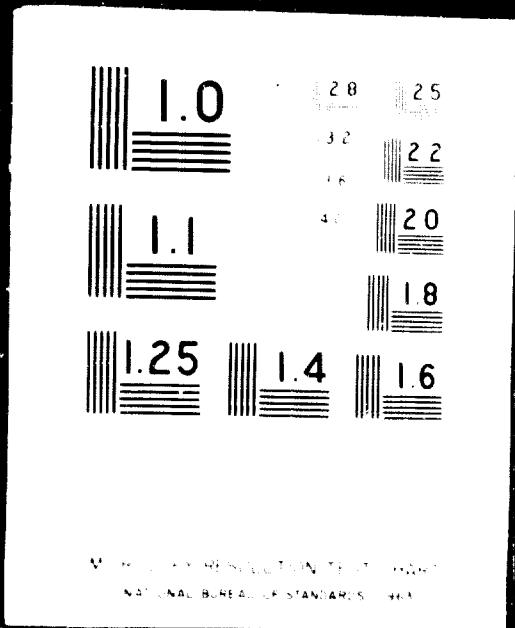
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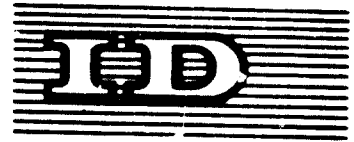
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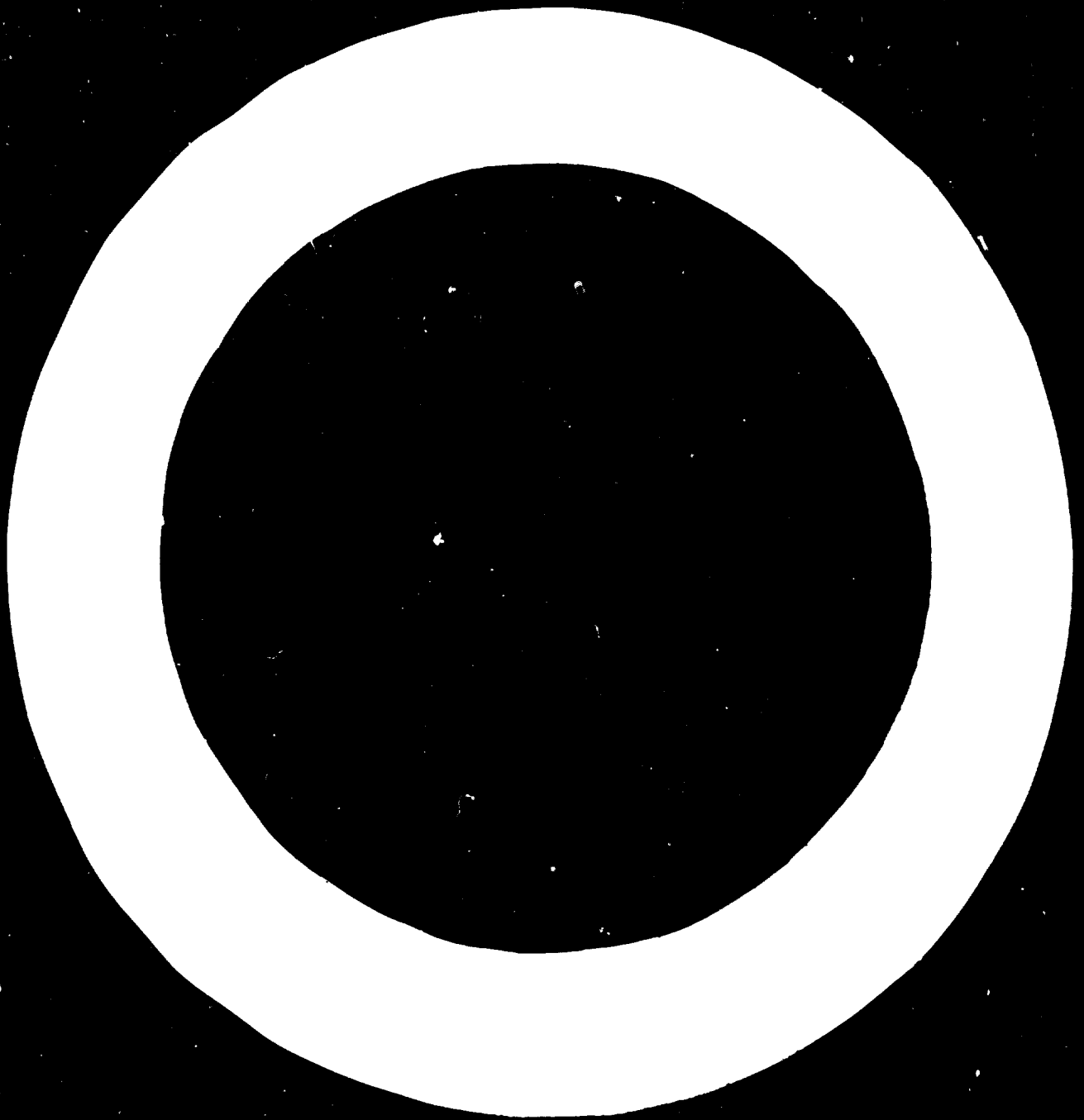
Second Session

Vienna, 17 April - 14 May 1968

Agenda Item 6a

THE INDUSTRIAL DEVELOPMENT ACTIVITIES
OF THE UNITED NATIONS SYSTEM OF ORGANIZATIONS
FOR THE YEAR 1967

Third Consolidated Report



We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.

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Abbreviations

Throughout the text, the following abbreviations have been used:

| | |
|-----------|--|
| ACSAT | Advisory Committee on Science and Technology |
| AIDC | Asian Industrial Development Council |
| ALALC | Asociación Latino-Americana de Libre Comercio (Latin American Free Trade Association) |
| ARMO | National Service for the Accelerated Training of Industrial Manpower (Mexico) |
| BTAO | Bureau of Technical Assistance Operations (now OTC Office of Technical Co-operation) |
| CADI | Comité Asesor de Desarrollo Industrial (Advisory Committee on Industrial Development) |
| CAFRAD | Centre Africain de Formation et de Recherche Administratives pour le Développement (African Training and Research Centre in Administration for Development) |
| CENFIS | National Centre for the Training of Instructors, Foremen and Highly Skilled Personnel (Chile) |
| CINTERFOR | ILO Regional Research Center (Latin America) |
| CIRF | Centre International d'information et de recherche en matière professionnelle |
| DFC | Development Finance Corporation |
| ECA | Economic Commission for Africa |
| ECAFE | Economic Commission for Asia and the Far East |
| ECE | Economic Commission for Europe |
| ECLA | Economic Commission for Latin America |
| ECOSOC | Economic and Social Council |
| EPTA | Expanded Programme for Technical Assistance |
| ESA | Department of Economic and Social Affairs |
| FAO | Food and Agriculture Organization |

| | |
|--------|--|
| GATT | General Agreement on Tariffs and Trade |
| IAEA | International Atomic Energy Agency |
| IAESTE | International Association for Exchange of Students for Technical Experience |
| IEP | International Federation of Commercial, Clerical and Technical Employees |
| ICAITI | Central American Research Institute for Industry |
| ICAP | Inter-American Committee on the Alliance for Progress |
| IDA | International Development Association |
| IDB | Inter-American Development Bank |
| IDEP | Institut africain de développement économique et de planification (African Institute for Economic Development and Planning) |
| IFC | International Finance Corporation |
| IIT | Institute for Technological Research (Colombia) |
| ILO | International Labour Organisation |
| IMCO | Inter-Governmental Maritime Consultative Organization |
| INA | National Apprenticeship Institute (Costa Rica) |
| ISIC | International Standard Industrial Classification |
| ISO | International Organization for Standardization |
| NISIR | National Institute for Scientific and Industrial Research (Malaysia) |
| NITIE | National Institute for Training in Industrial Engineering (India) |
| OAS | Organization of American States |
| PAHO | Pan American Health Organization |
| RP | Regular Programme |
| SATEC | Société d'aide technique et de coopération (Paris) |
| SENA | National Vocational Training Service (Colombia) |
| SENATI | National Vocational Training Service for Industry (Peru) |
| SF | Special Fund |
| SIS | Special Industrial Services Programme |

| | |
|----------------|--|
| SITC | Standard International Trade Classification |
| TA | Technical Assistance |
| UNACAST | United Nations Advisory Committee on the Application of Science and Technology to Development |
| UNCTAD | United Nations Conference on Trade and Development |
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Educational Scientific and Cultural Organization |
| UNESOB | United Nations Economic and Social Office in Beirut |
| UNICEF | United Nations Children's Fund |
| UNIDO | United Nations Industrial Development Organization |
| UNITAR | United Nations Institute for Training and Research |
| UNTA | United Nations Technical Assistance |
| USAID | United States Agency for International Development |
| WHO | World Health Organization |

Introduction

1. This is the Third Consolidated Report of the Industrial Development Activities of the United Nations System of Organizations. It updates and supplements the information contained in the Second Consolidated Report^{1/} which was presented to the First Session of the Industrial Development Board. For the purpose of the preparation of this report, the various organizations within the United Nations system were requested, in reporting on their activities, to follow the guidelines and decisions set out by the Industrial Development Board in its first session (A/6715/Rev.1, Chapter VIII).
2. As in the Second Consolidated Report, the presentation of each project follows, to the extent possible, a standard set of headings. In the drafting of the report and organization of the material, account was taken to the fullest extent possible of the relevant recommendations of the Report of the First Session of the Industrial Development Board (A/6715 Rev.1, Chapter VIII para. 248).
3. The material presented includes continuing projects and new projects, started in 1967. The continuing projects are cross-referenced with the Second Consolidated Report. In such cases, information has been supplied only on significant changes which occurred in 1967, since the full description of these projects has been given in the Second Consolidated Report (ID/B/3). In the case of new projects all the information supplied by the contributing agencies has been reported.

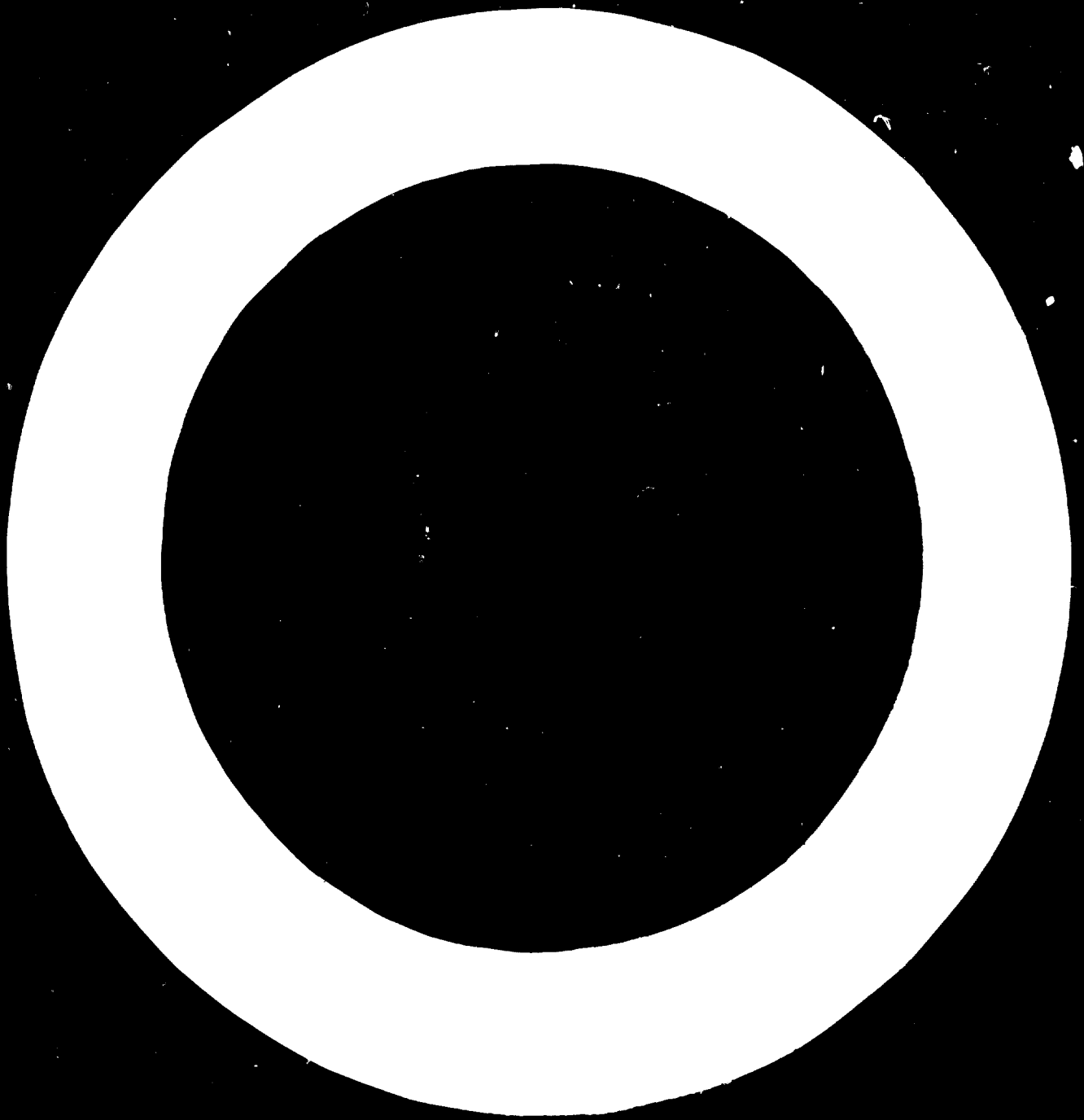
^{1/} Document ID/B/3 and Corrs. 1 and 2; Addenda 1-9.

| | |
|---------|---|
| SITC | Standard International Trade Classification |
| TA | Technical Assistance |
| UNACAST | United Nations Advisory Committee on the Application of Science and Technology to Development |
| UNCTAD | United Nations Conference on Trade and Development |
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Educational Scientific and Cultural Organization |
| UNESOB | United Nations Economic and Social Office in Beirut |
| UNICEF | United Nations Children's Fund |
| UNIDO | United Nations Industrial Development Organization |
| UNITAR | United Nations Institute for Training and Research |
| UNTA | United Nations Technical Assistance |
| USAID | United States Agency for International Development |
| WHO | World Health Organization |

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^{1/} Document ID/B/3 and Corrs. 1 and 2; Addenda 1-9.



CHAPTER I

SURVEYS AND ANALYTICAL STUDIES AND
STATISTICAL DATA OF A GENERAL CHARACTER

A. General surveys of the process of industrialization, major trends and current developments

I.A.1 ECE
(1966 CR:I.A.1)

From 1949-1960: Economic Survey of Europe
From 1961: Economic Survey of Europe, Part I

I.A.2 ECE
(1966 CR:I.A.2)

Economic Bulletin for Europe Vol. 11, No. 2 and Vols. 12-17, No. 1

I.A.3 ECE
(1966 CR:I.A.3)

Note on Structural Change in the Post-War European Economy
Duration: Study was initiated in 1965 and is expected to be completed in the course of 1968.

I.A.4 ECE

International direct investment in Western Europe and North America, 1959-1965

This study describes and analyses the changes in the flows of private direct investment between Western Europe and North America since 1959. It deals with flows between the developed countries and the developing countries as well as intra-European and trans-Atlantic flows. An analysis is made of the evolutions of the various flows in the period under review, in particular the rapid growth of the United States direct investment in Western Europe.

Authority: Terms of reference of the Commission; relevant resolutions and decisions of the Economic and Social Council and of the Economic Commission for Europe.

Duration: The study was initiated in the course of 1967 and will be published in Vol. 19, No. 1, of the Economic Bulletin for Europe.

I.A.5 ECA
(1966 CR:I.A.8)

Economic Surveys of Africa

I.A.6 ECA

Technical Assistance - Ethiopia

ECA participated in the team of experts assembled by the Imperial Ethiopian Government's Ministry of Development and Planning in connexion with preparatory work for their Third Five-Year Plan. ECA experts reviewed industrial development, appraising particularly the implementation of the targets set by the Second Five-Year Plan. The problems of the manufacturing industry and the performance of the construction industry received special attention.

I.A.7 ECA

Economic Survey of Africa

Continuing its major study entitled "Economic Survey of Africa", by sub-regions, ECA has this year published Vol. I on West and South Africa, and completed Vol. II on the North Africa sub-region (E/CN.14/403). Part I of Vol. II analyses economic and social issues for the period 1950-1963, including industrial growth, which is extensively discussed. Part II of the same volume deals with planned development and structural change, chapter X is exclusively devoted to a treatment of planned industrial growth in the sub-region.

I.A.8 ECA

Economic Surveys for the Central and East African Sub-regions

Economic surveys of the Central and East African sub-regions are currently under preparation and will be published as Vols. III and IV of the series.

I.A.9 ECA

Survey of Economic Conditions in Africa, 1960-1964

A survey of economic conditions in Africa, 1960-1964, had been produced, including, inter alia, a chapter on industrial development and an appendix on small-industry development (E/CN.14/397).

I.A.10 ECA

Annual Economic Survey of Africa, 1967

ECA has completed its "Annual Economic Survey of Africa, 1967", which will be published early in 1968. Chapter IV is devoted to the manufacturing industry and to the building and construction industry. The section on manufacturing presents a country-by-country treatment of the industrial development and highlights and major areas of growth. It also outlines regional and sub-regional trends and points out the direction of industrial development and the structural changes it has undergone in the period 1963-1967. The section on the building and construction industry surveys the plan and role of the sector in the economy and focuses attention on the bottlenecks which had impeded the industry from becoming an effective instrument of development.

I.A.11 ECA

Economic Bulletin for Africa

ECA has printed the "Economic Bulletin for Africa", Volume VI, No. 2, containing articles on balance-of-payments problems, some aspects of Africa's trade problems, the African Payments Union, and a special article on the administrative framework for economic development in Ethiopia. Volume VII, Numbers 1 and 2, of the same Bulletin deal mainly with industrialization problems of Africa; these two issues have now been combined for publication. The volume contains articles dealing with the present stage of industrial development in Africa, some aspects of public finance and industrial development in the East African sub-region, the building materials industry, prospects for the development of the chemical industry, the aluminium, textile industries in Africa and the textile industry in the West African sub-region.

I.A.12 ECA

Numbers 10 and 11 of the "Natural Resources Newsletter" were issued by ECA during 1967. Both issues contain some useful information on Africa's natural resources and articles on application of science and technology to development.

Duration: 1967.

I.A.13 ECA

Training Information Notice

ECA has issued four numbers of the "Training Information Notice" in the past year. These notices provide information on training opportunities available to Africans both within the region and abroad. Their aim is to remind member states of ECA of the training opportunities available to them and to stimulate their response in taking advantage of such facilities. The notices are sent to African governments, educational institutions and organizations likely to benefit most by such facilities.

Duration: 1967.

I.A.14 ECAFE
(1966 CR:I.A.6)

Surveys of Mineral Resources

I.A.15 ECAFE
(1966 CR:I.A.7)

Survey of Energy Resources

I.A.16 ECAFE
Project
(1966 CRI.A.9)

Committee for Co-ordination of Joint Prospecting for Mineral Resources in Asian Off-shore Areas

The third session of the Committee for Co-ordination of Joint Prospecting for Mineral Resources in Asian Off-shore Areas and the second session of its Technical Advisory Group were held at Seoul from 24 June to 4 July 1967. The fourth session of the Committee is scheduled to be held at Taipei, Taiwan, from 6 to 16 November 1967.

Authority: ECAFE work programme.

Estimated cost and source of funds: A partial list of offers received from various governments and accepted by the Committee totals \$210,000.

I.A.17 ECAFE
(1966 CR:I.A.17)

Working Party of Senior Geologists and the Sub-Committee on Mineral Resources Development

I.A.18 ECAFE
(1966 CR:I.A.18)

Asian Industrial Development Council:

Second session held in Bangkok, February - March 1967. (Report: E/CN.11/769.)

I.A.19 ECAFE
(1966 CR:I.A.19)

Sub-Committee on Electric Power

I.A.20 ECAFE

Committee on Industry and Natural Resources (Nineteenth Session)

The Committee paid special attention to problems of expanding trade in manufactures and semi-manufactures of developing countries in the ECAFE region. It focused attention on a new attitude to be considered by the developed countries in their own programme of industrialization and growth by readjusting such programmes in the light of accommodating imports of manufactures and semi-manufactures from the developing countries. The developed countries were urged to cooperate with the developing countries in the promotion of joint ventures intended for domestic as well as export markets. They were also urged to pay careful attention to all aspects of industrialization so that quality products may be produced at internationally competitive prices. The agricultural sector deserves special attention by virtue of being the source of food supply and raw materials for industries and a market for the industrial products.

A background paper was prepared by ECAFE on this subject: "Prospects for industrial exports from developing countries and measures for the expansion of production and trade with special reference to ECAFE developing countries" (E/CN.11/I & NR/L.66). (See Chapter II E.6 below.)

Authority: ECAFE work programme.

Duration: 7 to 14 March 1967, Bangkok.

I.A.21 ECAFE

Asian Industrial Development Council Advisory Group

The Advisory Group considered the problems of sub-regional co-operation, identification and appraisal of sub-regional projects, the Council's role in sub-regional industrial development, co-operation with international organizations, and participation of private enterprises. The recommendations of the Advisory Group to the Council are contained in a document entitled "Report on the Advisory Group to the Third Session of the Asian Industrial Development Council" (AIDC (3)/1).

Authority: The Asian Conference on Industrialization recommended that ECAFE be requested to establish a special body to be known as the Asian Industrial Development Council. The Economic Commission for Asia and the Far East, at its twenty-second session, adopted resolution 68 (XXII) establishing the Council. In its description there is provision for an Advisory Group.

Duration: Bangkok, September 1967.

I.A.22 ECAFE

Twenty years of Industrial Development in the ECAFE region

On the occasion of the 20th session of the Committee on Industry and Natural Resources, the ECAFE secretariat is preparing a twenty-year review of development in the ECAFE region in the fields of industrialization, development of mining industry and electric power development during the past twenty years. The section on industrialization will cover a brief preview (1938-1947), the period of recovery (1948-1950), industrial growth (1948-1965) and the pattern of development and structural growth over the last twenty years. It will also cover the development of key industries, viz. cotton textiles, cement, chemicals, fertilizers, iron and steel and engineering industries.

Authority: Committee on Industry and Natural Resources (Twentieth Session).

Duration: 20-27 February 1968.

I.A.23 ECLA

Analysis of the industrialization process

At the Latin American Symposium on Industrial Development (Santiago, March 1966) the Secretariat was requested to revise and expand the country monographs presented to that Symposium, so that they might serve as a basis for further research in the industrial field with particular reference to industrial policy. This work was completed in early 1967 and 16 studies covering Argentina, Bolivia, Brazil, Central America, Colombia, Cuba, Chile, Ecuador, Guyana, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay and Venezuela were issued for presentation at the International Symposium on Industrial Development (Athens, December 1967). Documents: ID/Conf.1/R.B.P./3/Add. 1-16.

Authority: ECLA 116 (VII), ECLA 160 (VIII), ECLA 276 (XII).

Duration: 3 man-months approximately in 1967.

I.A.24 UNIDO/
UNESOB

Study of Industrial Development in various Countries in the Middle East

Review of the progress made by Iraq, Jordan, Kuwait, Lebanon, Saudi Arabia and Syria since the 1966 Kuwait Conference in the field of industrial policies and regulations, in industrial planning and programming and in project implementation.

Authority: General Assembly Resolution 2178 (XXI) and Industrial Development Board Resolution 1 (I).

Duration: The study was submitted in 1967 as a background paper for the International Symposium on Industrial Development.

Estimated cost: \$4,900.

B. Industrial statistics

I.B.1 ECE Working Group on the Development of International Standards of Labour Productivity
(1966 CR:I.B.13)

Duration: First working group met in 1964 and a further meeting is planned for 1968/1969.

I.B.2 ECE Working Group on the Improvement of Industrial Statistics
(1966 CR:I.B.12)

Duration: Group will be convened in December 1967.

I.B.3 ECE Gas Statistics

Compile an annual bulletin of Gas Statistics for Europe and the U.S.A. Every few years a recapitulative bulletin of the main statistical indicators of the Gas Economy of Europe during the past six years.

The Group meets periodically but at least once a year to complete when and where necessary the statistical items pertaining to the gas economy and to improve their comparability. Several subjects among which Productivity in the gas industry are also studied by this Group of Experts which reports to the Committee on Gas.

Authority: Decision of the Committee on Gas of ECE 1958, Group of Experts on Gas Statistics.

Duration: The Committee on Gas has given this Group a permanent Status in February 1967, at its thirteenth plenary session, because of the immediate interest of the tasks entrusted to it.

I.B.4 ECE Adoption of a European Programme of Basic Industrial Statistics
(1966 CR:I.B.10)

Duration: The Programme was initiated in 1963. Two further meetings are scheduled to be held in 1969/70 and 1970/71 to review the extent of implementation of the European programme for the 1963 basic industrial enquiries and to prepare an improved European programme for the basic industrial enquiries to be carried out in or around 1973.

I.B.5 ECAFE
(1966 CR:I.B.11)

Electricity Statistics

I.B.6 ECA
(1966 CR:I.B.7)

Statistical Bulletin for Africa

I.B.7 ECA
(1966 CR:I.B.9)

Industrial Production Statistics

I.B.8 ECA

Status of Annual Industrial Inquiries

ECA has completed a study on Status of Annual Industrial Inquiries in Africa (E/CN.14/CAS.5/18) which presents in a standardized way the various items of information that can be expected from the annual industrial inquiries made by African countries.

I.B.9 ECA

Review of activities and programmes in the field of industrial statistics

A report of the Working Group of Experts on Industrial Statistics (E/CN.14/CAS.5/STAT.8) was issued by ECA. The report gives a review of activities and programmes in the field of industrial statistics in countries of the region, discusses the integrated systems of industrial statistics, provides guidelines for annual and other periodic industrial inquiries and recommendations for future work.

I.B.10 ECA

Industrial production statistics

The compilation of the yearly industrial production statistics for all countries in Africa has continued and now covers the period up to and inclusive of 1965.

I.B.11 ECA

The Statistical Bulletin for Africa

The Statistical Bulletin for Africa, published annually, contains articles on statistical methodology and on industrial statistics in Africa. Work is in progress to bring this study up-to-date.

I.B.12 ECA

Foreign Trade Statistics of Africa

ECA publishes annually Foreign Trade Statistics of Africa, in which some industrial commodities are also included. Series A indicates the direction of trade, while Series B gives trade by commodity.

I.B.13 ECA

Working group on the revision of the United Nations system of national accounts

The group, composed of experts from 14 African countries and other observers, met in Addis Ababa, 23-28 October 1967. The purpose of this meeting was to discuss the third draft of the proposed revision and extension of the system of national accounts, which was first adopted in 1952 and could no longer meet the requirements of both developed and developing countries.

ECA presented to this meeting a paper on "National Accounts Statistics in Africa" (E/CN.14/CAS.5/NAC/26) which, inter alia, describes methods (expressed in broad categories as the production, income and expenditure approaches) used in obtaining gross domestic product by industrial origin. The study provides also description of sources and methods of estimating gross domestic product by industrial origin for 28 African countries.

Duration: Addis Ababa, 23-28 October 1967.

I.B.14 ECA

Fifth Conference of African Statisticians

The Conference was attended by representatives of 31 members and associate members of the ECA, by representatives of United Nations specialized agencies and other observers.

A representative of the secretariat introduced the "Report of the Working Group of Experts on Industrial Statistics" and the Conference endorsed the recommendations of the working group laying particular emphasis on the draft agenda for the projected regional seminar in industrial statistics for 1969.

Duration: 30 October - 10 November 1967; ECA Headquarters, Addis Ababa.

- I.B.15 ESA Statistical Yearbook
Partial contribution to Statistical Yearbook
Authority: Terms of reference of the Statistical Office
(E/39, chap. IV).
Estimated cost: 1967 = 12 man-months.
- I.B.16 ESA Preparation of documents for the Statistical Commission
Authority: Standing request of the Statistical Commission.
Estimated cost: 1967 = 24 man-months.
- I.B.17 ESA Provision of services for technical assistance
Duration: Continuing.
Estimated cost: 1967 = 3.5 man-months.
- I.B.18 ESA Supplement to the Statistical Yearbook and Monthly Bulletin of Statistics
Authority: Terms of reference of the Statistical Office
(E/39, chap. IV).
Duration: Date of completion = June 1968.
Estimated cost: 1967 = 4 man-months.

I.B.19 ESA

Monthly Bulletin of Statistics

Monthly Bulletin of Statistics - partial contribution.

Authority: Terms of reference of the Statistical Office (E/39, chap. IV).

Duration: Continuing.

Estimated cost: 1967 = 20 man-months; 1968 = 20 man-months.

I.B.20 ESA

Bibliography of Industrial and Distribution-Trade Statistics

The third revision of the publication entitled "Bibliography of Industry and Distribution-Trade Statistics" will contain comprehensive information for over 100 countries on the nature and scope of their statistical inquiries into industry and the distributive trades.

Authority: Work programme of the Statistical Commission (E/4045, para. 176 (1)).

Duration: Date of completion: July, 1967.

Estimated cost: 1967 = 6 man-months.

I.B.21 ESA

Industrial Statistics, ECAFE

Preparation of discussion papers for the ECAFE Working Group on Industrial Statistics, June 1967.

Authority: Work programme of the Conference of Asian Statisticians (E/CN.11/741, para. 174).

Duration: Date of completion = June 1967.

Estimated cost: 1967 = 6 man-months.

I.B.22 ESA

Industrial Statistics, ECE

Preparation of a discussion paper for the ECE Working Group on Industrial Statistics.

Authority: Work programme of the Conference of European Statisticians (Conf. EUR. STATS/246, annex III).

Duration: Date of completion: June 1967.

Estimated cost: 1967 = 3 man-months.

I.B.23 ESA

Estimates of value added and employment for countries and regions, 1963

Internationally comparable estimates of value added and employment for countries and regions, 1963, will be developed. These estimates by country and by industry group are required for the revised calculation of regional and world indexes of industrial production and employment.

Authority: Terms of reference of the Statistical Office (E/39, chap. IV).

I.B.24 ESA

Production and consumption data on industrial products

The internationally recommended lists of industrial products for which production data should be collected annually and of materials for which consumption data should be collected annually will include descriptions of the items as well as standard units of measurement.

Authority: Statistical Commission resolution 6 (XIII).

Duration: Date of completion: March 1968.

Estimated cost: 1967 = 6 man-months; 1968 = 3 man-months.

I.B.25 FSA Proposal for international recommendations for annual and more frequent industrial inquiries

It is proposed to discuss in regional seminars or working groups, the appropriate scope, coverage and content of annual and more frequent inquiries.

Authority: Statistical Commission resolution 6 (XIII).

Duration: Completion: March 1968.

Estimated cost: 1967 = 12 man-months; 1968 = 3 man-months.

I.B.26 ESA Standard Industrial Classification (ISIC)

Development of proposal for the revision of the International Standard Industrial Classification (ISIC).

Authority: Work programme of the Statistical Commission (E/4045, para. 177 (3)).

Duration: Date of completion: March 1968.

Estimated cost: 1967 = 3 man-months; 1968 = 3 man-months.

I.B.27 ESA Concepts and methods in distributive-trade statistics

This study is intended to assist countries in developing their work in this field and to form a basis for the revision of the current international recommendations.

Authority: Work programme of the Statistical Commission (E/4045, para. 176 (3)).

Duration: Date of completion: March 1968.

Estimated cost: 1967 = 12 man-months; 1968 = 3 man-months.

I.B.28 ESA

Construction statistics

Development of proposal for international recommendations in the field of construction statistics.

Authority: Statistical Commission Resolution 7 (XIII).

Duration: Date of Completion: March 1968.

Estimated cost: 1967 = 3 man-months; 1968 = 3 man-months.

I.B.29 ESA

Revision of Index Numbers of Industrial Production

Several regional statistical conferences have discussed the various aspects of the problems of compiling production indexes and the question of their international comparability. The experience gained in many countries during the past fifteen years will be used in reviewing the current recommendations and in revising the publication entitled "Index Numbers of Industrial Production."

Authority: Work programme of the Statistical Commission (E/4045, para. 176 (3)).

Duration: Date of completion: June 1969.

Estimated cost: 1968 = 12 man-months.

I.B.30 ESA

Annual publication on international industrial statistics

This new publication will provide comprehensive current information on industrial activity on a country-by-country basis. It will be designed primarily to meet the needs of those engaged in the current analysis of industrial development.

Authority: Terms of reference of the Statistical Office (E/39, chap. IV)

Duration: December 1967 (first issue).
December 1968 (second issue).

Estimated cost: 1967 = 24 man-months; 1968 = 38 man-months.

I.B.31 ESA Annual publication on international commodity production statistics

This new publication will provide information in time-series form on the production of selected industries commodities in the main industrial countries of the world.

Authority: Terms of reference of the Statistical Office (E/39, chap. IV).

Duration: Date of completion: October 1967 (first issue).
October 1968 (second issue).

Estimated Cost: 1967 = 12 man-months; 1968 = 12 man-months.

C. Analytical studies of basic problems and issues

I.C.1. ECE Studies of Current and Projected Changes in Demand in European Countries and their Implication for World Trade

The main purpose of the study is to consider possible developments in the European economic structure, and particularly, in the European trade structure up to 1975/80.

The study of trade (including manufactures) will be concerned with intra-European trade and trade between Europe and the other regions of the world. Special attention will be given to the influence of increasing (or decreasing) specialization in particular branches of industry in European countries.

Authority: Request of the ECE Committee on the Development of Trade. Work programme of the ECE.

Duration: The study was initiated in 1967 and is expected to form a significant part of the Research and Planning Division's activity during 1968 and 1969.

I.C.2 ECE Evaluation of Natural Gas Reserves

A review of the most recent methodology, commonly resorted to in countries having natural gas reserves, has been carried out in order to achieve better international comparability between natural gas reserves for the various types of which a classification has been established and agreed upon. A questionnaire has been elaborated and is circulated periodically to collect appropriate information on natural gas reserves. An International map of gas deposits in Europe is now in the process of elaboration by a group of specialists.

Authority: Decision taken by the Committee on Gas in 1962.

I.C.3 ECAFE Electric Power Development
(1966 CR:I.C.7)

I.C.4 ECLA Economies of scale in the iron and steel industry

This project was completed in early 1967 with the publication of two reports prepared by ECLA consultants: "Economies of scale at small integrated steelworks" written by M.N. Dastur & Co. Private Ltd. Consulting Engineers, Calcutta, India. (E/CN.12/764-January 1967); and "Las economías de escala en plantas siderúrgicas de tamaño medio y grande y la influencia de los adelantos tecnológicos en las inversiones y costos de producción", by Ing. A. Martijena. (E/CN.12/766-January 1967). The first of these reports was submitted to the International Symposium on Industrial Development. (ID/CONF.1/B.23 and Corr.1).

Authority: ECLA 127 (VII).

Estimated cost: 3 man-months approximately in 1967.

I.C.5 ECLA Economies of scale in the aluminum industry

Following the publication of the study on the economies of scale in the transforming industry for copper and copper alloys in early 1967, a similar study was completed later that year by the same ECLA consultant, dealing with the aluminum industry: "Influencia de las economías de escala en la metalurgia del aluminio y en la industria de transformación del metal y sus aleaciones."

Authority: ECLA 57 (V).

Estimated cost: 7 man-months approximately in 1967.

- I.C.6 ECLA Economies of scale in the copper and copper alloy transforming industry
- A study prepared by an ECLA consultant on economies of scale in the copper and copper alloy transforming industry was completed and circulated at the beginning of 1967: "Influencia de las economías de escala en la industria de transformación del cobre y sus aleaciones". (E/CN.12/765).

Authority: ECLA 57 (V).

Estimated cost: 2 man-months approximately in 1967.

- I.C.7 ILO
(1966 CR:I.C.4) Analysis of employment problems
- In 1967, a series of country studies was published on selected countries: in Africa (Algeria, Morocco, Tunisia, United Arab Republic, Madagascar, Senegal); in Latin America (Colombia, Guatemala, Peru); and in Asia some studies are under way. The May 1967 issue of the "International Labour Review" published the results of the studies undertaken in Senegal. A comparative analysis of the problems and policies, as part of the second stage of the project, is presently being undertaken. During 1968 and 1969, problems of particular interest will be studied in more detail in order to evaluate the experience gained from these studies.

- I.C.8 ILO
(1966 CR:I.C.1) Programme of research into problems of promoting balanced economic and social development
- In 1967 these studies were largely focused on the economic aspects of social security.

D. Periodic publications not related to specific branches of industry

- I.D.1 ECA Study compiling existing industrial establishments
- ECA is carrying out a compilation of existing industrial establishments. The data include location, capacity, output, sales, employment, investment and products. The study is being conducted by sub-regions and a preliminary draft has been compiled for Central Africa.
- Duration: Publication is expected to be undertaken in 1968.

I.D.2 ECAFE
(1966 CR:I.D.1)

ECAFE published in 1967: "Electric Power in Asia and the Far East, 1964"; "Public Electricity Supply"; "Mineral Resources Development Series No. 26" (Proceedings of the third symposium on the development of petroleum resources in Asia and the Far East); "Twenty-year Review of Mining Development in Asia and the Far East" (1945-1965); "Mineral Resources Development Series No. 27"; and "Industrial Development News" second issue.

CHAPTER II

INDUSTRIALIZATION POLICIES

A. Policies for the regulation and control of industry

- II.A.1 ECAFE (1966 CR:II.A.3) The second session of the Asian Industrial Development Council, February/March 1967 prepared a paper on industrial integration entitled "Industrial Integration among Developing Countries" (IXNR/AIDC 2/1).
- II.A.2 UNIDO (1966 CR:II.A.1) Policies and plans of developing countries regarding the role of the public sector in manufacturing
A study to assess the importance of the public sector in manufacturing was completed during 1967. Work is now being concentrated on the preparation of studies for a seminar on this subject to be held in 1968. The objectives of the seminar will be to permit an exchange of views and experiences with regard to the role of the public sector in manufacturing.
- II.A.3 UNIDO (1966 CR:II.A.2) Industrial development survey
The first survey was completed in 1967 and submitted to the International Symposium on Industrial Development. Work is under way to gather data for the second issue of this publication.
- II.A.4 UNIDO The following field projects have been developed during the year 1967:
Ghana: (46-61) - UNDP/TA
Director of marketing development
Estimated cost: 1/11 man/months - \$15,000
Kuwait: (Funds in Trust) EBO-215
Industrial economist
Estimated cost: 1/2 man/months - \$23,000
Trinidad and Tobago: (ED-860/Rev.4) RP
Industrial development adviser
Estimated cost: 1/6 man/months - \$8,000

B. Industrial protection and incentive policies

II.B.1 UNIDO Fiscal incentives for industrial development
(1966 CR:II.B.1)

The first phase of the project was completed in 1967. An expert group meeting (postponed from 1967), scheduled for 1968, is planned as the second phase of this project.

II.E.2 UNIDO The following field project was developed during 1967:

Paraguay: (189-57/Rev.1) - UNDP/TA
Industrial Adviser

Estimated cost: 1/11 man/months - \$20,000.

C. Industrial location policies

II.C.1 UNIDO Studies for the interregional seminar on location of industry
(1966 CR:II.C.2) and regional development

A comparative study on industrial location policies was prepared for the Interregional Seminar on Industrial Location and Regional Development to be held in Minsk, Byelorussia, U.S.S.R., in August 1968. The study is based in part on country papers commissioned by UNIDO. Both the comparative study and the country papers discuss the problems faced by policy makers in the location of industry, and the policy measures to bring about a desirable pattern of industrial location and regional development. The study was presented at the International Symposium on Industrial Development, Athens, December 1967. ("Industrial Location Planning", ID/CONF.1/12)

Estimated cost: Consultant funds: \$6,300.

D. Policies of regional co-operation

II.D.1 ECE "Incomes in Post-War Europe. A study of Policies, Growth and
(1966 CR:II.D.1) Distribution", Economic Survey of Europe in 1965, Part II

The study was initiated in 1965 and published in 1967.

- II.D.2 ECA First meeting of the interim council of ministers for the establishment of an economic community of West Africa
- The meeting was held in Dakar, 21-24 November 1967. ECA documentation included papers on possibilities for trade liberalization and payments in West Africa (E/CN.14/WA/EC/2), and a preliminary draft treaty for the Economic Community of West Africa (E/CN.14/WA/EC/5). The establishment of the principal institutions under the Interim Council of Ministers, the main principles of the treaty, and the work programme of the Economic Community in various sectors, including industry and trade liberalization were discussed.
- Duration: Dakar, 21-24 November 1967.
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- II.D.3 ECA First meeting of the interim economic committee of the economic community of Eastern Africa
- The meeting was held in Addis Ababa from 30 October to 7 November 1967, to examine the programme for economic co-operation among the members of the proposed community. The programme was based on a series of studies made by ECA and by outside consultants in the fields of planning, trade liberalization, transport, industry, agriculture and natural resources. Twenty-nine experts from Burundi, Ethiopia, Kenya, Madagascar, Malawi, Rwanda, Somalia, Tanzania and Zambia participated in the meeting. Observers from Lesotho and the Sudan and from several United Nations specialized agencies also attended.
- In the field of trade, the Committee considered practical methods aiming at the progressive elimination of all trade barriers within the Eastern African Economic Community over a period of ten years. The recommendations included also the initiation of negotiations to achieve the establishment of a full customs union during the next decade. The ECA background papers covered problems of inter-governmental institutions, national planning, and trade liberalization. The latter was seen as taking place in two stages: the pre-common market period which combines measures of limited relationships during the transitional period, and the later (common market) stage. In the second stage expanded trade is envisaged, and suggestions were outlined regarding the arrangements that will be required to establish and run the common market itself. The second main subject of discussion at the meeting of the Economic Committee concerned the approaches and the machinery of joint planning and policy

II.D.3 (cont'd.) making which have to be instituted in order to ensure that economic co-operation in the sub-region proceeds at the fastest pace possible and under the most favourable conditions. The need for harmonizing national development plans, the aim of maximum benefit and least cost development in the sub-region as a whole with that of an equitable distribution of benefits among member States were considered in the context of multi-national and sub-regional planning.

Duration: Addis Ababa, 30 October - 7 November 1967.

II.D.4 ECA
(1966 CR:D.7)

The sub-regional meeting on economic co-operation in West Africa

The meeting took place at Accra, 27 April - 4 May 1967. Proposals were discussed for the establishment of the Economic Community of West Africa, in particular the draft articles of association, the principal institutions which may be needed for the Economic Community; its work programme in the fields of industry, transport, energy and trade; and the technical assistance requirements of the Community.

The meeting agreed to create an Interim Council of Ministers, which would draw up the treaty establishing the Community and formulate the main guidelines of economic development in the sub-region based on recommendations of the Interim Economic Committee - a subsidiary body composed of technical experts. Amended Articles of Association of the Economic Community were adopted and signed.

With regard to the work programme of the Economic Community in the field of industry, the Conference recommended the establishment of a Committee on Industry which, in carrying out its work programme, will, inter alia, give due attention to problems involved in the harmonization of national investment codes and national development programmes in the fields of industry and those involved in the setting up of a system of multi-lateral investment guarantees. Within the framework of West African economic co-operation (E/CN.14/WA/ECOP/8/Rev.1), the Conference suggested the inclusion of specific projects for further study by the Industry Committee. These were iron and steel, building materials and plastic products industries, and chemicals and fertilizers. In addition, it was agreed that the Committee on Industry may wish to consider overall supervision of industrial promotion centres in West Africa when established, and the Small-scale Industries Centre at Niamey, and to work closely with the panels of consultants to be established in industrialized countries. (See E/CN.14/399 for a detailed report of this Conference).

II.D.4 (cont'd.) Authority: Pursuant to the recommendations adopted at the Sub-regional Meeting on Economic Co-operation in West Africa held at Naimey in October 1966 and approved at the eighth session of the ECA in resolution 176(VIII).

Duration: Accra, 27 April - 4 May 1967.

II.D.5 ECA Eighth session of the ECA

The session was held at Lagos 13-25 February 1967. The Commission reviewed its activities for the biennium 1965-1967 and adopted its work programme for the biennium 1967-1969. In the field of industry, the Commission approved:

- a) Completion of studies of co-ordinated industrial development and the presentation of inter-industry balances for Africa on sub-regional and regional bases;
- b) Continuation of work in the building up of an inventory of industrial establishments and the maintenance of industrial registers;
- c) Intensification of efforts on industrial promotion as a logical sequence to the completion of the pre-feasibility stage of the work on industrial development;
- d) Provision of assistance to governments in the establishment of national and multinational industrial promotion centres;
- e) Promotion of small-scale and medium-scale industries;
- f) Assistance in the establishment of institutes for industrial research on the basis of studies already completed;
- g) Promotion of arrangements for providing technological and formal education and training for industry;
- h) Collaboration with UNIDO in the preparation of documents and reports for seminars and meetings of special interest to the region.

Duration: Lagos, 13-25 February, 1967.

II.D.6 ECA Conference of Industrialists and Financiers from industrialized countries in Europe, America and Asia

ECA prepared studies in order to lay the groundwork for the implementation of industrial projects which it had identified. To this end, the Conference of Industrialists and Financiers from industrialized countries in Europe, America and Asia, together with a selected number of African personalities, was convened to explore the possibilities of co-operation with African countries.

Authority: Pursuant to resolution 142(VII) of the seventh session of ECA which called for increased measures of economic co-operation and industrial co-ordination, and on the basis of recommendations E.3 and F of the Symposium on Industrial Development in Africa (Cairo, January - February 1966).

Duration: Addis Ababa, 16-20 January 1967.

II.D.7 ECA Factors influencing industrial investment in Africa

ECA prepared a series of background papers for the Conference of Industrialists and Financiers, Addis Ababa, 16-20 January 1967 dealing in particular with specific factors affecting the decisions of industrialists and financiers. These included:

- a) Industrial finance and management for Africa (IND/IF/WP/1);
- b) A note on the present stage of industrial development in Africa (IND/IF/WP/2);
- c) A note on African entrepreneurship and managerial skills (IND/IF/WP/3);
- d) Factors affecting the investment climate in Africa (IND/IF/WP/6).

II.D.8 ECA Apparent opportunities for sub-regional industrial development

A compendium of investment opportunities in the West and East African sub-regions was compiled, based on the pre-feasibility studies carried out by the ECA. The study (IND/IF/WP/5) identified multinational and sub-regional projects which were considered to offer immediate scope for investment. The compendium was presented in the first place to the Conference of Industrialists and Financiers held at Addis Ababa, 16-20 January 1967.

Duration: 16-20 January 1967 at Addis Ababa.

II.D.9 ECA
(1966 CR:II.D.4)

Inter-industry balance studies for North and Central Africa

Approximately 55 industry sector studies undertaken for the North African and Central African Sub-regions are expected to be completed by mid-1968. These pre-feasibility studies will be used, inter alia, for sub-regional inter-industry balances along the lines of the West African study.

Duration: It is planned to complete the inter-industry balances in the course of 1968.

II.D.10 ECA

Industrial development in West Africa: An integrated analysis

The inter-industry analysis which appeared as a preliminary document (E/CN.14/INR/141) in 1966 is being currently finalized. An input-output matrix was used to test the feasibility of the projected programme of industrial development in West Africa.

Duration: The study is expected to be issued early in 1968.

II.D.11 ECLA

Central American Integration Programme

The ECLA Mexico Office has continued to give support to the Central American Integration Programme in the field of industrial development. Activities of a permanent nature include:

- a) Collection and analysis of information on the manufacturing sector for purposes of technical assistance to Governments; and
- b) Co-ordination and direction of work by the experts assigned to the integration programme.

During 1967 consideration was given to the problems of industrial policy in Central America as well as to the possibilities for industrial development in Nicaragua. The Regional Adviser on industrial development attached to the Mexico Office also provides technical assistance to the Caribbean countries in defining manufactures and technological research projects.

Duration: 30 man/months approximately in 1967.

E. Export Policies for Industrialization

II.E.1 ECA Trade liberalization policy problems for East Africa

Trade liberalization policy problems for East Africa were discussed in the First Meeting of the Interim Economic Committee of the Economic Community of Eastern Africa.

Duration: 30 October to 7 November 1967.

II.E.2 ECA Economic conference of the Group of Seventy-seven (77), Algiers

This conference of the Group of Seventy-seven was held from 10 to 24 October 1967 as a preparatory meeting for UNCTAD II to be held in February 1968 at New Delhi. Agreement was reached on most of the problems concerning the joint strategy to be adopted towards the developed countries at UNCTAD II; on the attitude to be adopted with regard to trade preferences between the European Economic Community and certain African countries; on how to formulate and obtain from the rich countries generalized preferences for the export of manufactures and semi-finished goods from the developing countries; and on the special steps to be taken in favour of the less developed countries to help them increase their volume of trade, or the type of aid that could be given to achieve this.

ECA prepared background papers on "Special Measures in Favour of the Least Developed Among Developing Countries" (Conference Paper No. 1); "Recent Developments in African Trade" - a short note on trends and policy issues (Conference Paper No. 2); and "International Co-operation in Financing of Trade and Development" (Conference Paper No. 3) for this conference.

Duration: Algiers, 10-24 October 1967.

II.E.3 ECA Industrial background to trade in the Eastern African sub-region

ECA made a preliminary study in 1967 on the industrial background to trade in the Eastern African sub-region. The purpose was to try to appreciate the efficiency of a few vital manufacturing industries which would initially figure in expanded trade in the sub-region. Countries covered by the preliminary study are Ethiopia, Malawi, Kenya, Somalia, The United Republic of Tanzania, Uganda and Zambia.

- II.E.4 ECA Study of the export possibilities of manufactured and semi-manufactured products from selected African countries
The ECA/UNCTAD joint project for a study of the export possibilities of manufactured and semi-manufactured products from selected African countries was continued. Morocco and the Ivory Coast were covered in the course of 1967.
Authority: ECA/UNCTAD.
- II.E.5 ECA Studies on export policies for industrialization
Within the frame-work of the first meeting of the Advisory Committee on Trade in West Africa, which was scheduled to take place at Dakar, 27 November - 1 December 1967, ECA prepared background papers for the Committee. The meeting was not held.
- II.E.6 ECAFE Committee on industry and natural resources - Nineteenth session
The secretariat prepared a background document entitled "Prospect for Industrial Exports from Developing Countries and Measures for the Expansion of Production and Trade with special reference to ECAFE Developing Countries" (E/CN.11/I&NR/L.66).
Authority: ECAFE work programme.
Duration: 7-14 March 1967, Bangkok.
- II.E.7 ECAFE Committee on industry and natural resources - Twentieth session
The interim report on the survey of export possibilities of manufactures and semi-manufactures from selected developing countries of ECAFE was prepared by the secretariat in 1967 for submission to the twentieth session of the Committee (E/CN.11/1/I&NR/L.71).
Authority: ECAFE work programme.
Duration: February 1968.
- II.E.8 ECLA Promotion of exports of manufactures
During 1967 the joint ECLA/UNCTAD programme continued its activities on the projects for the promotion of exports of Latin American manufactures. In its first stage, a series of studies

II.E.8 (cont'd.)

was prepared on the short-term prospects for the exports of manufactures and semi-manufactures in Latin American countries. The studies completed so far concern Argentina, Brazil, Chile, Colombia and Venezuela. The studies are focused mainly on the question of supply; their purpose is to illustrate the potential short-term export capacity of the countries, and the extensive field of action open to the Governments. The studies were presented at the second session of the UNCTAD Committee on Manufactures in July 1967, in accordance with the agreement made with the UNCTAD secretariat which also presented these documents to the International Symposium on Industrial Development (TD/B/C.2/33, 34, 35, 40 and 45). The project was initiated jointly with UNCTAD and as a result of the decisions reached at the Executive Secretaries' meeting in January 1967 with the Secretary-General of UNCTAD and the Executive Director of UNIDO. UNIDO is also participating in this project, which is part of the United Nations Export Promotion Programme. In this connexion, a mission composed of representatives of ECLA, UNCTAD and UNIDO initiated a study in Central America in 1967, and follow-up action on the studies undertaken previously in Brazil and Argentina started during that year. Lack of staff resources, however, prevented further advance at this stage.

Authority: ECLA 250, 253 and 254 (XI)
Trade Committee 18 (IV)
ECLA 269 (XII)

Estimated cost: approximately 11 man/months in 1967.

II.E.9 UNCTAD

Value of the country surveys and sector studies

At the fifth session of the Trade and Development Board, there was general agreement on the value of the country surveys and sector studies. It was suggested that these studies should be extended to cover more countries, and in particular more of the least advanced of the developing countries. The suggestion was made that demand aspects as well as supply aspects and regional industrial development could be considered. It was stressed that the secretariat, in consultation with the countries and regional economic commissions concerned, should bring the studies up to date and review from time to time the action which had been taken by the countries concerned in pursuance of the recommendations contained in the studies. In respect of the studies

II.E.9 (cont'd.) of particular sectors of industry it was suggested that it was important to examine sectors of industry other than those related to the processing of agricultural and primary products.

Duration: 15 August - 8 September 1967.

II.E.10 UNCTAD Report on processed iron ore prepared by the Battelle Institute
The Committee on Manufactures, at its second session, examined a report on processed iron ore, prepared by the Battelle Institute. It was decided that further work should be carried out in respect of this sector, taking into account the suggestions made during the debate of the Committee and in co-operation with the other interested international organizations.

Duration: 4-18 July 1967.

II.E.11 UNCTAD Report on the export trade in fishery products
The Committee on Manufactures, at its second session, examined the report on the export trade in fishery products prepared by the UNCTAD and FAO secretariats. It was decided that further work should be carried out in respect of this sector, taking into account the suggestions made during the debate of the Committee, and in co-operation with the other interested international organizations.

Duration: 4-18 July 1967.

II.E.12 UNCTAD Establishment of tropical timber bureaus in Europe and North America
At the fifth session of the Trade and Development Board, it was agreed to hold a further meeting of the Working Party in May 1968 to consider such additional questions as the establishment of tropical timber bureaus in Europe and North America.

Duration: 15 August - 8 September 1967.

II.E.13 UNCTAD Report of the joint UNCTAD/FAO Working Party on Forest and Timber products of manufactures

In respect of the industry sector, forestry and timber, the Committee on Manufactures considered at its second session the report of the joint UNCTAD/FAO Working Party on Forest and Timber Products (31 October - 5 November 1966). The Committee expressed general agreement with most of the Working Party's recommendations and commended them to member states and international agencies concerned for practical implementation.

Duration: 4-18 July 1967.

II.E.14 UNCTAD An exhaustive study of world demand for, and supply of, manufactures and semi-manufactures of actual or potential export interest to the developing countries, and studies on sectors of industry with a current or potential export interest to the developing countries

At its second session, the Committee on Manufactures considered a preliminary report by the secretariat on the above subject and approved the outline for a more detailed study. In relation to this study, the Committee also examined a number of studies regarding the short-term and medium-term prospects for exports of manufactures and semi-manufactures of developing countries, which have been prepared jointly by UNCTAD and the regional economic commissions. Country studies have been prepared on Argentina, Brazil, Chile, Colombia, Thailand, Venezuela and Zambia, and additional studies are under way on Uruguay, Ghana, Indonesia, Iran, the Ivory Coast, Morocco, the Maghreb countries, Hong Kong, China (Taiwan), India, Malaysia, Pakistan, the Philippines, the Republic of Korea, and Singapore. The Committee considered it desirable to extend the programme of country studies.

Duration: 4-18 July 1967.

II.E.15 UNCTAD Possibility of a joint UNCTAD/GATT international trade centre

The Committee on Manufactures, at its second session in examining the question of export promotion, noted that within the joint United Nations Export Promotion Programme, the Secretary-General of UNCTAD and the Director-General of GATT had agreed to examine the possibilities of combining their forces in a joint international trade centre. At the fifth session of the Trade and Development

II.E.15 (cont'd.) Board, (15 August - 8 September 1967) the governments generally endorsed in principle the proposal to establish such a joint international trade centre. In addition, there was a consensus at this session of the Board that the second Conference might fruitfully examine a programme for the promotion of exports of manufactured and semi-manufactured products, from the developing countries.

Duration: 4-18 July 1967.

II.E.16 UNCTAD Promotion of exports of manufactures and semi-manufactures from the developing countries

The secretariat submitted to the second session of the Committee on Manufactures two reports of meetings of experts who discussed the question of the promotion of exports of manufactures and semi-manufactures from the developing countries. These two meetings had been held jointly by UNCTAD and UNIDO; the first meeting dealt specifically with areas in which the United Nations should render technical assistance to promote the expansion of manufactures and semi-manufactures from developing countries, and the second dealt with the question of government policies in relation to the promotion of these exports.

Duration: 4-18 July 1967.

II.E.17 UNCTAD Export promotion and technical assistance in the developing countries

The secretariat submitted to the second session of the Committee on Manufactures a report indicating the substantive support being given for a number of technical assistance projects in the field of export promotion. In addition, it reported to the Committee on the decision taken at a special meeting of Executive Secretaries of the regional economic commissions in January 1967 to establish a joint United Nations Export Promotion Programme. In order to give this Programme definite form and content it had been agreed that UNCTAD and UNIDO with the assistance of the regional economic commissions would send three-man missions to selected developing countries (initially in Asia and Latin America) with the purpose of consulting with the governments concerned on the problems of export promotion in relation to national and international development policies.

II.E.17 (cont'd.) Authority: In accordance with Resolution 2207 (XXI) of the General Assembly in respect of the participation of UNCTAD in the field of United Nations technical assistance.

Duration: 4-18 July 1967.

II.E.18 UNCTAD Liberalization of trade barriers in the developed countries on products of export interest to the developing countries

In respect of the liberalization of trade barriers in the developed countries on products of export interest to the developing countries, the Committee on Manufactures at its second session, from 4 to 21 July 1967, examined the question of tariff structures in the developed countries and agreed that the secretariat should prepare for the second Conference an evaluation of the Kennedy Round negotiations in terms of their results for the exports of manufactures and semi-manufactures from the developing countries. The second session of the Conference will examine a possible programme for the liberalization of non-tariff barriers in the developed countries on items of export interest to the developing countries.

Duration: 4-21 July 1967.

II.E.19 UNCTAD Question of the granting of preferences on a non-reciprocal, non-discriminatory basis in favour of the developing countries

At the fifth session of the Trade and Development Board (15 August - 8 September 1967) which served as a preparatory meeting for the second session of the Conference to be held in New Delhi in February/March 1968, it was generally agreed that the question of preferences for manufactures and semi-manufactures on a non-reciprocal, non-discriminatory basis in favour of the developing countries was mature for consideration at the second session of the Conference. It was noted that the developed countries hoped to be in a position to present the main outlines of such a scheme by the time of the second Conference.

Duration: 15 August - 8 September 1967.

II.E.20 UNCTAD

Question of the granting of preferences on a non-reciprocal, non-discriminatory basis in favour of the developing countries - technical aspects for its implementation

The Committee on Manufactures, and in particular its subsidiary organ the Group on Preferences, has been charged with examining the question of the granting of preferences by the developed countries on a non-reciprocal, non-discriminatory basis in favour of the developing countries.

At its second session from 4 to 18 July 1967, the Group on Preferences continued its discussions on a number of technical aspects for the implementation of a scheme of preferences. In particular, the representatives examined such issues as the provision of possible safeguards for domestic industries in the developed countries; product coverage; provisions for the least advanced developing countries; the duration of preferences; the relationship of the new scheme of preferences to existing preferences including reverse preferences; possible preliminary obligations by the developing countries; and institutional arrangements.

Duration: 4-18 July 1967.

II.E.21 UNIDO
(1966 CR:II.E.1)

The metal transforming industries as potential export industries

In 1967, background information papers on the metal transforming industries were completed for Mexico and initiated for the UAR and Israel. In the second half of the year, the first SIS project directed towards promoting exports from Israeli metal transforming industries was initiated.

Duration: Initiated mid 1966; date of completion: late 1967.

II.E.22 UNIDO

Export marketing organizations

A background paper on this subject was prepared for the International Symposium on Industrial Development (ID/CONF.1/B.2). The paper examines the need for such organizations in developing countries and considers the specific problems of export marketing of manufactures.

Duration: Completed in 1967.

Estimated cost: UNIDO staff, 6 man/months.

- II.E.23 UNIDO
(1966 CR:II.E.3) A study of export-propelled growth
A study of this subject, under commission to the Centre for Developing Area Studies, McGill University, Montreal, was begun in 1966 and completed in 1967.
Estimated cost: \$10,000.
- II.E.24 UNIDO
(1966 CR:II.E.4) A study on foreign aid and industrialization
This is a study commissioned to the Centre of Area Studies, McGill University, Canada. It analyses the impact on industrialization of foreign aid on the industrialization in three countries - Pakistan, Ghana and Nigeria.
Duration: Completed in 1967.
Estimated cost: \$10,000.
- II.E.25 UNIDO
(1966 CR:II.E.5) Utilization of industrial excess capacity for exports
A study entitled "Utilization of industrial excess capacity for exports" was begun late in 1966 and has been completed. Work is continuing in 1968 on additional material for presentation at a seminar on this subject and for initiation of a programme of technical assistance to developing countries for better utilization of industrial capacity.
Estimated cost: UNIDO staff, 9 man-months.
- II.E.26 UNIDO
(1966 CR:II.E.6) Seminars and training courses for export promotion personnel
A training course programme was discussed with UNCTAD. The course is tentatively scheduled to be held in the early spring of 1968 in Zagreb, Yugoslavia.
- II.E.27 UNIDO Alternative techniques for export-oriented industries
A study was made of selected industrial areas to determine where the question of alternative techniques could be analysed so that the results would have the most meaningful application. The possibility of basing the study on export-oriented industries in Puerto Rico is currently being explored.
Duration: The project is expected to be completed by the end of 1968.

- II.E.28 UNIDO Study of foreign-domestic joint ventures in manufacturing
The study is currently under way and will be completed in late 1968. It seeks to analyse actual cases of industrial joint ventures, involving foreign enterprises with domestic enterprises, whether private, public or mixed. It examines the various fields of industry in which joint ventures have been launched, the partnership arrangements for each type of industry, the contributions of patents, technical and managerial know-how, training of local personnel, etc., profit-sharing and marketing arrangements. The study is being prepared in co-operation with the Columbia University School of Law.
Authority: Industrial Development Board.
Duration: Continuing project.
Estimated cost and source of funds: 1967 Consultant Funds - \$5,000
- II.E.29 UNIDO Industrial export promotion advisory service
Preparations have been made for the establishment of an industrial export promotion advisory service. Contacts have been established with relevant institutions in developed countries and material collected for rendering advice to developing countries in the field of export promotion in manufactures, particularly in cases which do not require the formulation and implementation of technical assistance projects.
- II.E.30 UNIDO Study of the usefulness of free trade zones for developing countries
A study on the usefulness of free trade zones in developing countries was begun in the beginning of 1967. Material was collected during the year and the study will be completed during the first half of 1968.
- II.E.31 UNIDO The following field projects have been developed during the year:
Ghana: (46-61) UNDP/TA
Director of Financial Planning and Control
Estimated cost: 1/7 man/months - \$10,000.

II.E.31 (cont'd) India: (SIS 66/37 IND-2) - SIS

An export production team consisting of specialists in engineering industries, electronics components, chemical industries, recommended several projects to be undertaken under SIS.

Estimated cost: 7/14 man/months - \$35,000.

F. Industrial financing and credit policies

II.F.1 ESA Survey of developments in export credits for capital goods requirements of developing countries

This is a continuing project growing out of the study on export credits and development financing (UNCTAD recommendation A.IV.14).

Duration: continuing.

Estimated cost: 1967: 3/5 professionals; 1968: 2/5 professionals.

II.F.2 ESA (1966 CR: II.F.5) Export credits as a means of promoting exports and export industries in developing countries

This is a study of the actual and potential use of export credits and export credit insurance by developing countries as a means of promoting their export and export industries. The study, which will be based on a survey of already existing national systems (institutions, procedures, terms and conditions), is expected to be completed in 1968.

Authority: This project is a sequel to the study on Export Credits and Development Financing (UNCTAD recommendation A.IV.14).

Duration: continuing.

Estimated cost: 1967: 8 professionals; 4 consultants.
1968: 9 professionals; 3 consultants.

II.F.3 ESA Sources of financing for developing countries

This is a continuing survey of the sources of public and private financing available for development projects, with special emphasis on the role, functions and experience of international and national, public and private institutions as sources and catalysts of development financing, and on the laws and regulations governing access to the capital markets. A first report is to be completed at the end of 1967.

Authority: General Assembly resolution 1715 (XVI). This project also corresponds to the relevant item on the agenda of the International Symposium on Industrial Development, (Council resolution 1180 (XLI)).

Duration: continuing.

Estimated cost: 1967: 4/5 professionals; 1 consultant.

- II.F.4 ESA
(1966 CR: II.F.2) Regional development finance
Authority: UNCTAD recommendations A.IV.9-10.
Duration: A revised version was submitted to the International Symposium on Industrial Development.
Estimated cost: 1967: 2/5 professionals.
- II.F.5 UNIDO
(1966 CR: II.F.1) Co-operation among industrial development finance institutions in developing countries
Three bulletins have been prepared containing information on the products and the capacities of manufacturing projects promoted or financed by a number of industrial development finance institutions. Arrangements are being made in co-operation with the African Development Bank for organizing co-operation among development finance institutions in Africa.
- II.F.6 UNIDO
(1966 CR: II.F.7) Workshops on financial planning of industrial projects
The preparation of the teaching and study material has been completed and will serve as the basis of the workshop presentations and discussions.
These workshops are primarily intended for economic planners, promoters and managers of industrial projects and industrial financial analysts.
Duration: The two workshops which were to be held in Africa in 1967 have been postponed until 1968 because of scheduling and financing difficulties.
Estimated cost: \$3,950.
- II.F.7 UNIDO/
UNESOB
(1966 CR: II.F.14, Corr.1) Comparative study on investment patterns and industrial growth prospects in selected countries in the Middle East
The first part of the paper consists of a brief review of the past performance and relative importance of the industrial sector in Iraq, Jordan, Kuwait, Lebanon, Saudi Arabia and Syria. This is followed by a discussion of the institutional and financial framework conducive to industrial growth and treats the role and attitudes of Governments and the role of monetary and credit institutions in industrialization. The final part of the study discusses the planned objectives and targets for industrial growth and highlights the manufacturing projects proposed in the various plans.
Authority: General Assembly resolution 2178 (XXI) and Economic and Social Council resolution 1180 (XLI).

II.F.7 (cont'd)

Duration: In June 1967 this study entitled "Industrialization in various countries in the Middle East" was completed in UNESOB and submitted to UNIDO for inclusion in the documentation of the International Symposium on Industrial Development. Continuing project.

Source of funds: United Nations budget (ESA).

II.F.8 UNIDO

Seminar on financial aspects of manufacturing enterprises

Research and study preparation for it have been carried out during the year. The objectives of the seminar are:

(a) To provide a forum for participants from both developing and developed countries regarding the experiences of financial management of public manufacturing enterprises;

(b) To formulate general guidelines for effective mobilization of both domestic and external resources, their proper allocation in terms of over-riding national priorities, and their efficient administration within the operational scope of public manufacturing enterprises; and

(c) To recommend, for special attention of UNIDO, proposals for further activities, including provision of experts in specified fields, and development of training programmes.

Authority: Industrial Development Board.

Duration: Continuing project.

Estimated cost: Consultant funds: \$5,200.

II.F.9 UNIDO

The following field projects were developed during 1967

China: (29-57/Rev.2) - UNDP/TA - financial expert under EPTA assignment

Estimated cost: man/months - 1/7; \$13,000.

Greece: (SIS 67/240) - UNIDO staff member advised the Government on their needs for assistance in implementation of industrial projects.

Estimated cost: man/week - 1/1; \$300.

G. Labour and wages policies

II.G.1 ILO

(1966 CR: II.G.4) Wages and other terms of industrial employment

A study on the role of minimum wage regulation in promoting a rise in minimum living standards in developing countries was completed and submitted to a Committee of Experts which met in Geneva in September 1967. In their report to the Governing Body of the ILO, the experts indicate that minimum wage-fixing should be considered as an important tool for the improvement of minimum living standards, that it be established at the national level (separately for rural and urban areas), and that it be based not only on workers' needs but also on the capacity to pay of the countries concerned. In the light of this report, the Governing Body decided in November 1967 to include this question in the agenda of the 1968 International Labour Conference.

II.G.2 ILO

(1966 CR: II.G.11) Industrial relations procedures and social institutions

After the first phase devoted to the preparation of national monographs, covering both industrialized and developing countries, most of which have been published in the International Labour Review (the first ten articles have appeared in 1966 and 1967), the project is now being oriented towards the comparative study of the problems posed by the participation of the occupational organizations in planning. A special volume, to appear in 1969, will be devoted to this comparative study.

An indispensable complement to this study comprises the preparation of a series of case studies and comparative studies on the types and functions of direct or indirect participation of trade unions, employers' organizations, co-operatives and other social organizations and institutions in the development effort at various levels, both within the framework of rural and village communities, as well as within that of the problems posed by urbanization. A few case studies have already been prepared, as well as a study on the impact of local traditions in participative development in a number of African countries. A comparative study placing the emphasis on the Latin American region is being undertaken.

II.G.3 ILO
(1966 CR: II.G.12)

Industrial relations procedures and social institutions

The ILO published four issues of the Labour Management Relations Series, from late 1966 to the end of 1967. The 1966 issue reproduced the proceedings (and some statements by participants) of the Asian Regional Seminar on Labour-Management Relations inside Undertakings, organized by the ILO at Kandy in 1965. The seminar considered various institutional aspects of labour-management relations within undertakings

The three issues published in 1967 reproduced reports submitted and proceedings of different sessions of Industrial Committees, which dealt with various aspects of Labour-Management Relations:

The Eighth Session of the Metal Trades Committee (Geneva 1965);

The Fifth Session of the Committee on Work on Plantations (Geneva 1966); and

The Eighth Session of the Inland Transport Committee (Geneva, 1966).

The problems studied were:

"The role of employers' and workers' organizations in programming and planning in the metal trades";

"Practical measures to promote good labour-management relations on plantations"; and

"Methods of collective bargaining and settlement of disputes in rail transport".

II.G.4 ILO
(1966 CR: II.G.15)

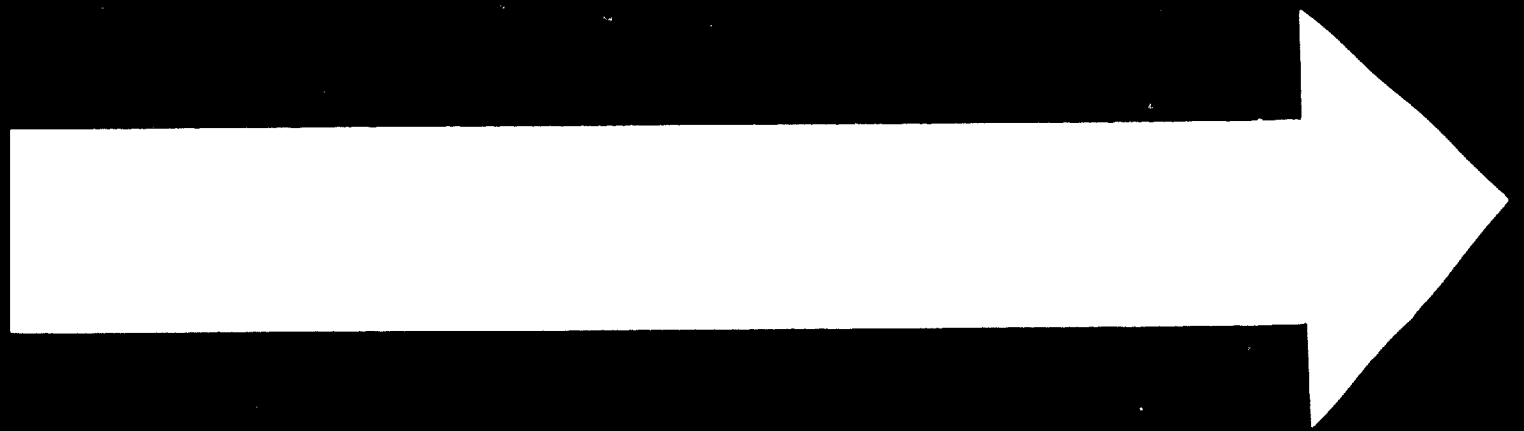
Industrial relations procedures and social institutions

The International Labour Conference, at its 51st session (Geneva, June 1967), after having held a second discussion on the question of "Examination of grievances and communications within the undertaking", adopted two recommendations - one on communications between management and workers within the undertaking (No. 129) and the other on the examination of grievances within the undertaking with a view to their settlement (No. 130).

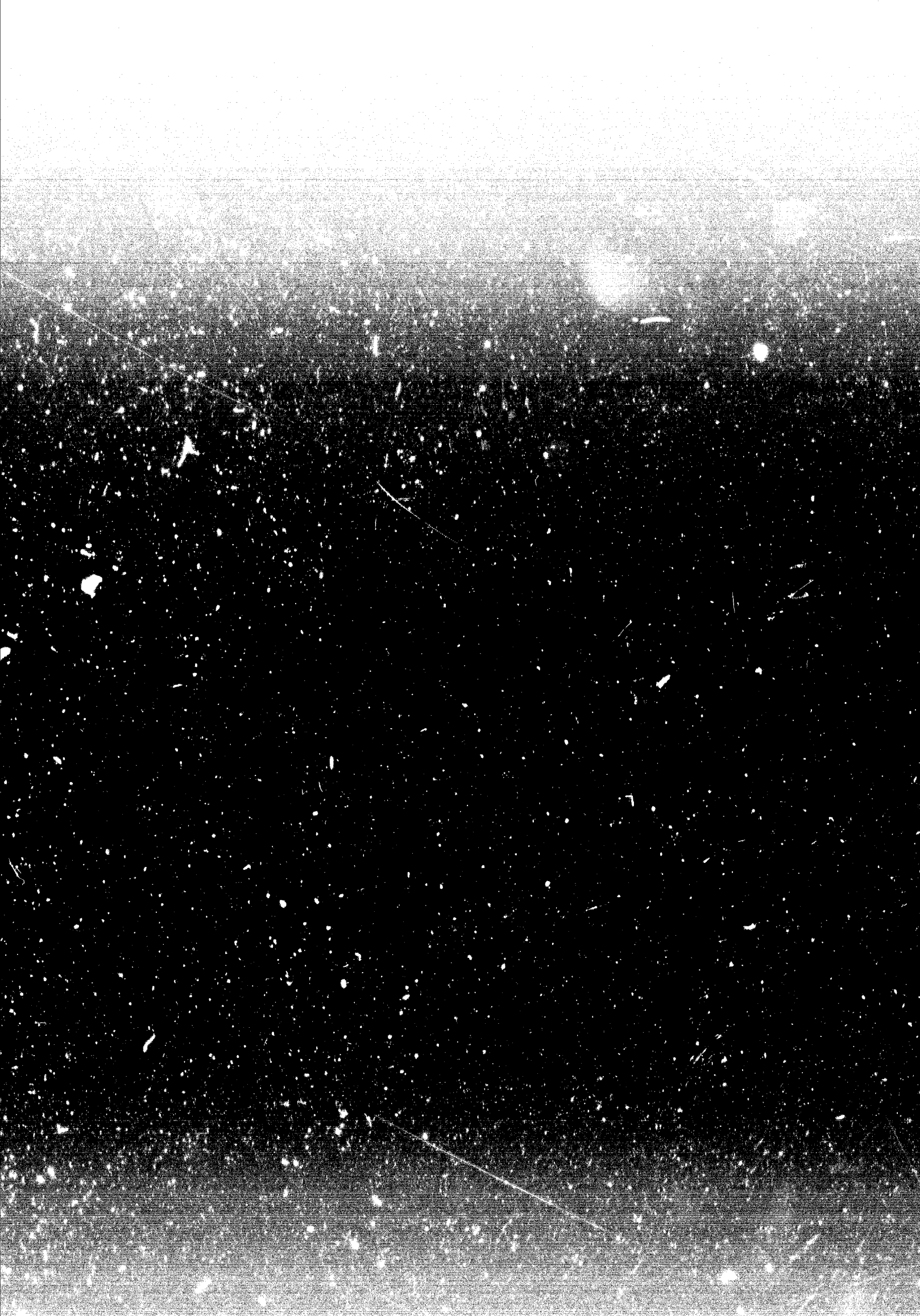
II.G.5 ILO
(1966 CR: II.G.18)

Industrial relations procedures and social institutions

The efforts made by the workers' education programme of the ILO to encourage and participate in trade union seminars and courses devoted to analysing questions regarding industrialization stress the importance of the related social and economic problems not only at the international, regional, national or sectional level but also from the viewpoint of the workers as



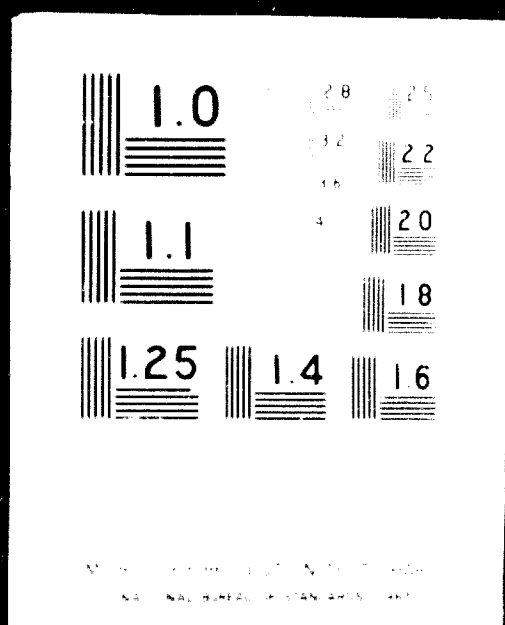
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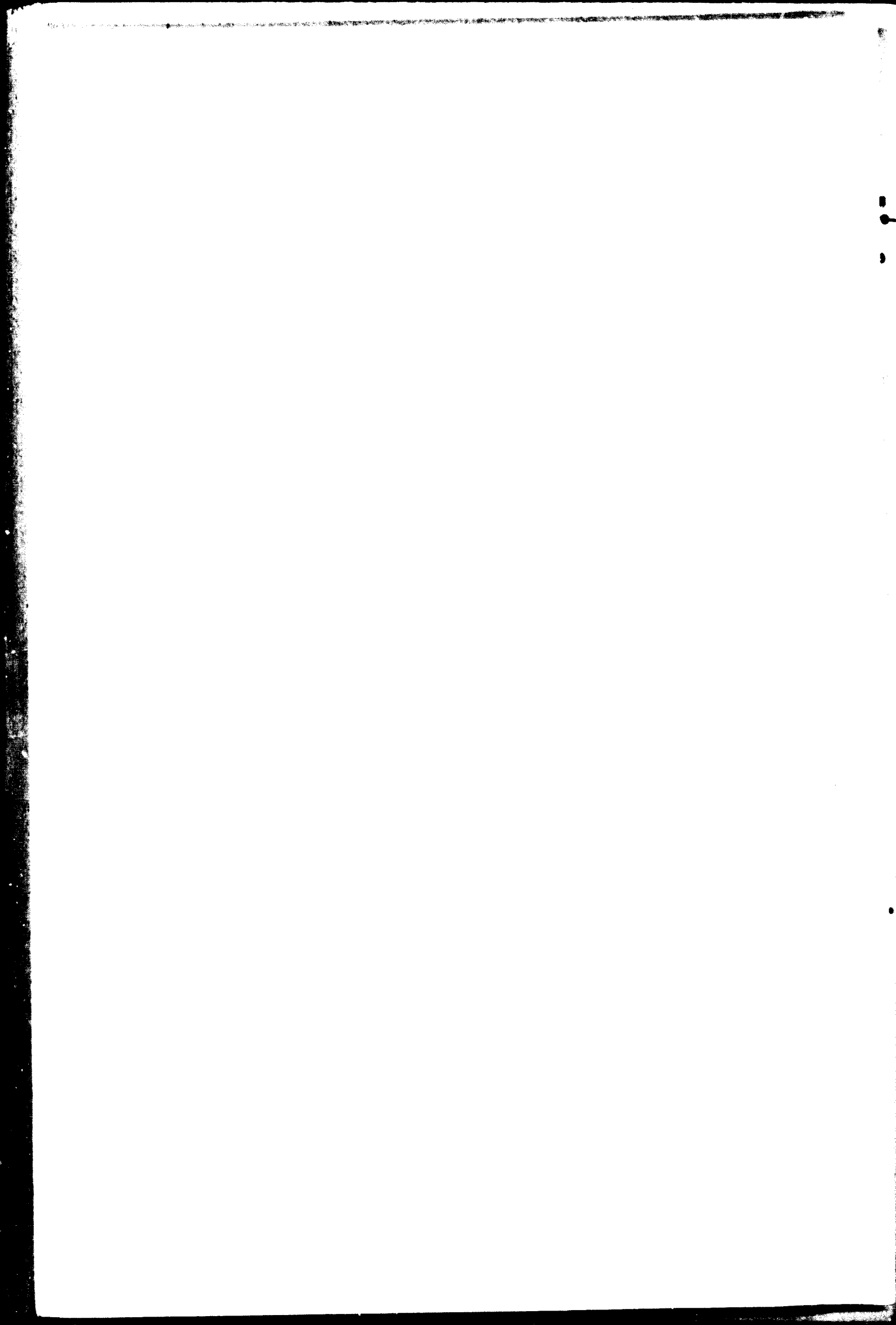


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II.G.5 (cont'd.) full participants in the activities of society as a whole. Practically all major study programmes organized by international, regional and national trade union bodies in 1965, 1966 and 1967 included items referring to a series of these problems. Examples of ILO collaboration with the trade union movement in this field were its technical participation in the regional seminars held in 1967 in Oxford by the International Federation of Christian Trade Unions and the regional seminar held in Caracas by the International Secretariat of Food and Allied Workers of the International Confederation of Free Trade Unions. Both meetings studied questions related to economic integration, utilization and development of human resources, production and productivity and industrialization. ILO representatives participated actively and appropriate ILO documents were used as study materials.

II.G.6 ILO
(1966 CR: II.G.20)

Industrial relations procedures and social institutions

ILO technical co-operation in the field of labour-management relations was provided under various types of assistance. An expert sent to Mauritius from 1966 to 1967 advised on the establishment of an industrial relations section within the Ministry of Labour and carried out training courses for government officials and management and trade union representatives in this field. In Ceylon a specialist in personnel management headed a three-man team of experts to assist in the establishment of a management services division in the Ministry of Industries and Fisheries and to provide the management of both public and private sector undertakings with consultancy services in personnel management and industrial relations problems. Under a contingency fund project in Singapore, an industrial relations adviser, together with an industrial engineering expert, is assisting in the establishment and operation of the National Productivity Centre, based on a charter for industrial progress and a productivity code of practice adopted by the Singapore National Trade Union Congress, the Singapore Manufacturers' Association and the Singapore Employers' Federation.

II.G.7 ILO
(1966 CR: II.G.21)

Industrial relations procedures and social institutions

Under the UNDP/Special Fund projects relating to management development and productivity, experts in personnel management and labour-management relations continued to serve as members of international teams of experts in India, Iraq, Kenya, Pakistan, the United Republic of Tanzania and Venezuela. There are two Special Fund projects in Ceylon and Turkey for which such experts are being recruited.

- II.G.8 ILO
(1966 CR: II.G.23) Industrial relations procedures and social institutions
Various projects were carried out for the purpose of assisting governments in developing, revising or codifying labour legislation. Such projects were or are being carried out in Cameroon, Cyprus, Ethiopia, Morocco, Panama and Saudi Arabia.
- II.G.9 ILO
(1966 CR: II.G.25) Industrial relations procedures and social institutions
The Third Session of the African Advisory Committee of the ILO (Dakar, 1967) recommended vigorously the strengthening of the role of the Ministries of Labour in planning and implementation of social policies for employment, including industrial development.
- II.G.10 ILO
(1966 CR: II.G.26) Industrial relations procedures and social institutions
In 1966 and 1967 there were an average of ten experts in labour administration in Africa, seven in Latin America, two in Asia and three in the Middle East. Five were regional experts in the various regions.
- II.G.11 ILO
(1966 CR: II.G.27) Two important projects directed towards the training of administrators in the labour field were launched during 1965 and further strengthened in 1966 and 1967: the Advanced Training Centre for Labour Administrators in Africa at Yaoundé (Cameroon) and the Inter-American Labour Administration Centre in Lima (Peru). The Yaoundé Centre was organized in co-operation with the French Government at the request of fifteen French-speaking African States which wish to provide intermediate-grade staff in their departments of labour with supplementary training and a proper basis for advancement to higher grades. It seemed desirable that the training and advancement of such staff should be organized in a country or region where the conditions of work resembled those they would encounter in the course of their duties in their own countries. The Inter-American Labour Administration Centre in Lima is a regional training institution which was set up in response to a wish expressed by the Inter-American Conference of Ministers of Labour at Bogota (May 1963), and to a request made by the Government of Peru. It organizes advanced training, carries out studies, sends out advisory missions and distributes documents and information in order to assist Latin American Governments which so desire to improve the operation of their departments of labour. An expert has been appointed to direct the Centre for an initial period of six years, with the assistance

II.G.11 (cont'd.) of six other highly qualified experts in the field of labour administration, labour-management relations, labour inspection occupational safety and health, and manpower.

The third session of the African Advisory Committee (Dakar, 1967) referred to above has invited the ILO to prepare and negotiate the establishment of another similar Centre, to service English-speaking Africa.

II.G.12 ILO
(1966 CR: II.G.28)

Industrial relations procedures and social institutions

There is a growing realization that in order to participate effectively in the industrialization process, it is important for trade unions to establish their own labour research services to give them statistical, analytical and descriptive materials required to perform these functions efficiently. Continuing efforts to meet this need, the Workers' Education Programme of the ILO organized in 1967 an international seminar on trade union research and documentation services, assembling a group of specialists, whose conclusions will provide valuable guidance to trade union organizations. The purpose was to improve the collection and analysis of information for use in collective bargaining and other aspects of trade union work. Research services help the unions to initiate new methods of solving the increasingly complex labour problems. Adequate labour research services equip the unions with the necessary tools to contribute towards industrialization and nation building. National projects in the development of labour research services have been carried out or are being implemented in such countries as Nigeria, Kenya, and Singapore. The demand for such projects is expected to increase in the future. The contribution of the ILO towards these programmes is based on the fact that the organization is one in which the workers themselves play a leading role in the formulation of its policies. The principles of the ILO and its international standards based on long experience of tripartite collaboration in social and economic questions give the organization the confidence of the trade unions. Through the Workers' Education Programme, the ILO is thus helping unions to train the workers adequately as well as to create the favourable atmosphere essential for the success of industrial development.

II.G.13 ILO

Rights of trade union representatives and participation of workers in decisions within undertakings

The ILO has prepared two reports which were submitted to a technical meeting on rights of trade union representatives and participation of workers in decisions within undertakings, held in Geneva from 20 to 29 November 1967. The first report deals with "Rights of Trade Union Representatives at the Level of the Undertaking". The second report deals with "Participation of Workers in Decisions within Undertakings". The purpose of the meeting was to give effect to two resolutions adopted by the International Labour Conference in 1961 and 1966, one concerning freedom of association and protection of the right to organize, including the protection of representatives of trade unions at all levels, and the other concerning workers' participation in undertakings

Duration: 20-29 November 1967.

H. Technical education and manpower policies

II.H.1 ECA Training course for manpower planners and administrators of national programmes

In the training course organized for manpower planners and administrators of national programmes at Dakar, 17 August - 23 September, particular attention was devoted to the need for rationally formulating national manpower policy as a basis for manpower planning action. In this regard, problems of unemployment and the effective utilization of available trained manpower were duly considered. Sixteen officials from African countries participated in this training course.

Duration: Dakar, 17 August - 23 September 1967.

II.H.2 ILO
(1966 CR:II.H.3)

Technical education and manpower planning

Work has been initiated on the implementation of the "Ottawa Plan for Human Resource Development", adopted in 1966 by the Eighth Conference of American States Members of the ILO. A survey has been undertaken of the implementation by the countries of Latin America of policies designed to promote employment along the lines of the ILO employment policy recommendation (1964) and of the difficulties encountered. Work has also begun with a view to preparing projections of labour supply and of manpower demand for the main economic sectors, as part of a programme of manpower projections which will serve as a basis for target-setting in the fields of employment creation and skill development and for determining appropriate policies and measures in order to achieve such targets. It is expected that by 1968 a team of manpower specialists will be established in Santiago, and that the team will have support from other international and regional organizations, so as to ensure that employment and skill development problems in the region are attacked on a wide front through a properly co-ordinated effort of all agencies concerned.

II.H.3 ILO
(1966 CR:II.H.4)

Development of coefficient-relating output growth to employment growth by sectors, by occupations and by training qualifications

Work has proceeded on the development of a model showing how output and employment by sectors are affected by certain global

II.H.3 (cont'd) variables. The model will be tested on the basis of data collected in Latin America within the framework of the "Ottawa Plan".

II.H.4 ILO
(1966 CR:II.H.5) Study on political, social and cultural obstacles to employment growth

A first paper discussing the obstacles impeding employment growth and the approach to be followed in comparative analyses of experiences with different employment-oriented programmes in different countries has been completed for publication in the International Labour Review.

II.H.5. ILO Projections of manpower supply and demand in Asia

The project is designed to throw light on prospective needs for employment creation and skill development in the countries of Asia, in the light of population growth and the effect on manpower demand of present trends in economic development. Attention will be paid to the requirements arising in different sectors of the economy in a particular industry. Work for the collection of the necessary basic manpower data and of existing relevant national projections was initiated in 1967 and a meeting of consultants held in December 1967 to advise on problems of meth

II.H.6 ILO Employment policy in Africa

A report was prepared in 1967 on employment policy in Africa as a basis for examination of this item by the third session of the African Advisory Committee held in Dakar in October 1967. The report is divided into two main parts. The first part aims to describe the characteristics and to identify the main problems of the employment situation in Africa. The second part is an attempt to analyse the different aspects of employment policy likely to lead to the expansion of employment in Africa. Industrial development was considered in the report as a major element in long-term economic development destined to have many direct and indirect effects on the improvement of the employment situation. The importance of training the skilled manpower necessary for industrialization was emphasized in the

II.H.6 (cont'd)

report. After discussing this item, the African Advisory Committee expressed the wish that the ILO should bring to the attention of the Third African Regional Conference a draft jobs and skills programme for Africa consisting of a comprehensive set of practical and tried suggestions adapted to African conditions, for the solution of unemployment and under-employment problems. The conference would examine the draft programme at the same time as the item on employment policy, and decide what further action should be taken.

Duration: 1967 - to be discussed again in the future.

I. Science and technological development policies

II.I.1 ECE
(1966 CR:II.I.1)

Policies and means of promoting technical progress as a major factor of economic growth: Fifth meeting of Senior Economic Advisers (former "Policy for Technological Progress")

The discussions focused on science policy formulation at various levels (national; enterprise) designed to optimize or influence the output of scientific research and the flow and application of technical innovations in industry. Problems of co-ordinating long-term science policy and economic growth policy as well international co-operation in the field of technology were also considered.

The documentation relating to this meeting including the secretariat paper, Policy for Technical Progress, several case studies prepared by governments participating in the meeting, and a secretariat paper summarizing the main points discussed during the session will be published in the course of 1968.

Authority: Resolution 3 (XV), 11 (XVI), 11 (XIX) and 11 (XX) of the Economic Commission for Europe.

Duration: A preparatory group met in November 1966; the Fifth Meeting of Senior Economic Advisers to ECE Governments was convened in October 1967.

II.I.2 ECA
(1966 CR:II.I.3)

Scientific and technological development policies

II.I.3 ECA

Organization of ECA - Science and Technology Section

The Science and Technology section was set up in 1967 to facilitate co-ordination of the activities of the United Nations and specialized agencies in Africa. Several studies were undertaken, natural resources development receiving particular attention. The major aspects of the application of science and technology to which it has given attention in 1967 and will continue to give attention to in 1968 are:

- a) Measures for the development of scientific and technological manpower for research, teaching and production.
- b) Surveys of existing research facilities with a view to promoting nationalization, expansion and improvement.
- c) The development or improvement of institutions essential for gaining increased knowledge of natural resources and their potential utility.

- II.I.3 (cont'd.)
- d) Investigations of the inputs of applied research required for the establishment of specific industrial agricultural projects.
 - e) Promoting vigorous and effective examination of scientific and technological problems at the regional level.

II.I.4 ECA Study on scientific and technical education in Africa

A study on scientific and technical education in Africa prepared by the ECA secretariat (E/CN.14/398) dealt with the educational situation and problems in Africa, the order of priorities in education, means of improving quality and content of education, technical education and the necessary development of skills, and university education etc. It reviewed the conferences on education held during the last decade, the progress made toward overall targets and made recommendations on institutional development and technical training programmes.

II.I.5 ECA ECA/UNACAST Regional Group for Africa

The Third Consultative Meeting between the ECA secretariat and the Regional Group for Africa of the Advisory Committee on the Application of Science and Technology to Development was held at Addis Ababa, 9-15 March 1967. It considered, inter alia, co-operation with the OAU and its science organs, the Scientific, Technical and Research Commission (STRC) and the Science Council of Africa (SCA), in the field of science and technology, the survey of needs and facilities for research and training, and the priorities and projects to be included in the UNACAST World Plan of Action. Arising from these discussions, a questionnaire for the survey of existing facilities for scientific research and training in Africa was prepared and sent by African governments.

A paper by the ECA "Study on Science and Technical Education in Africa", presented to the meeting, was later re-edited and submitted to the seventh session of UNACAST. The report of the proceedings is contained in ECA document E/CN.14/394/Rev.1.

Duration: Addis Ababa, 9-15 March 1967.

- II.I.6 ESA The legal and administrative framework for the use of patents and know-how unpatented in developing countries (formerly "The role of enterprise-to-enterprise arrangements in the transfer of patented and unpatented technology to developing countries").
- Authority: General Assembly resolution 2091 (XX), UNCTAD recommendation A.IV.26 and Council resolution 1013 (XXXVII), as well as Advisory Committee on the Application of Science and Technology to Development, Third Report, paragraph 122.
- II.I.7 ESA Role of enterprise-to-enterprise arrangements in the transfer of technology to developing countries
- This study continues the work initiated in the Secretary-General's reports, Role of Patents in the Transfer of Technology to Developing Countries (United Nations publication, Sales No.: 65.II.B.1) and "The role of enterprise-to-enterprise arrangements in supplying financial, managerial and technological needs of industrial enterprises in developing countries" (E/4038). The next stage will consist of (i) selected industry and country case studies designed to trace the actual experience in the transfer of patented and unpatented technology to developing countries through business-to-business arrangements; and (ii) a study on measures to ease the financial burden of such transfers to developing countries.
- Authority: General Assembly resolution 2091 (XX), UNCTAD recommendation A.IV.26, Council resolution 1013 (XXXVII), ACSAT third report to the Council (chap.III.D, para. 122(j) (k)) and Council resolution 1155 (XLI), paras. 2b and 3.
- Estimated cost: 1967: 10.5 professionals, 2 consultants
 1968: 10 professionals, 3 consultants
- II.I.8 ESA Inter-regional seminar on the role of business enterprises in the transfer of technology to developing countries
- Authority: Advisory Committee on Science and Technology, third report to the Council (chap.III D, paragraph 122 (j)), General Assembly resolution 2091 (XX) and Council resolution 1155 (XLI) paragraphs 2b and 3.
- Duration: 1968/1969.
- Estimated cost: 1968: 7 Professionals.

J. Regional promotion of industrial markets

II.J.1. ECLA The International Symposium on Industrial Development

Work has been centered on the final preparations for Latin America's participation in the International Symposium on Industrial Development. This has included final revision of studies being presented at the Symposium by different Latin American countries and the revision of the ECLA study on the problems and prospects of the main sectors of industry in Latin America (ID/CONF.1/R.B.P./4). In addition, preparation was undertaken of a special study on Latin America and the International Symposium on Industrial Development, which was discussed at a meeting of experts held from 16 to 19 October 1967 at ECLA Headquarters. This report responds to a request formulated at the Latin American Symposium. It was revised and issued as document (E/CN.12/L.34), "América Latina y el Simposio Internacional sobre Desarrollo Industrial". (Latin America and the Industrial Development Symposium).

Authority: G.A.1940 (XVIII), ECLA 242 (AC.57), ECOSOC 1030 C (XXXVII), ECLA 250 (XI) and ECLA 276 (XII).

Estimated cost: 22 man/months approximately in 1967.

II.J.2. ILO East Pakistan

A project has been established to assist the Management Institute in Dacca, East Pakistan. The project comprises three ILO experts in the fields of industrial engineering, financial management and marketing research, financed under the UNDP/TA programme.

Authority: The Governing Body of the ILO.

II.J.3. UNIDO Investment promotion services for industrial development

Two expert meetings on investment promotion of industrial projects from the developing countries were held in New York, one in June 1967 and the other in September 1967. The objectives of the meetings were to discuss a methodology for bringing about a greatly increased volume of industrial project investment and implementation in the developing countries. Similar meetings are planned for Europe. A Training Programme in

II.J.3. (cont'd) Techniques of Investment Promotion has been developed as a result of these meetings to become operational in 1968 with UNITAR co-sponsorship. Two studies have also been initiated. (1) The Structure, Scope and Function of Investment Promotion Agencies in Developing Countries; (2) Outline of a Model Industrial Investment Information Manual.

Authority: Industrial Development Board.

Duration: June 1967 to September 1967.

| | | |
|------------------------|------------------------|---------|
| <u>Estimated cost:</u> | Consultant Fund: | \$3,575 |
| | Expert group meetings: | \$2,832 |

CHAPTER III

INDUSTRIAL PLANNING AND PROGRAMMING

A. Methods and procedures of industrial programming

III.A.1 ECE Multi-level planning and decision making:
(1966 CR:III.A.8) Sixth meeting of senior economic advisers

Points which might be considered are; the necessity for multi-level planning and decision making; the areas for application of multi-level decision-making techniques with reference to the institutional set-up of the economy; formalized and semi-formalized methods of multi-level planning; and information flows in multi-level decision-making.

Authority: Commission resolutions 3(XV), 11(XVI), 11(XIX), 11 (XX) and Commission decision I (XXII).

Duration: A preparatory group will be convened in January 1968 and the plenary meeting is expected to be held in the fall of 1968.

III.A.2 ECE Construction and practical application of macro-economic models
(1966 CR:III.A.9) for purposes of economic planning (programming) and policy-making, fourth meeting of the senior economic advisers

The documentation relating to this meeting including the secretariat background paper "Construction and Practical Application of Macro-Economic Models for Economic Planning (Programming) and Policy-Making", eleven case studies prepared by governments, a summary of government replies to a questionnaire, and a secretariat paper outlining the major issues discussed at the Fourth Meeting - were published in the course of 1967.

III.A.3 ECAFE Asian industrial development council
(1966 CR:III.A.4)

III.A.4 ILO Manpower planning.
(1966 CR:III.A.11)

In 1967 the ILO was giving technical assistance in various aspects of manpower planning in thirty-four countries. In addition, five regional advisers were operating. As an example, mention may be made of the manpower planning and assessment project

III.A.4
(continued)

in Algeria, under which several experts are working together under the direction of an adviser on manpower resources. They include an expert on occupational analysis and an expert on manpower assessment. This project is closely linked with related projects connected with vocational training and management development. In April 1967 a request to the Special Fund was made for a new big manpower planning project in Algeria, which has not yet been approved. The purpose of the project is to assist the government of Algeria in:

- (a) Developing a continuing manpower information programme to provide an assessment of the country's manpower resources and requirements, particularly of skilled manpower, and in making an estimate of manpower needs by occupational groups and educational training attainments in relation to the economic and social development plan 1968-71;
- (b) Establishing a better organization of the employment market and in developing well-functioning manpower services;
- (c) Providing fundamental orientation and targets in the setting up of a better vocational training system; and
- (d) Implementing a pilot vocational training project.

III.A.5 ILO
(1966 CR:III.A.12)

Manpower planning

In other countries receiving assistance in manpower planning, a selection of the above activities is covered, the exact nature of which varies according to the stage in planning reached and the national needs. Thus, in Malta and Hong Kong, assistance covers primarily the determination of skilled manpower requirements for industry; in Ceylon and Thailand it covers the formulation of manpower aspects of economic and social development plans.

III.A.6 UNIDO

The following field projects have been developed during the year 1967:

Asia/Far East: Regional (ID-1083/Rev.6) UNDP/TA
Regional Industrial Economics Adviser

Estimated cost: 1/10 man/months - \$17,000

Ceylon: (ID-482/Rev.4) - Regular programme
Expert in industrial programming

Estimated cost: 1/6 man/months \$10,000

III.A.6
(continued)

Iraq: (168-59/Rev.2) - UNDP/TA
Industrial planning expert

Estimated cost: 1/11 man/months - \$20,000

Tunisia: (273-63) UNDP/TA
Industrial planning engineer

Estimated cost: 1/12 man/months - \$22,000

B. Organizational requirements for industrial programming

III.B.1 UNIDO

The following field project was developed during the year:

Malawi: (SIS 66/44 MLW-2) SIS
Industrial Adviser

Estimated cost: man/weeks: 2 - \$1,000

C. Development of programming data

III.C.1 ECLA Industrial planning and programming

ECLA-s work on industrial planning and programming is closely related to the activities on specific sectors of industries. As is shown under the heading of activities by industrial branches, the studies undertaken contribute to the development of programming data and assist in the formulation and implementation of industrial plans and programmes.

III.C.2 (1966 CR:III.C.7) Evaluation and reorganization of catalogue establishment data from France, India, Israel, Japan and Yugoslavia

The collection of primary data for some 700 sample establishments in the five countries was completed by the end of 1967. The editing of these data and their presentation in a special two-page format for publication is nearing completion; about 45 per cent of the data received had been processed by July 1967. This early processed part, which included material on 190 establishments, was submitted for printing as Industrial Planning and Programming Series No. 4 - "Profiles of Manufacturing Establishments in Selected Countries", Vol. I. The rest of the collection is being processed for inclusion in Vols. II and III. (Volume I was submitted for publication in 1967; Vol. II will be published in 1968. Meanwhile, partial sample copies of the processed data have been made available to government officials and United Nations technical assistance experts in the field.

Estimated cost: UNIDO professional staff: man/months: 10.
Consultant funds (Swedish Government Grant) out of the 1966-67 appropriations): \$15,500.

III.C.3 UNIDO Preparation of reference inter-industry co-efficient tables

The re-assembling of the basic tables from three countries (Finland, Japan and the United States), with 4 or higher digit classifications for comparison purposes, has been completed. A computer programme for comparative analysis has been established and is being run.

The drafting of the findings will be started early in 1968 for publication under Industrial Planning and Programming Series No. 6 "Structure of Material Inputs in Manufacturing Industries and Inter-industry Relations."

III.C.3
(continued)

Estimated cost: UNIDO professional staff, man/months: 8;
Consultant funds (Swedish Government Grant) (out of 1966-67
appropriations): \$6,500; United Nations Computing Center
Services: \$10,000.

III.C.4 UNIDO
(1966 CR:III.C.7)

Collection, evaluation and dissemination of catalogue manufac-
turing establishment data from additional developing countries

Work is continuing regarding the collection of primary data to meet the characteristics of new factories and enterprises in the developing countries. For Mexico and other developing countries, efforts are being made to obtain active assistance from the relevant offices of the United Nations Regional Economic Commissions. An agreement was made with the ECLA office in Mexico as to the organization of a special working group in that country. Arrangements are also being made regarding the participation of a working group from Iran. The comparative analysis of the processed profiles data will not be started until late 1968 when the data from several additional countries have been compiled.

Estimated cost: Consultant funds (Swedish Government Grant):
\$5,000.

III.C.5 UNIDO

Meeting of the second ad hoc working party on industrial program-
ming data

The ad hoc expert meeting originally planned for 1967 has been replaced by a broader operational programme which is to commence in 1968 in the form of an International Working Party on Industrial Programming Data, in co-operation with the Regional Economic Commissions and the resources connected with technical assistance programmes for various specific governments. The work which has been done in preparation for the replaced 1967 meeting will be fully utilized for the 1968 programme and for the later working party meetings.

D. Formulation and implementation of industrial programmes

III D.1 ECE Long-term planning and programming. Seventh Meeting of Senior Economic Advisers

Discussions will be concentrated, inter alia, on an over-all view of the objectives and methodology of long-term studies. The varied experiences of countries in long-term planning activities will also be discussed.

Authority: Commission resolutions 3 (XV), 11 (XVI), 11 (XIX), 11 (XX), and Commission decision I (XXII).

Duration: The preparatory group for this meeting met in January 1968 and the meeting is expected to be held in the spring of 1968.

III.D.2 ECAFE Strategy for industrial development among ECAFE developing countries

The ECAFE secretariat prepared a paper on the above subject as the main theme for the twentieth session of the Committee on Industry and Natural Resources (E/CN.11/I&NR/L.697). The study deals with:

- reviewing the stages of industrial development in world history;
- economic planning and the strategy for industrial development among developing countries;
- the growth of capital intensive industries in developing countries;
- imports substitution;
- postwar industrial development; and
- development of export industries.

Authority: Committee on Industry and Natural Resources, twentieth session, February 1968.

Duration: February 1968.

III.D.3 ILO Industrial relations, procedures and social institutions
(1966 CR:III.D.1)

After the first phase which was devoted to the preparation of national monographs, covering both industrialized and developing countries, most of which have been published in the International Labour Review (the ten first articles in 1966 and 1967), the

III.D.3
(continued)

project is now being oriented towards the comparative study of the problems posed by the participation of the occupational organizations in planning. A special volume, to appear in 1969, will be devoted to this comparative study. An indispensable complement to the study is the preparation of a series of case studies and comparative studies on the types and functions of direct or indirect participation of trade unions, employers' organizations, co-operatives and other social organizations and institutions in the development effort at various levels, both within the framework of rural and village communities and the problems posed by urbanization. A few case studies have already been prepared, as well as a study on the impact of local traditions in participative development in a number of African countries. A comparative study is being undertaken with emphasis on the Latin American region.

III.D.4 ILO
(1966 CR:IV.D.7)

Regional seminars on trade union participation in social and economic planning - Santiago, Chile, 1966 and Dakar, Senegal, 1966

It is planned to organize a further regional seminar on this theme in 1968, in Asia.

Source of funds: Since they provide close co-operation between the ILO and trade union organizations, these regional courses, as well as national follow-up seminars, are financed by the ILO's regular budget.

III.D.5 UNIDO
(1966 CR:III.D.2)

Manual on Procedures for Programming and Control of Implementation of Industrial Projects in Developing Countries

The first draft of the Manual was completed by the UNIDO Secretariat in April 1967 and circulated to government officials and United Nations technical assistance experts in some 26 developing countries for comments. Further elaboration of the Manual will await the recommendations of the ad hoc expert group meeting scheduled for 1968, which will evaluate the Manual in its draft stage.

Along with the project, one discussion paper, "Implementation and Follow-up of Industrial Projects", was prepared and submitted by the UNIDO Secretariat to the International Symposium. An aide-memoire entitled "Technical Assistance and Training on Implementation and Follow-up of Industrial Projects" was also prepared with a view to drawing the attention of government officials in developing countries to the problems and informing them of the scope and mode of technical assistance which UNIDO would be prepared to provide in this specific field. The copies of this aide-memoire were distributed, as of October 1967, to about 25 selected developing countries which had expressed the need for technical assistance in this field; more systematic distribution is currently underway. This aide-memoire has so far resulted in specific government requests from Turkey and 4 other countries.

Authority: Committee for Industrial Development at its sixth session (E/4203-E/C.5/150).

Duration: UNIDO staff, man-months: 10.

Cost: Consultant funds: \$6,000.

III.D.6 UNIDO
(1966 CR:III.D.4)

Sectoral planning and programming studies

A study on the programming of the iron and steel metalworking industries has been started in line with those on the chemical industries and the petroleum refinery industry, published in the Bulletin on Industrialization and Productivity No.10 and Industrial Planning and Programming Series No. 1. The preparation of basic monographs has been commissioned to outside consultants.

Duration: UNIDO professional staff, man-months: 1.

Estimated cost: Consultant funds: \$5,000.

III.D.7 UNIDO
(1966 CR:III.D.5)

Factors affecting the formulation of a general industrial development strategy

A discussion paper on the "Role of the Industrial Sector in Economic Development" (ID/CONF.1/47) and a background paper "Surplus Agricultural Labour and the Development of Industry" (ID/CONF.1/B.15) were prepared by the UNIDO in 1967.

III.D.8 UNIDO
(1966 CR:III.D.9)

Interregional seminar on industrial location and regional development

The Seminar will be held in the summer of 1968 in Minsk, USSR, drawing upon funds under the UNDPCTA Programme (Category II, P.S. No. 169/67).

Comprehensive documentation is being prepared, including the studies which were made for the project mentioned in ID/B/4, Table 9 (1) as well as additional discussion papers which are being commissioned to outside experts and institutions.

Duration: Professional staff: man-months: 2.

Estimated cost: Consultant funds, within the year \$6,500.

III.D.9 UNIDO
(1966 CR:III.D.10)

Ad hoc meetings of experts on the role of advanced skills and technologies in industrial development

The meeting of an ad hoc group of experts on this subject was organized by the UNIDO Secretariat in New York, 22-29 May 1967, and attended by fifteen international experts. A summary of the conclusions and recommendations has been submitted for publication in the Bulletin on Industrialization and Productivity No 12. Other related papers selected from those submitted, have been assembled for publication in Industrial Planning and Programming Series as No. 3 "Planning for Advanced Skills and Technologies".

III.D.10 UNIDO/
UNESOB Reports on industrial development in Saudi Arabia

Two reports on industrialization problems in Saudi Arabia were prepared by the Regional Adviser in industrial development attached to UNESOB and submitted to the Saudi Arabian Government. The first was related to Petromin's programme of petroleum and mineral-based industries and the second discussed the development of small-scale industries in general.

Authority: General Assembly Resolutions 1823 (XVII) and 1941 (XVIII) and Industrial Development Board Resolution 1 (I).

Duration: Two months in 1966/1967.

Estimated cost: \$7,000 has been allocated for the study.

III.D.11 UNIDO Ad hoc meeting of experts on regional industrial planning

The meeting, organized by the UNIDO Secretariat, was held at Geneva, 29 May - 2 June 1967 and attended by international experts on the subject. UNIDO officials served as Chairman and Secretary-Rapporteur. Thirteen discussion papers were presented. The meeting's objective was to provide guidance for UNIDO operational and pre-operational activities in the field of regional industrial planning. The recommendations and technical contributions of this meeting will, together with those from an Inter-regional Seminar scheduled for 1968 (see ID/B/4 Table 9 (2)) be organized into an Operational Guide to Regional Industrial Planning. In conjunction with this project a discussion paper entitled "Industrial Location Planning", which was prepared by UNIDO Secretariat staff for the International Symposium, was also discussed.

Duration: Geneva, 29 May - 2 June 1967. UNIDO professional staff man-months: 8.

Estimated cost: Meeting funds: \$5,000.

III.D.12 UNIDO

The following field projects were developed during 1967:

| | | <u>1967</u> | |
|-------------|--|-------------------|-------------------|
| | | <u>Man/months</u> | <u>Cost</u> \$ |
| Afghanistan | (IX-33/Rev.2) - RP Director of Planning and Project Department | 1/8 | 11,500 |
| Afghanistan | (155-63/Rev.1) - UNDP/TA Two industrial engineers | 2/24 | 44,000 |
| Africa | Regional (ED-439/Rev.5) - RP Industrial economist | 1/12 | 22,000 |
| Bolivia | (SIS 67/127 BOL-1) - SIS Team of UNIDO staff members visited Bolivia to identify and report on concrete possibilities of UNIDO assistance in the fields of building materials; petrochemicals; fertilizers; food-processing indus- tries; and metallurgical industries. | 7/18 | 18,700 |
| Cambodia | (4-60) - UNDP/TA Expert in industrial planning | 1/12 | 22,000 |
| Ceylon | (SIS 67/194 CEY-NEPAL) UNIDO staff member exploratory mission in Ceylon and Nepal, regarding indus- trial projects which could be assisted by SIS funds | 1/1 | 500 |
| Ceylon | (20-57/Rev.5) - UNDP/TA - Indus- trial economist | 1/6 | 11,000 |
| Colombia | (135-57/Rev.2) - UNDP/TA - Indus- trial economist/engineer and consultant on general industrial development | 1/6 1/10 | 11,000 19,500 |
| Cyprus | (ED-503/Rev.2) - RP - Industrial consultant | 1/12 | 16,000 |
| Dahomey | (ED-868) - RP - Industrial organiza- tional policies expert | 1/12 | 22,000 |

III.D.12
(continued)

| | | <u>1967</u> | |
|-------------|---|-------------------|-------------------|
| | | <u>Man/months</u> | <u>Cost</u> \$ |
| Dahomey | (177-65/Rev.1) - UNDP/TA - Industrial economist | 1/6 | 12,000 |
| Iran | (220-57/Rev.6) - UNDP/TA - Expert in industrial economics | 1/6 | 11,000 |
| Madagascar | (1-64) - UNDP/TA - Industrial economist | 1/8 | 12,800 |
| Mali | (6-66) UNDP/TA - Three experts including: - an industrial counsellor - two industrial economists | 1/11 2/18 | 48,600 |
| Mekong | (SIS 67/71 - Mekong Committee) SIS - Three experts assisted the Mekong Committee in assessing industrial development possibilities in the Lower Mekong Basin | 3/7 | 16,500 |
| Middle East | Regional (ED-582/Rev.2) - RP - industrial adviser - Economic and Social Office in Beirut | 1/12 | 27,550 |
| Morocco | (ED-82 Rev.1) - RP - Industrial economist | 1/6 | 10,250 |
| Niger | (ED-362 Rev.5) - RP - Industrial economist | 2/3 | 9,000 |
| Tangiers | (ED-439/Rev.5) - RP Sub-Regional ECA office: Industrial economist | 1/7½ | 16,490 |
| Tanzania | (-10) - SF - Industrial studies and development centre | 6/66 | 104,980 |
| Turkey | (277-57/Rev.6) - UNDP/TA - Four-man team consisting of: - an industrial engineer - an industrial economist - chemicals and petrochemical adviser - industrial estates adviser | 4/48 | 88,000 |
| Zambia | (139-65) UNDP/TA - Senior industrial adviser | 1/12 | 22,000 |

E. Formulation and evaluation of industrial projects

III. E.1 ECA Second Conference of African Planners

ECA is preparing for the second Conference of African Planners to be held in Addis Ababa from 4 to 15 December 1967. The theme for the second session of the Conference of African Planners is the evaluation of plan performance in the African region since 1960 and suggestions for improvement. A major weakness of the plans of African countries has hitherto been that there is insufficient planning at the local and regional level in each country. This meeting is to consider project identification methods, basic data required for project identification plan control and implementation and personnel training and research requirements necessary for effective planning in all sectors including industry.

Duration: Addis Ababa, 4-15 December 1967.

III.E.2 ECA Studies on industrial planning in Africa

ECA has prepared a number of background papers for the second Conference of African Planners to be held in Addis Ababa in December 1967. Among these studies the following are relevant to industrial planning in Africa: document E/CN.14/CAP/36 deals with selecting criteria for industrial project identification; E/CN.14/CAP/10 provides suggestions for establishing project identification services in Africa; document E/CN.14/CAP/26 deals with project identification services - proposed organization and structure; and, finally, the document E/CN.14/CAP/38 discusses a five-step method to identify bankable development projects.

Duration: 4 - 15 December 1967.

III.E.3 UNIDO
(1966 CR:III E.2)

Manual on industrial project formulation and evaluation

A comprehensive outline was prepared in the early part of 1967 and supporting research was continued partly by outside consultants and partly by the UNIDO Secretariat staff. It is expected that the complete drafting of the Manual will take another year. In connexion with the above work, some 115 technical papers (submitted at the Interregional Symposium on Industrial Project Evaluation, Prague, 11 to 29 October 1965) were edited and submitted for publication in 1967, Industrial Planning and Programming Series No. 5 "Industrial Project Formulation and Evaluation", Vo. I.

III.E.4 UNIDO Project formulation and evaluation within the framework of industrial programmes
(1966 CR; III.E.3)

Further work was carried out regarding the above paper which was presented at the International Symposium on Industrial Development.

Duration: UNIDO professional staff, man-months: 13.

Estimated cost: Consultant funds - \$ 11,000.

III.E.5 UNIDO Orientation seminar for policy makers

The emphasis in this seminar was on certain selected issues relating to social benefit-cost analysis at the national level and the social rate of discount for intertemporal choice. The seminar was attended by 65 participants of whom 58 were from the Central and State Governments of India.

Duration: 16 January to 21 January 1967.

UNIDO staff, man-months: 2.

Estimated cost and source of funds: \$ 15,000; UNIDO department consultant funds.

III.E.6 UNIDO The following field projects were developed in 1967:

| | | 1967 | |
|----------|---|-------------------|-------------------|
| | | <u>Man/months</u> | <u>Cost</u> \$ |
| Ceylon | (ID-482/Rev.4)-RP Expert in industrial project evaluation | 1/1 | 12,000 |
| Ecuador | (51-60/Rev.2)-UNDP/TA Industrial programmer | 1/12 | 22,000 |
| Ecuador | (51-60/Rev.2) - UNDP/TA Associate Industrial Economist | 1/12 | 22,000 |
| Ethiopia | (SIS 67/70 ETH-1) - SIS Experts in: - Industrial planning - Industrial project studies | 2/9.5 | 32,000 |
| Honduras | (24-61) - UNDP/TA Industrial Economist (UNTA/UNIDO) | 1/12 | 22,000 |
| Iran | (16) - SF Research Centre for Industrial and Trade Development | 2/15 | 28,300 |

III.E.6
(continued)

| | | 1967 | |
|-----------------|--|-------------------|-------------------|
| | | <u>Man/months</u> | <u>Cost</u> \$ |
| Iraq | (ED-281/Rev.2) - RP Industrial Consultant | 1/12 | 18,500 |
| Jordan | (13) - SF Centre for Industrial Development | 2/15 | 27,000 |
| Mexico | (SIS 67/132 MEX-1) - SIS Manufacturing projects expert | 1/6 | 21,000 |
| Nepal | (183-65/Rev.3) - UNDP/TA Chief of Industrial Feasibility Survey Mission - Assigned under EPTA | 1/12 | 22,000 |
| Nicaragua | (18-57) - UNDP/TA Industrial Adviser | 1/1 | 3,000 |
| Pakistan | (73-57/Rev.3) - UNDP/TA Industrial Economist - West Pakistan | 1/12 | 22,000 |
| Pakistan | (73-57) Industrial Economist - East Pakistan | 1/12 | 22,000 |
| Pakistan | (73-57/Rev.3) UNDP/TA Industrial Economist | 1/12 | 22,000 |
| Philippines | (SIS 67/193) - SIS UNIDO staff mission visited country to survey industrial needs of the country | 3/2 weeks | 4,000 |
| Regional | - 72 - SF Centre of industrial studies for the Maghreb | 2/4 | 9,000 |
| Saudi Arabia | (28-61) - UNDP/TA Industrial Economist | 1/6 | 13,300 |
| Saudi Arabia | (14) - SF Industrial Studies and Development Centre | 5/54 | 92,000 |
| Singapore | (203-67) - UNDP/TA - Deputy Director of Economic Development Board - 2 Senior Industrial Economists | 3/12 | 60,000 |
| Syria | (ED-513/Rev.1) - RP Two Industrial Project Evaluation Experts | 1/12 | 22,000 |
| Thailand | (82-57/Rev.1) - UNDP/TA Industrial Economist (market survey) | 1/12 | 22,000 |
| Tunisia | (15) - SF National Centre for Industrial Studies | 1/4 | 7,500 |

F. Implementation of projects for the establishment of new
or the expansion of existing industries

III.F.1 UNIDO

The following field projects were developed during 1967:

Madagascar: (SIS 67/148 NAA-2) - SIS
UNIDO staff member advised the Ministry of Industries
and Mines on the establishment of a centre to pro-
mote foreign investment.

Estimated cost: 1/1 man/months - \$1,500

CHAPTER IV

SMALL-SCALE INDUSTRY

A. Public policies for small-scale industrialization

IV.A.1 ECA The role of small-scale industry in the industrialization
(1966 CR:IV.A.2) of Africa

IV.A.2 ECA Technical assistance - small-scale industries -
Democratic Republic of Congo

At the request of the Government of the Democratic Republic of the Congo, a two-man ECA industry mission visited Kinshasa during February and gave its advice to the Government on the development of small industries by Congolese entrepreneurs.

IV.A.3 ECA Technical assistance - small-scale industries - Ethiopia

The ECA provided assistance to the Imperial Ethiopian Government on small-scale industries development and appropriate incentives for such development. A list of industries which, prima facie, appeared suitable for such a development were also suggested.

IV.A.4 ECA Technical assistance - small-scale industry - selected projects

During 1967 ECA staff members of the sub-regional small-scale industries centre at Niamey identified a number of projects in the field of small-scale industry. Pre-feasibility studies were made of selected projects for Dahomey, Niger, Togo and Upper Volta. In particular, they assisted the Governments of Niger, Togo and Upper Volta, on request, in the formulation of projects. Some African entrepreneurs were also identified.

IV.A.5 ECA Technical assistance - offer of demonstration plants and equipment

ECA has received from a donor country an offer of demonstration plants and equipment together with technicians who would train their African counterparts.

- IV.A.6 ECA Technical assistance - request for financial assistance to implement preceding project (No. IV.A.5)
- A request has been made to UNDP for financial assistance to the Niamey centre (see IV.A.5 above) to enable ECA to make effective utilization of this and similar future offers.
- IV.A.7 ECA Studies on the development of small industries
- ECA made studies on the development of small industries as an integral part in the over-all programme of industrialization plans for the Democratic Republic of Congo (see IV.A.2) and for Ethiopia (see IV.A.3).
- IV.A.8 ECA Small-scale industry feasibility studies
- The newly established sub-regional small-scale industry centre in Niamey, initially staffed by two ECA officials, is now working on the promotion of small industries by identifying projects and undertaking feasibility studies for them, particularly in four countries of the West African sub-region (see IV.A.4). Recently the centre was re-inforced by the addition of one bilateral expert.
- IV.A.9 ECLA Problems of small and medium-scale industries in less developed countries
- The seminar on small-scale industry in Latin America held in 1966 requested ECLA and the Centre for Industrial Development to undertake a study concerning a possible regional organisation for the development of small industry. This report was prepared and issued under the title "Note on international co-operation in the development of small-scale industry in Latin America". It was circulated to the Inter-American Bank, ILO, OAS and UNESCO who had indicated possible interest in co-operating with such an organization. The report was presented to the meeting of the less developed countries in Latin America, held in Guatemala in October 1967 (ST/ECLA/Conf.29/L.5), which approved the resolution requesting ECLA and UNIDO to take the necessary measures to present a project to the Special Fund of the United Nations for the creation of a regional centre for small industry.
- Authority: ECLA 116 (VII)
127, 137 (VII)
- Estimated cost: Approximately 11 man-months in 1967.

IV.A.10 ILO
(1966 CR:IV.A.1)

Promotion of small-scale and handicraft industries

During 1967, ILO's programme for the promotion of small-scale and handicraft industries in developing countries (relating to manufacturing, processing and servicing activities, the latter including installation, maintenance and repair of factory equipment and household durables) was further developed and intensified. In view of the important contribution that the tertiary (services) sector of economic activities is making to industrial development, and considering that the economic and social problems confronting the enterprises in the latter sector are broadly similar in origin and nature and subject to similar corrective action as those of the small-scale manufacturing sector, the ILO is extending its interest into the area of non-manufacturing enterprises, such as those engaged in transport, the distributive and catering trades, personal services and the like. It is expected that a wider approach to the question of small enterprise promotion will enable the ILO to increase and improve upon its contribution to economic growth and social progress in general and to industrialization in particular.

ILO activities in this field were further subject to review and comment at the 51st Session of the International Labour Conference in June 1967. In the course of the conference, representatives of governments, employers and workers examined in detail the contribution the ILO is making to the industrialization of developing countries, including industrial development through the agent of small-enterprise promotion. The conference equally examined the organization and effectiveness of technical co-operation programmes to further the interest of the Member States in this field. ILO's contribution to the development of small enterprise will proceed in close and continuous co-operation with other United Nations agencies. Arrangements are being made to complete consultations with UNIDO to arrive at a mutually satisfactory arrangement for joint action in the field of small enterprise promotion, including that at the national level. In summary, ILO's collaboration in the field of small enterprise development within the United Nations System implies participation in all activities designed to establish policies and programmes for industrialization at the national level as well as evaluation of progress achieved so that these policies and programmes will be directed not only to increasing the national product but also to the creation of (or avoiding the unnecessary reduction of) employment opportunities and a sharing of the increased national product by the largest number of people.

IV.A.11 ILO
(1966 CR:IV.A.13)

The role of handicrafts and small-scale enterprises
in the national economy of developing countries

The ILO is taking preparatory measures to organize in 1968 two meetings in the interest of the development of small manufacturing enterprises. Under its regular programme for technical co-operation, a meeting of experts on the role of handicrafts in the national economy of developing countries will be organized to examine and advise the ILO on the contribution it can make and the methodology it can follow to assist developing countries in establishing and implementing suitable policies and programmes for handicraft development. (The term "handicrafts" refers to household manufacturing and processing enterprises, especially those located in rural areas, artistic crafts for the tourist and export trades, and the servicing crafts as an important supporting activity for modern industrial production and consumption.) It is expected that the results of this meeting will not only deepen and expand ILO's expertise as regards the handicrafts sector, but will also contribute to developing more effective programmes for entrepreneurial, managerial and technical skill formation for the small-scale factory sector, the promotion of inter-firm co-operation to enable the smaller units to benefit from the economies of scale and the promotion of steady social progress of the workers engaged in this sector. The household manufacturing and small-scale factory sectors necessarily overlap, the former providing in many instances the human and physical resources and opportunities on which the latter has to develop further. A second meeting concerning management for small enterprises will be referred to under Item IV.C.2.

IV.A.12 ILO
(1966 CR:IV.A.14)

Participation in the International Symposium
on industrial development, Athens, 1967

The ILO co-operated in the Symposium organized by UNIDO submitting papers prepared for this meeting with respect to small-scale industries, including "Training for Small Manufacturing Enterprises in Developing Countries" (ID/CONF.1/B.19) and "Progressive Industrial Technology for Developing Countries" (ID/CONF.1/B.17).

IV.A.13 ILO
(1966 CR:IV.A.18)

Promotion of small manufacturing enterprises

By the end of 1967, the ILO had been designated by the United Nations Development Programme (Special Fund) as executing agency for twelve projects in the field of small-scale industries (Ceylon, Chile, Greece, Iran, Israel, Mexico, Morocco, Panama, Republic of Korea, Singapore, Thailand and the United Arab Republic)

IV.A.13 (cont'd) and for six projects which combined management training for larger enterprises with promotional activities for smaller manufacturing enterprises and establishments. A Foundry Demonstration and Service Unit in Singapore was approved at the June 1967 session of the UNDP Governing Council. The ILO will also act as executing agency for a further project in Singapore, a Metal Industries Development Centre, which will be approved in January 1968. Projects combining training of professional managers with services for small industry promotion are being implemented in Algeria, China, Ethiopia, Jamaica, Kenya and Uganda. Early in 1967 a regional adviser on management development and small-scale industry, covering the Asian Region, took up his appointment at the Asian Regional Office of the ILO.

IV.A.14 ILO
(1966 CR:IV.A.19)

Algeria: National Institute of Productivity
and Industrial Development, Algiers

The aim of the project was to establish a National Institute of Productivity and Industrial Development in Algiers, as approved by the UNDP (SF) in 1966. The plan of operation was signed on 7 February 1967 and the project became operational on 2 May 1967. It is progressing satisfactorily.

IV.A.15 ILO
(1966 CR:IV.A.20)

Ceylon

IV.A.16 ILO
(1966 CR:IV.A.21)

Chile

This project became operational on 12 July 1967 and is progressing satisfactorily.

Total gross project costs: \$931,300; Special Fund allocation: \$1,035,000; Government counterpart contribution \$4,458,931.

IV.A.17 ILO
(1966 CR:IV.A.22)

Israel

IV.A.18 ILO
(1966 CR:IV.A.23)

Morocco

IV.A.19 ILO
(1966 CR:IV.A.24)

Panama

The project became operational on 25 October 1966.

Total gross project costs: \$813,300; Special Fund
allocation: \$905,800; Government contribution: \$806,940.

IV.A.20 ILO

Republic of Korea

The plan of operation was signed on 11 August and the project became operational on 16 August 1967.

IV.A.21 ILO
(1966 CR:IV.A.26)

Singapore

This project continues satisfactorily, having been extended from its original cut-off date to October 1968.

IV.A.22 ILO
(1966 CR:IV.A.27)

Thailand

IV.A.23 ILO
(1966 CR:IV.A.28)

United Arab Republic

The operations of the project have continued to develop satisfactorily, with a much improved counterpart contribution.

IV.A.24 ILO

Uganda

The project became operational in November 1965.

Total gross project costs: \$998,500; Special Fund allocation
\$1,099,500; Government counterpart contribution: \$669,342.

IV.A.25 ILO

Jamaica - Productivity Centre

To assist the Government in the organization and in the establishment of a National Productivity Centre, to serve as a governmental agency for the promotion of productivity improvement in all sectors of the national economy, and assist the Craft Development

IV.A.25 (cont'd) Agency in its efforts to expand the industries. The project was approved at the June 1966 Session of the Governing Council. The plan of operation was signed and the project became operational on 27 December 1966.

Duration: Five years.

Estimated cost and source of funds: \$868,200; Special Fund
allocation: \$968,200; Government counterpart
contribution: \$1,949,684.

IV.A.26 ILO

Singapore - Metal Industries Development Centre

The request is being prepared for consideration at the January 1966 Session of the Governing Council. The project will provide comprehensive and integrated services to the metal industry of Singapore. More specifically the Centre will survey problems and requirements in this field, assist in the preparation of feasibility studies, undertake training programmes, provide the necessary services in the promotion of investment, and improve production and quality.

IV.A.27 ILO

Singapore - Foundry Demonstration and Service Unit

To assist the Government of Singapore in the establishment of a Foundry Demonstration and Service Unit and a Metrology Laboratory, as a first phase in the establishment of the Government's proposed Metal Industries Development Centre, which is ultimately intended to embrace further operating sections covering supporting services essential to metal industry development. The project was approved at the June 1967 Session of the Governing Council.

Duration: Two years.

Estimated cost and source of funds: \$402,400; Special Fund
allocation: \$446,700; Government counterpart
contribution: \$430,413.

IV.A.28 ILO

Morocco - National Institute for Leather and Textile

To provide the Royal Government of Morocco with further assistance to ensure consolidation and extension of the activities of the Institute, and to undertake complementary activities such as the provision of more highly-qualified manpower to undertakings in the public and private sectors, and placing at their disposal an

IV.A.28 (cont'd) institute capable of providing advice on their problems and which can act as a research and control laboratory at the same time. Subject to approval of the January 1968 Session of the Governing Council.

Duration: Two years.

IV.A.29 ILO

Greece - Small-Industry Development Service

To assist the Government of Greece in the establishment of a Small Industry Development Service, whose objectives will be to promote the development, modernization, and growth of new and existing small and medium-sized industries, through research and studies, training and extension services, to master artisans and other small to medium-scale entrepreneurs, as foreseen, in the Agreement of Association between Greece and the European Economic Community which took effect on 1 November 1962. The project was approved in January 1967.

Duration: Five years.

Estimated cost and source of funds: \$832,000;

Special fund allocation: \$924,200; Government counterpart contribution: \$885,433.

IV.A.30 UNIDO/
UNESOB (1966 CR/
Corr.1:IV.A.37)

Study on small-scale industries in selected countries in the Middle East

This study aims at examining and analysing policies, programmes and promotion measures, problems of finance and possibilities of regional co-operation for the development of small-scale industries, as suggested by the 1966 Kuwait Conference on Industrial Development in the Arab Countries in its recommendation No. 38 and by the Consultative Group on Industrial Estates which met at UNESOB in November 1966.

Authority: General Assembly Resolution 2152 (XXI) and Industrial Development Board Resolution 1 (I).

Duration: This study has been undertaken with the help of a consultant and will be submitted as a background paper to a meeting of the development of small-scale industries scheduled to be held at UNESOB in 1968.

Source of funds: \$2,500 from UNIDO consultants' fund.

IV.A.31 UNIDO/
UNFSOB (1966 CR/
Corr.1:IV.A.38)

Meeting on the development of small-scale industries

The aim of this project is to provide an opportunity for the countries having participated in the Consultative Group on Industrial Estates which met at UNFSOB in November 1966 to follow up the discussion of the group on small-scale industries and to concentrate on the problems experienced in the development of these industries. The importance of this was stressed both by the Consultative Group and, earlier, by the 1966 Kuwait conference on industrial development in the Arab countries. The major questions to be placed on the agenda of the meeting, planned for 1968, are:

- policies and techniques for the promotion of small-scale industries;
- financing of these industries;
- marketing and promotion of their products;
- role of small-scale industries in regional development.

The documentation for this meeting will include a paper prepared by UNFSOB in connexion with recommendation No. 60 of the Kuwait conference, suggesting the establishment of a regional centre for industrial studies and development.

Authority: General Assembly Resolutions 2152 (XXI) and 2178 (XXI) and Industrial Development Board Resolution 1 (I).

Duration: The meeting is planned for six days in 1968.

Source of funds: United Nations Development Programme, UNIDO.

IV.A.32 UNIDO

The future of the traditional industrial sector in a modernizing economy

An analysis of government policies and measures in respect of artisan, handicraft and cottage industry undertakings. The study discusses the possibilities for transformation of artisans into small-scale industrialists, the types of traditional activities suitable for modernization, the methods of conversion and programmes of retraining, extension, incentives etc. The study will be submitted to a Meeting on the Development of Small-scale Industries in the Arab countries of the Middle East, to be held in Beirut in 1968, in co-operation with the United Nations Economic and Social Office in Beirut.

- IV.A.32 (cont'd) Authority: UNIDO work programme.
Duration: June-July 1967.
Estimated cost and source of funds: \$1,000; consultants' fund.
- IV.A.33 UNIDO Promotion of exports of small industry products
The study, which follows up the paper on "Promotion of Exports of Small Industry Products from Developing Countries", submitted by the United Nations Centre for Industrial Development to the first UNCTAD Conference, examines in depth various national measures for the promotion of exports of small industry products from developing countries, with special reference to the experiences of India and Japan. The study describes not only the current programmes, but also evaluates the experience gained over a period of time, compares achievements with objectives, and discusses problems, solutions and lessons learned, conclusions and recommendations of applicability to developing countries in general.
Authority: UNIDO work programme, 1967.
Duration: October-November 1967.
Estimated cost and source of funds: \$1,500, UNIDO consultants' fund.
- IV.A.34 UNIDO Financing of small-scale industries
The following three studies were prepared in 1967 for presentation to an Interregional Symposium on Financing of Small-scale Industries to be organized by UNIDO in 1969:
Extension service and development finance for small industry: The study discusses the two-way relationship between extension services and financing. It contains a comparative analysis of experience in several countries, some case studies and examples, and conclusions and recommendations applicable to development programmes for small-scale industries in developing countries.
Cost: \$1,000.
Institutions, policies and measures for the financing of small-scale industries: A comparative analysis of policies and measures adopted by public and semi-public financial institutions providing long-term, medium-term and short-term

IV.A.34 (cont'd) credit to small-scale industries in several countries.

Cost: \$1,400.

Financing of exports of small industry products: A study of the financial implications of export promotion programmes, based on the experience of Japan.

Cost: \$1,400.

IV.A.35 UNIDO
(1966 CR:IV.A.10)

The role of small-scale industry in the industrialization of developing countries and policies and measures for the promotion of small industries

This paper was submitted to the International Symposium on Industrial Development as document ID/CONF.16 under the title "Policies and Programmes for the Development of Small-scale Industry".

IV.A.36 UNIDO
(1966 CR:IV.A.9)

Policies and Programmes for the Establishment of Industrial Estates

This paper was submitted to the International Symposium on Industrial Development as document ID/CONF.1/29.

IV.A.37 UNIDO
(1966 CR:IV.A.10)

Industrial Extension Services for Small-scale Industries

This paper was submitted to the seminar on small-scale industry in Latin America, held in Quito, Ecuador, November-December 1966, and to the interregional symposium on technical services and facilities for small-scale industries, Vedbaek, Denmark in the summer of 1967.

IV.A.38 UNIDO
(1966 CR:IV.A.12)

Technical Co-operation for the Development of Small-scale Industry

Published as a United Nations publication, Sales No. 67.II.B.3.

IV.A.39 UNIDO

The following field projects have been developed during 1967:

| | | <u>1967</u> | |
|-------------------------|--|-------------------|-------------------|
| | | <u>Man/months</u> | <u>Cost</u> \$ |
| Cameroon | (ED-340/Rev.3) - RP Industrial engineer | 1/2 | 6,000 |
| Chile | (130-57/Rev.2) - UNDP/TA Small-scale industry expert | 1/12 | 22,000 |
| China | (29-57/Rev.2) - UNDP/TA Financial adviser | 1/6 | 10,000 |
| Congo, Dem. Rep. of | (EC-1064/Rev.2) - RP Small-scale industry expert | 1/6 | 11,600 |
| Dahomey | (ED-868) - RP Industrial economist | 1/12 | 22,000 |
| Dominican Republic | (194-60/Rev.2) - UNDP/TA Industrial engineer | 1/12 | 22,000 |
| Laos | (60-61) - UNDP/TA Small and medium-scale industries expert | 1/12 | 22,000 |
| Liberia | (SIS 67/110 LIB/4) - SIS Small-scale industry technical adviser | 1/6 weeks | 1,800 |
| Malawi | (SIS 66/45 MLW-3) - SIS Small-scale industry expert | 1/3 weeks | 1,200 |
| Malaysia | (19-66/Rev.3) - UNDP/TA Expert in industrial design | 1/12 | 22,000 |
| Mauritania | (9-66/Rev.1) - UNDP/TA Industrial engineer | 1/10 | 16,000 |
| Netherlands Antilles | UNDP/TA Industrial engineer | 1/3 | 5,400 |
| Nigeria | (ED-548/Rev.3) - RP Industrial economist (small-scale industries) Industrial engineer (small-scale industries) | 2/6 | 14,000 |
| Senegal | (180-65) - UNDP/TA Industrial economist | 1/12 | 22,000 |
| Trinidad and Tobago | RP Small-scale industry expert | 1/6 | 11,000 |

B. Modernization of equipment and processing

IV.B.1 ILO
(1966 CR:IV.B.2)

Research on progressive industrial technologies

Research and studies were continued in 1967 on the question of the selection and introduction of technologies that would contribute to creation of the largest volume of employment under conditions of economic production - commonly referred to as "appropriate" or "intermediate" technologies. A paper on "Progressive Industrial Technology for Developing Countries" was a direct result of this research activity. Contact is being maintained with organizations in the public and private sector in various countries interested in this field, including the Intermediate Technology Development Group Limited in the United Kingdom. Plans are in hand to develop the action-oriented research projects to examine under operational conditions in the field what action could be taken to promote the use of equipment and processes that are more suited to the resource endowments in developing countries.

IV.B.2 UNIDO

The contribution of small-scale industries to the production of bicycles

This is the first in a series of techno-economic studies of appropriate technologies which can be usefully adapted in the small-scale industries sector. The study provides specifications and other related information on some of the popular types of bicycles manufactured in both the large-scale and small-scale sectors in India. It also gives:

- (a) A description and analysis of manufacturing processes of each component in the large-scale and small-scale sectors, including factors bearing on quality, value, and quantity of the bicycle considered.
- (b) Information on the various processes involved in the manufacturing of each part and component; requirements of machinery and equipment, including detailed information on the various innovations introduced locally, in the small-scale and large-scale sectors respectively; comparisons of levels of productivity and costs in different techniques of production.
- (c) Standard specifications laid down in India, and some other major bicycle manufacturing countries; and special institutions and facilities for inspection and quality marking.

- IV.B.2 (cont'd) (d) A discussion of the methods that should be adopted for organizing the production of parts and components of a bicycle by small-scale units working as sub-contractors of large firms; and joint production programmes among small-scale units, including the operation of co-operative functional industrial estates for the production of bicycles.

Authority: UNIDO work programme.

Duration: November-December 1967.

Estimated cost and source of funds: \$1,500, consultants' fund.

IV.B.3 UNIDO
(1966 CR:IV.B.5)

Interregional Symposium on Technical Services and Facilities for Small-Scale Industries

The Symposium, organized jointly by UNIDO, the United Nations Bureau of Technical Assistance Operations (now the Office of Technical Co-operation) and the Government of Denmark, was held at Vedbaek near Copenhagen, from 26 June to 8 July 1967. The report of the Symposium and some of the papers prepared for this meeting will be published in 1968.

Cost: \$65,000 from Regular Programme and \$3,500 from the consultants' fund.

IV.B.4 UNIDO The following field projects have been developed during 1967:

| | | <u>1967</u> | |
|---------------|--|-------------------|-------------|
| | | <u>Man/months</u> | <u>Cost</u> |
| | | | <u>\$</u> |
| India | (37-57/Rev.2) - UNDP/TA Expert in tool designing | 1/5 | 9,000 |
| India | (37-57/Rev.2) - UNDP/TA Expert in electric measuring instruments | 1/9 | 18,000 |
| India | (ED-404) - RP Lens-grinding expert | 1/1 | 2,000 |
| Rwanda | (217-63/Rev.2) - UNDP/TA Small-scale industry expert | 1/12 | 22,000 |
| Western Samoa | (XBO-382/Rev.1) - UNDP/TA Expert engaged in a training programme for carpenters of the public workshop | 1/12 | 13,056 |

C. Upgrading of managerial and labour skills

IV.C.1 ECAFE Training for small-scale industries
(1966 CR:IV.C.2)

IV.C.2 ILO Upgrading of managerial and labour skills

Under UNDP(TA) arrangements, an Interregional Seminar of Experts-cum-Study Tour in Management in Small Business will be organized by the ILO in 1968. This meeting is designed to provide a forum for an exchange of information, views and experience on management needs, problems and practices in the field of small business enterprises with a view to establishing meaningful management training and development programmes for this category of business organization. The meeting will in particular examine management practices and techniques, including the degree of management specialization that is required for effective performance in small enterprise operation, having regard to: (a) differences in establishment size; (b) type of business activity; and (c) the degree of infrastructural facilities available to the small undertakings, having regard to the prevailing level of economic development. The meeting is planned to be held at the International Centre for Technical and Vocational Training in Turin, an affiliated body of the ILO, where regular programmes for training in small plant management are in progress.

IV.C.3 UNIDO Training of small-industry experts from industrial countries

Arrangements have been made with the Société d'aide technique et de coopération (SATEC, Paris) and the French General Confederation of Small-scale and Medium-sized Enterprises to organize, in co-operation with UNIDO, training courses for French or French-speaking small industry experts. The programme was initiated in the autumn of 1967 with on-the-job training in French promotion and servicing centres. It will be expanded in 1968 to include classroom training and study tours and on-the-job training in industrial estates, industrial extension centres etc. in such countries as India, Italy and the United Kingdom. It is planned to organize similar programmes in other industrially advanced countries with the co-operation of UNIDO.

IV.C.3 (cont'd) Authority: UNIDO work programme.

Duration: July 1967.

Estimated cost and source of funds: No costs in 1967.

IV.C.4 UNIDO
(1966 CR:IV.C.8)

Stimulation of entrepreneurship and assistance to small industrialists at the pre-investment stage

This paper was submitted to the Seminar on Small-scale Industry in Latin America, held in Quito, Ecuador, November-December 1966, and to the Interregional Symposium on Technical Services and Facilities for Small-scale Industries, Vedbaek, Denmark, June-July 1967 (see above).

D. Improved utilisation of raw materials

No planned or continuing projects reported under this heading.

E. Establishment of industrial estates

IV.E.1 UNIDO
(1966 CR:IV.E.4
and IV.E.7)

Consultative Groups on Industrial Estates and Industrial Areas, Geneva, 24-29 October 1966 and Beirut, 31 October to 5 November 1966

The reports of these meetings and selected papers were submitted for publication in 1967 under the title Industrial Estates and Industrial Areas in Europe and the Middle East. (ID/4)

IV.E.2 UNIDO

Group Training Programme on Industrial Estates

Preliminary arrangements have been made by UNIDO to conduct early in 1969 a group training programme on industrial estates for 20 English-speaking participants from developing countries. The programme will be organized in co-operation with the Government of India and will be held at the Small-Industry Extension Training Institute Hyderabad, India. The twelve-week programme will consist of 6 weeks of class-room training on the planning, organization, management and financing of industrial estates, 4 weeks of study visits and project work in industrial estates in India and study tours of some industrial estates in other countries, such as Italy, Ireland, Pakistan, Singapore, and the United Kingdom. It is proposed to conduct the group training programme on industrial estates every year; a course is being organized for French-speaking participants during 1970 and for Spanish-speaking participants during 1971. Informal discussions were held with Italian institutions concerned for organizing the French-speaking programme.

Authority: E/4203/para. 85.

Duration: April 1967.

Estimated cost: No costs in 1967.

IV.E.3 UNIDO

The tool-room as a common-service facility on industrial estates

This paper, the first in a series of studies on common-service facilities on industrial estates, provides information and guidelines for planning tool-rooms, heat treatment shops, design offices, etc., for small-scale industries.

It contains the following proposals and suggestions:

- a) for location, design and construction of heat treatment workshops and design offices, including cost factors;
- b) selection of suitable machinery and equipment for various functional purposes;

- IV.E.3 (cont'd)
- c) plant lay-out;
 - d) requirements of international experts and national staff;
 - e) use of jigs and fixtures for the production of parts and components;
 - f) effect of proper tool design on productivity and cost of production;
 - g) functioning of tool-rooms, design offices etc.

Authority: UNIDO work programme.

Duration: November to December 1967.

Source of funds: Authorized UNIDO budget.

IV.E.4 UNIDO

Direct advisory services in the field of industrial estates

Direct advisory services were extended by staff members and the technical adviser of the Small-scale Industry Section to Bolivia, India, Liberia, Malawi and Yugoslavia. These missions resulted in the formulation of operations under the SIS programme in all of these countries except India; the drafting of two requests to UNDP (Special Fund) for assistance in setting up industrial estates and industrial areas in Bolivia and Liberia; proposals for establishing industrial ports with industrial areas, industrial estates and industrial free zones in Belgrade and Bar, and industrial development centres at the level of the Republics and at the national level, in Yugoslavia; and the organization of a group training programme on industrial estates in Hyderabad, India, in the beginning of 1969.

IV.E.5 UNIDO

The following field projects have been developed in 1967:

| | | <u>1967</u> | |
|------------|--|-------------------|-------------------|
| | | <u>Man/months</u> | <u>Cost</u> \$ |
| Bolivia | (SIS 67/127 BOL-1) - SIS UNIDO staff member participated in SIS mission which formulated request for further SIS assistance in field of industrial development and industrial financing (Industrial finance expert) | 1/3 | 1,000 |
| Brasil | (27-59/Corr.2) - UNDP/TA Industrial management expert | 1/2 | 4,000 |
| Cyprus | (SIS 66/47 CYP-5) - SIS - Industrial engineer - Physical planner | 2/3 | 6,000 |
| Iran | (11) - SF Feasibility studies for the establishment of an industrial estate | 3/33 | 76,900 |
| Singapore | (203-67/Rev.1) - UNDP/TA Expert in physical planning | 1/1 | 2,000 |
| Yugoslavia | (SIS 67/117 YUGO-1)-SIS Industrial estates expert | 1/2 | 500 |

F. Co-operative and other institutional arrangements

IV.F.1 ILO Haiti
(1966 CR:IV.F.5)

IV.F.2 ILO Morocco
(1966 CR:IV.F.6)

IV.F.3 ILO Saudi Arabia
(1966 CR:IV.F.7)

The Government of Saudi Arabia has requested the extension of this project till March 1968. The expert has been consolidating his activities throughout 1967 and ensuring through regular visits on the spot that the co-operatives he helped set up were viable and able to stand on their own feet. The Vocational Training Society and the two electric supply co-operatives in Taraba and Medina were in this connexion found to be doing successfully. New orientation was given to the project when on request of the Saudi Government the expert was asked to pay more particular attention to the managerial and administrative training of the personnel of existing co-operatives, leaving the basic development and training work to five Sudanese co-operative workers and Saudi counterparts.

IV.F.4 UNIDO/
ECA
(1966 CR:IV.F.8) An adviser on small-scale and medium-scale industry has been assigned to the West African sub-region to develop a sub-regional small-scale industry pilot project in Niamey, Niger.

IV.F.5 ILO Botswana

A seven-months' survey was undertaken in 1967 to determine the possibilities of setting up handicrafts and small-scale industries on a co-operative basis. The findings indicate that one important way to promote existing crafts and small industries would be through the encouragement of group action.

IV.F.6 ILO

Tunisia

An expert who was assigned in January 1967 to assist the Government of Tunisia in promoting workers' productive co-operatives in the building industry for the trades pertaining to this industry has been concentrating his efforts on active on-the-job training and propaganda work to help stimulate the interest of workers to this type of group action.

IV.F.7 UNIDO
(1966 CR:IV.F.2)

Government purchase schemes for promotion of small-scale industries

This study will be published in Industrialization and Productivity Bulletin No.12.

IV.F.8 UNIDO
(1966 CR:IV.F.2)

Industrial extension services for small-scale industries

This paper was submitted to the Seminar on Small-scale Industry in Latin America, Quito, Ecuador, November-December 1966, and to the Interregional Symposium on Technical Services and Facilities for Small-scale Industries, Vedbaek, Denmark, June-July 1967.

IV.F.9 UNIDO

The following field project was developed in 1967:

Africa: Regional (ED-439) - RP

Adviser on small-scale and medium-scale industries.

Estimated cost: Man/months: 1/12 - \$24,000.

G. Special credit and financial facilities

IV.G.1 UNIDO
(1966 CR:IV.G.1)

Hire-purchase schemes for the promotion of small-scale industries

The study will be submitted to an Interregional Symposium on Financing of Small-scale Industries, planned for 1969.

IV.G.2 UNIDO
(1966 CR:IV.G.2)

Technical assistance to financial institutions for small-scale and medium-sized industries is provided by United Nations experts in China.

IV.G.3 UNIDO

Extension service and development finance for small industry

The study examines the two-way relationship between extension service and financing: on the one hand the need for supporting financial assistance by technical assistance, both at the stage of application for credit and at that of use of funds; on the other hand, the need for providing financial resources to put into effect the recommendations of technical assistance or industrial extension experts. The paper contains a comparative analysis of problems and experiences in several countries, some case studies and examples, and conclusions and recommendations applicable to development programmes for small-scale industries in developing countries. The study will be presented as a discussion paper to the Interregional Symposium on Financing of Small-scale Industries to be held by UNIDO in 1969.

Authority: UNIDO work programme 1967.

Duration: October-November 1967.

Estimated cost and source of funds: \$1,000 from consultants' fund.

IV.G.4 UNIDO

Institutions, policies and measures for the financing of small-scale industries

This study describes and analyses the sponsorship, statutes, organization, capital and general policies of different types of public and semi-public financial institutions providing credit to small-scale industries in different countries. It also analyses the policies, measures and conditions under which these institutions extend, respectively, long-term, medium-term and short-term credit, with special emphasis on the banking mechanisms and procedures which, in the light of experience, appear to be the best suited to assist small industries. The study

IV.G.4 (cont'd)

provides a comparative analysis of experience gained in several countries, as well as conclusions and recommendations for developing countries. The study will be presented for discussion to the Interregional Symposium in Financing of Small-scale Industries to be held by UNIDO during 1969.

Authority: UNIDO work programme 1967.

Duration: November-December 1967.

Estimated cost and source of funds: \$1,500 from consultants' fund.

IV.G.5 UNIDO

Financing of exports of small-industry products

The study focuses attention on the financing difficulties encountered in developing countries by small industries manufacturing for export and recommends possible solutions in the light of Japan's experience. In this connexion, it discusses among others, the questions of organization of small producers for export, export marketing methods, export market promotion, export credit guarantees, quality certification and export incentives. The study will be presented to the Interregional Symposium on Financing of Small-scale Industries, to be organized by UNIDO in 1969.

Authority: UNIDO work programme 1967.

Duration: October-November 1967.

Estimated cost and source of funds: \$1,400 from consultants' fund.

H. Provision of documentation and information

IV.H.1 ECAFE
(1966 CR:IV.H.2)

Small-industry Bulletin for Asia and the Far East

No. IV of the Bulletin series was published and circulated in 1967 with a theme on marketing of small industries products. No. V is under publication, having as a theme "Technical services and facilities for the promotion and modernization of small industries".

IV.H.2 ILO
(1966 CR:IV.H.1)

Information papers for field staff

For the purpose of exchange of information among ILO experts and to provide guidelines on approaches and means of action for the promotion of the small industry sector, further additions to the series of Information Papers for Field Staff have been published, including the following titles:

- (a) ILO technical co-operation projects in small-scale and handicraft industries in Africa, including management development projects with a small industry component (doc. 31/67, Geneva 1967; in English and French).
- (b) Small enterprise development in Africa: Conclusions of the ILO Technical Expert Meeting on Development of Managerial and Entrepreneurial Resources in Africa (Geneva 1967; in English and French).
- (c) The development of small enterprises in Africa (doc. D.20/67, Geneva 1967; in English and French).

IV.H.3 UNIDO

The following field projects were developed in 1967:

| | | <u>1967</u> | |
|------------|---|-------------------|-------------------|
| | | <u>Man/months</u> | <u>Cost</u> \$ |
| Algeria | (5) - SF Industrial and marketing surveys on petroleum derivatives and natural gas | 2/24 | 40,100 |
| Brazil | (27-59) - UNDP/TA Chemical engineer | 1/6 | 11,000 |
| Nicaragua | (18-57) - UNDP/TA Industrial adviser | 1/9 | 16,500 |
| Turkey | (277-57) - UNDP/TA Petrochemical engineer | 1/12 | 22,000 |
| Yugoslavia | (294-57) - UNDP/TA Expert in petrochemical processes | 1/12 | 22,000 |

CHAPTER V

TRAINING

A. Training of engineers for industry

V.A.1 ECAFE
(1966 CR:V.A.5)

Training in the petroleum industry

This project was started in 1963 and is being continued into 1967; fourteen petroleum trainees in 1967.

V.A.2 ECAFE
(1966 CR:V.A.6)

Training and research centres in the field of electric power

V.A.3 UNIDO
(1966 CR:V.A.2)

Selected country case studies on manpower development for industrialization

Selected country studies will be published in 1968.

V.A.4 UNIDO

Training manuals

A training manual for the textile industry was prepared in 1967 at a cost of \$5,000, and will be published in 1968.

B. Management Training

V.B.1 ESA

Administrative and managerial problems of public enterprises and other instruments of economic development

The work includes comparative studies on public enterprises as an instrument of national development, and analysis of their administrative problems, with a view to developing guides for assessing and improving their operational efficiency. The project "Management of public enterprises" has been in the work programme of the Public Administration Branch for some time. An interregional seminar on this subject was held in September 1966. The report of the seminar and papers submitted to the seminar will be edited and issued in 1968. Another study on the role of public enterprises in plan formulation and planned implementation in centrally planned economies is under way and will be issued in 1968.

Authority: General Assembly resolution 1024(XI); A/C.2/189, annex, items 13 and 14; Council resolutions 907(XXXIV) and 1030(XXXVII).

Duration: Continuing.

Cost: 1967: 4 professionals
1968: 8 professionals, 12 consultants.

V.B.2 ILO
(1966 CR:V.B.12)

Management and small-scale industry

The ILO's training activities, which form one of its major contributions to the industrialization programme, cover various forms of industrial training, including management development, small-scale industry promotion, training of instructors and vocational training. The programme as a whole, and a number of current technical assistance projects under it were described in some detail in the ILO's contribution to the 1966 consolidated report.

At the present time ILO has 91 projects in the field of management and small-scale industry development, 46 in the field of management development and productivity and 45 in the field of small-scale industry, with a number of others recently approved but not yet operational.

V.B.2 (cont'd)

Cost: The total financial commitment agreed to on these programmes by the various participating organizations and Governments is approximately \$30 million. At present these projects cover about 300 foreign experts operating in the host countries; in addition there are approximately 200 national counterparts working alongside the experts with a view to taking over complete responsibility for the training at the end of the current project.

V.B.3 ILO
(1966 CR:V.B.14)

Management and productivity

The National Productivity Centre in Argentina was terminated at the end of 1966. Two further projects were successfully terminated in 1967: the Thailand Management Development and Productivity Centre, and the Korea Productivity Centre, both after five years of operations.

V.B.4 ILO
(1966 CR:V.B.17)

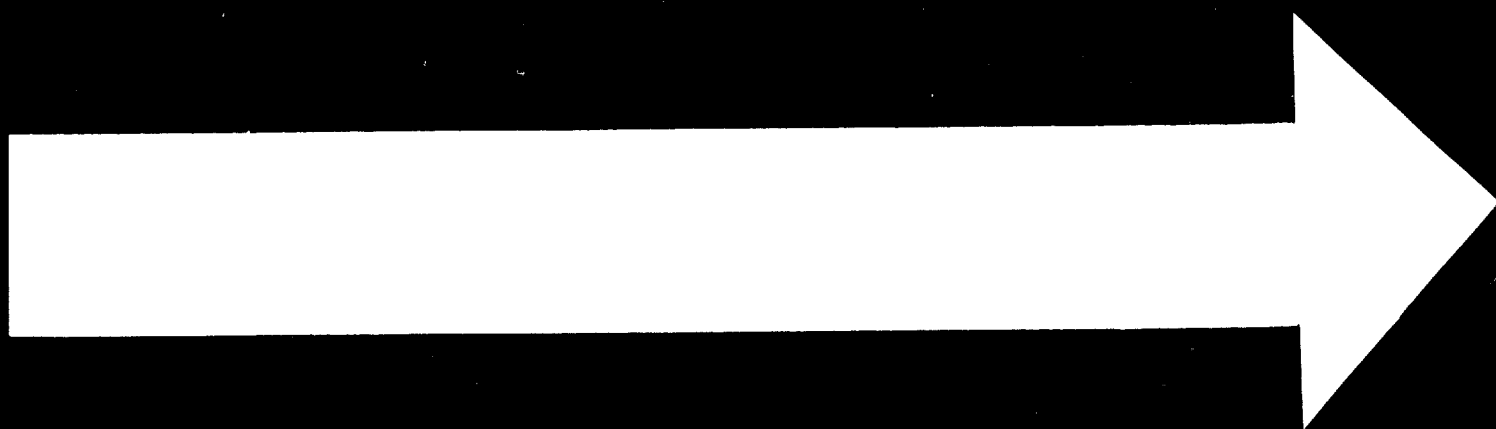
Management development

The following management development programmes have been arranged for 1967/1968: management of medium-scale enterprises; management of production operations; management of marketing operations; management of personnel administration services; management of accounting services; organization and management of vocational education; development of executive skills; management of industrial maintenance; management of export marketing; management of small-scale industries; management of industrial relations; industrial maintenance.

V.B.5 ILO
(1966 CR:V.B.19)

Bulgaria - Management Training Centre for Engineers and Economists, Sofia

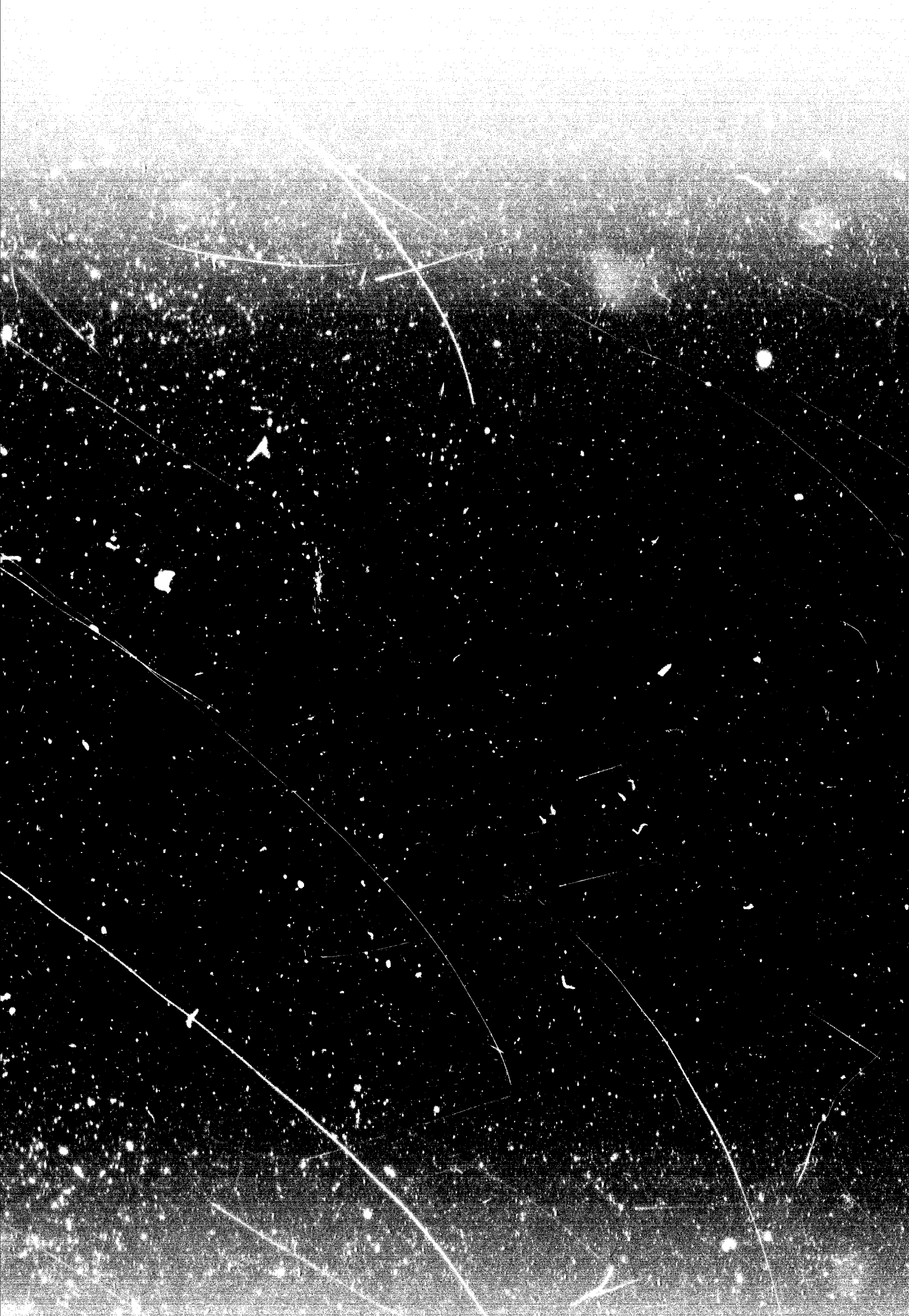
The project commenced operations on 17 October 1967. Total gross project cost: \$1,435,200. Special Fund allocation: \$1,583,500. Government counterpart contribution: \$3,635,067.



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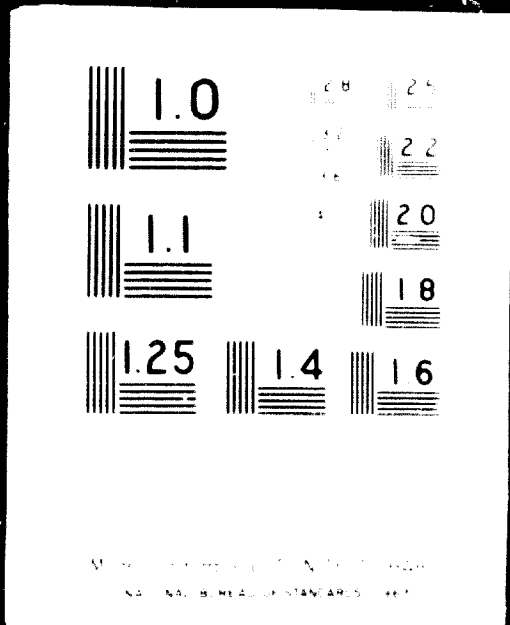
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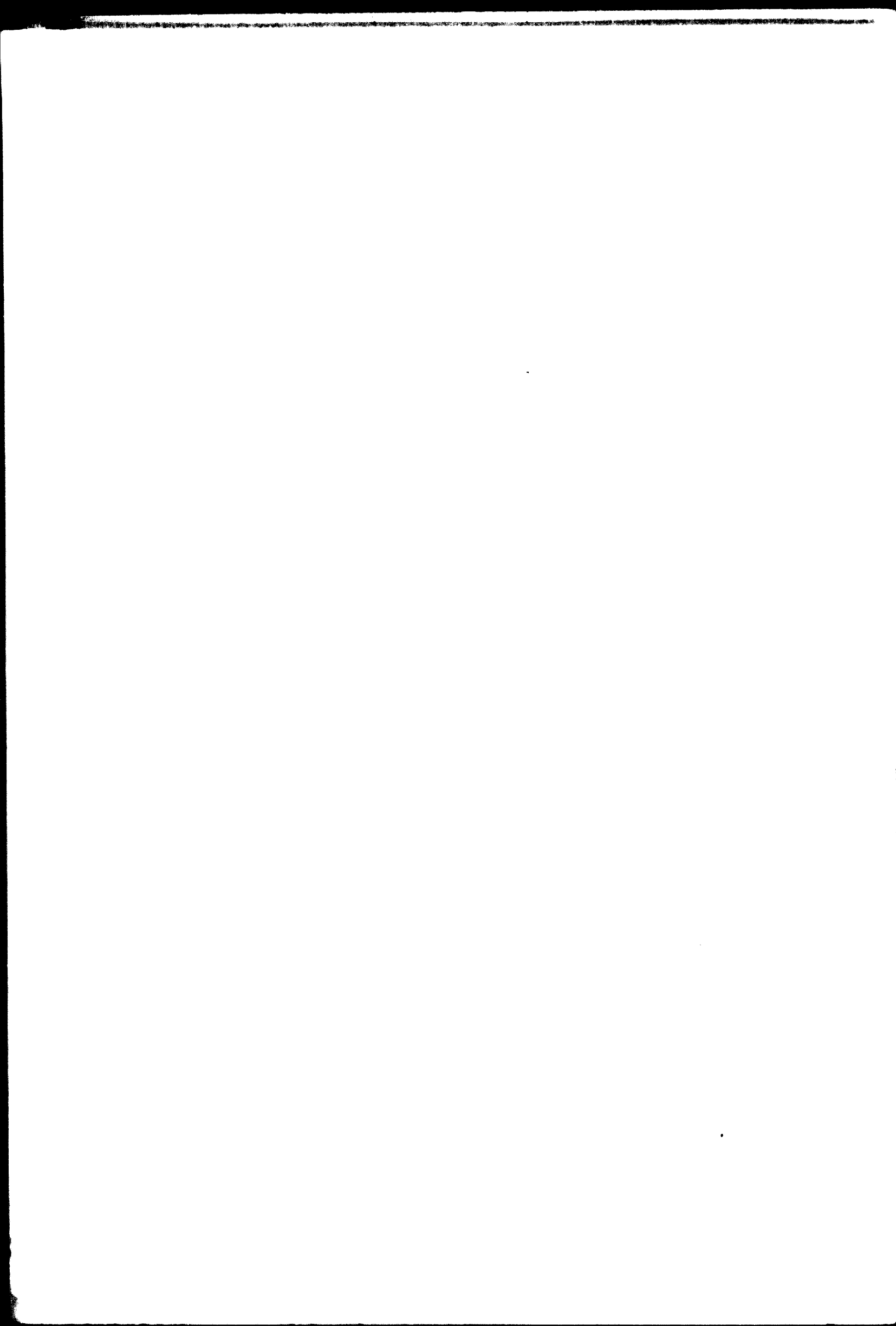


3 OF 5

DO

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V.B.6 ILO
(1966 CR:V.B.20)

Burma - Training in stores operation management

Duration: This project was terminated on 31.12.67.

V.B.7 ILO
(1966 CR:V.B.22)

Ceylon - Management development and productivity centre,
Colombo

The project was approved at the January 1967 session of the UNDP Governing Council with the ILO appointed as Executing Agency. The plan of operations will shortly be signed and operations will begin.

V.B.8 ILO
(1966 CR:V.B.23)

Cyprus - Vocational training and management development

V.B.9 ILO
(1966 CR:V.B.24)

Ghana - Management development and productivity institute,
Accra

This project was approved at the January 1967 session of the UNDP Governing Council, and the ILO was appointed as Executing Agency. To implement the project the UNDP (Special Fund) will provide the services of experts in the fields of general management, industrial engineering, management accounting, marketing and sales, cost and financial accounting and supervisory training for a total of 25 man-years.

Total gross project cost: \$805,600.

Special Fund allocation: \$894,200.

Government counterpart contribution: \$461,716.

V.B.10 ILO
(1966 CR:V.B.25)

Guinea - National centre for management development training

This project was approved at the June 1966 session of the UNDP Governing Council and became operational in August 1967. The purpose of the project is to provide Guinea with a permanent institution - a National Centre - by making efficient technical assistance available to the State and to the various economic sectors both in the field of the organization and

V.B.10 (cont'd)

management of national and private undertakings and in that of management development in the higher and intermediate and supervisory positions. The objectives drawn up for the National Centre are as follows:

- (a) The recruiting and training of a permanent national team of instructors and advisers highly qualified in the various fields concerning the organization and management of industrial, commercial and service industries who must be capable of training other instructors and advisers in the functions appertaining to their particular field so that the Centre can perpetuate itself.
- (b) Providing advice to the various undertakings in the economic industrial, commercial or service sectors, both national and private, so that the most up-to-date management methods can be adopted. The Centre is also to supply direct and practical assistance for the solution of organizational and management problems.
- (c) Training and developing directors or heads of firms, top and middle-management levels, as well as supervisors, in modern management methods adapted to their levels and to conditions prevailing in Guinea, this within the scope of their particular undertaking.
- (d) Training and development of accountants, inspectors and specialists in particular in financial management, budgetary control and feasibility and profitability studies, to provide the ministries responsible for national and mixed-economy undertakings with highly qualified management accountants.

Authority: ILO.

Duration: 6 years.

Estimated cost and source of funds: \$1,251,100;

Special Fund allocation: \$1,389,600;

Government counterpart contribution: \$1,103,224.

V.B.11
(1966 CR:V.B.26)

India - IITIE (National Institute for Training in Industrial Engineering)

An extension beyond the present cut-off date has been requested

V.B.11 (cont'd) by the Government and an amendment has been prepared within the provided budgetary resources to extend the project to June 1969.

V.B.12 ILO India - Inter-firm comparison
(1966 CR:V.B.27) Completed March 1967.

V.B.13 ILO Iran - Management development and supervisory training
(1966 CR:V.B.28) The project is continuing satisfactorily.

A new component in the field of small-scale industries has been added, consisting of the following posts: small-scale industry adviser, production engineer, woodworking and a shoe industry adviser. Each post is for a duration of 15 man-months and has been financed by project savings.

V.B.14 ILO Iraq - Management development and supervisory training centre, Baghdad
(1966 CR:V.B.29) The project continues under Phase II.

V.B.15 ILO Kenya - Management training and advisory centre
(1966 CR:V.B.30) Project continuing satisfactorily, with eight experts in the fields of industrial engineering, personnel management, management accounting, office management, marketing and sales, supervisory training and workers' education having been appointed.

V.B.16 ILO Pakistan - Management development and industrial training
(1966 CR:V.B.32) One additional post in the field of supervisory training has been added.

V.B.17 ILO Poland - Training of managerial, specialist and supervisory personnel
(1966 CR:V.B.33) Final report now published.

V.B.18 ILO
(1966 CR:V.B.34)

Republic of Korea - Productivity centre

Completed on 5 August 1967, with one expert (office management) remaining in the post financed from project savings.

V.B.19 ILO
(1966 CR:V.B.35)

Singapore - Productivity centre

V.B.20 ILO
(1966 CR:V.B.36)

Sudan - Management development and productivity centre

V.B.21 ILO
(1966 CR:V.B.37)

Syria - Management development centre

This project experienced serious difficulties following the recent Middle East crisis, but it is assumed that normal project activities will be resumed as replacement experts take up their posts.

V.B.22 ILO
(1966 CR:V.B.38)

United Republic of Tanzania - National Institute of Productivity

V.B.23 ILO
(1966 CR:V.B.39)

Thailand - Management development and productivity centre

The project was completed in June 1967; the final report is now being prepared.

V.B.24 ILO
(1966 CR:V.B.40)

Trinidad and Tobago - Management development and productivity centre

V.B.25 ILO
(1966 CR:V.B.41)

Tunisia - National productivity institute, Tunis

The plan of operation was signed in February 1967 and the project became operational in July.

V.B.26 ILO
(1966 CR:V.B.42)

Turkey - Establishment of the Turkish management development centre

V.B.27 ILO
(1966 CR:V.B.43)

Venezuela - Institute of productivity

V.B.28 ILO

Ethiopia - Management and entrepreneurship training and advisory centre

Establishment of a management and entrepreneurship training and advisory centre in Addis Ababa. Priority will be given to the development of national professional staff so that they may continue to increase the capacity and ability of the centre to achieve its objectives after project personnel have withdrawn.

The objectives of the centre are to foster and facilitate, through direct assistance and extension services, increasingly effective participation by indigenous Ethiopians in the industrial and economic development of their country, with particular emphasis on:

- (a) Practical training and advisory services for Ethiopian entrepreneurs in existing small-scale undertakings;
- (b) Advisory services to credit and development institutions in the evaluation and supervision of loans and other forms of assistance to be extended to small entrepreneurs;
- (c) Management training for Ethiopian managerial staff working in larger enterprises, both public and private, including public services and utilities.

Authority: ILO.

Duration: 5 years.

Approved: June 1967 session of the Governing Council.

Estimated cost and source of funds: \$847,100;

Special Fund allocation: \$942,000;

Government counterpart contribution: \$502,821.

V.B.29 ILO

Hungary - Management development centre

To assist the Government in establishing a National Management Development Centre in Budapest, which will be under the authority of the Ministry of Labour. The activities of the centre will cover the following functions:

- To develop managers of enterprises;
- To develop the methodology and teaching materials for management development;
- To contribute towards improving the work of other institutions training managers;
- To carry out research in the field of management;
- To advise industrial enterprises on how to solve management problems;
- To carry out experimental work and practical demonstrations in collaboration with "pilot" enterprises;
- To create and develop a central information and documentation service in the field of management.

An important element of the project is the installation of a third-generation computer to serve as a medium for training managers and specialists in the use of electronic data processing equipment for management information systems.

Authority: ILO.

Duration: 3 years.

Approved: June 1967 Session of the Governing Council.

Estimated cost and source of funds: \$1,297,300;

Special Fund allocation: \$1,449,800;

Government counterpart contribution: \$4,442,334.

V.B.30 ILO

Romania - Management development centre

To assist the Government to establish a management development centre in Bucharest, which is under the sponsorship of the State Committee for the Organization of Labour, Production and Wages. The principal functions of the centre would be:

The development through courses and projects related to professional knowledge of managerial personnel of enterprises concerning the organization, management and operation of production and work;

V.B.30 (cont'd)

Elaboration of studies and research work, the application of which will result in promoting modern management techniques, and the scientific organization of production work in enterprises, as well as adapting their methods to the requirements and conditions of the country's economy;

Training managerial personnel of enterprises to enable them to acquire the necessary knowledge for utilizing computers in the management of undertakings, and in the organization of production, as well as training specialists in this field;

Training, through specialized courses and practical application, of consultants and specialists having a high level of professional knowledge in the organization of production work.

Authority: ILO.

Duration: 5 years.

Approved: Approved January 1967 session of the Governing Council; project declared operational on 3 July 1967.

Estimated cost and source of funds: \$1,787,900;

Special Fund allocation: \$1,985,900;

Government counterpart contribution: \$4,307,867.

V.B.31 ILO

Thailand - Management consultancy training

To complete the establishment of the Thailand Management Development and Productivity Centre by providing more qualified training for the national staff of the centre, and others, in the field of management consultancy.

Authority: ILO.

Duration: 3 years.

Approved: For submission to the January 1968 session of the Governing Council.

Estimated cost and source of funds:

Special Fund allocation: \$372,400;

Government counterpart contribution: \$212,000.

V.B.32 ILO
(same as IV.A.25)

Jamaica - productivity centre

To assist the Government in the organization and establishment of a National Productivity Centre to serve as a governmental agency for the promotion of productivity improvement in all sectors of the national economy, and assist the Craft Development Agency in its efforts to expand the industries.

Authority: ILO.

Duration : 5 years.

Approved: June 1966 Session of the Governing Council. The plan of operation was signed and the project became operational on 27 December 1966.

Estimated cost: \$868,200;

Special Fund allocation: \$968,200;

Government counterpart contribution: \$1,949,684.

V.B.33 ILO
(same as V.H.7)

United Arab Republic - Productivity and vocational training project

The management development portion of the project has been in operation for many years financed under UNDP/TA. The purpose of the project has been to advise the department of productivity and vocational training of the Ministry of Industry in the application of modern management principles and techniques, as well as techniques for raising productivity and improving the level of skill of the labour force through vocational and supervisory training. Posts in the field of management development include the following: marketing, industrial engineering, operations research, financial control, management control for a total of nine man-years, and the project is now being reoriented towards the training of industrial consultants.

Authority: ILO.

V.B.34 ILO

East Pakistan

A project has been established to assist the Management Institute in Dacca, East Pakistan. The project comprises three ILO experts in the fields of industrial engineering, financial management and marketing research, financed under the UNDP/TA.

V.B.35 UNIDO
(1966 CR:V.B.1)

Review of present quantitative management techniques with a view to possible application in developing countries

An additional paper was prepared in 1967 on the subject of the use of quantitative data for decision-making in industrial enterprises.

V.B.36 UNIDO
(1966 CR:V.B.7)

Recommendations for training and management requirements for plant engineering and maintenance

An additional study was prepared in 1967 on problems of industrial maintenance in the developing countries.

V.B.37 UNIDO
(1966 CR:V.B.8)

Questionnaire on industrial management development in developing countries

Two questionnaires were sent in 1967 to both developed and developing countries and an analytical study was prepared based on the replies.

V.B.38 UNIDO
(1966 CR:V.B.9)

Interregional seminar on the use and application of quantitative techniques by management of industrial enterprises

The interregional seminar on quantitative techniques is planned to be convened in 1968.

V.B.39 UNIDO
(1966 CR:V.B.10)

Interregional seminar on the use and application of quality control

The interregional seminar on quality control is planned for 1968.

V.B.40 UNIDO
(1966 CR:V.B.11)

Workshops for top management of industry in developing countries

An industrial consultation workshop was held in Yugoslavia from 2 - 12 October 1967.

V.B.41 UNIDO
(1966 CR:V.B.47)

Technical assistance to China in the field of industrial management

Technical Assistance was provided to China in the areas of industrial design and quality control in 1967. Recruitment is under way for two experts in the areas of management and general management consultation.

V.B.42 UNIDO
(1966 CR:V.B.48)

Technical assistance to Ghana in the field of industrial management

Four OPEX experts are continuing to provide technical assistance in the field of industrial management to the State Enterprises Secretariat in Ghana. In addition, technical assistance was provided to Ghana in 1967 in managing the following enterprises:

- (a) State Match Corporation, one expert;
- (b) Fibre bag manufacturing corporation, three experts;
- (c) Paper conversion corporation, one expert.

V.B.43 UNIDO
(1966 CR:V.B.50)

Technical assistance to Malaysia in the field of industrial management

A management expert continued to provide advisory services to Malaysia's indigenous enterprises in 1967.

V.B.44 UNIDO

The following field projects were developed in 1967:

| | | <u>1967</u> | |
|------------------------|--|-------------------|-------------|
| | | <u>Man/months</u> | <u>Cost</u> |
| Chile | (130-57) - RP Industrial adviser | 1/6 | 11,000 |
| China (Republic of) | (ED-599/Rev.4) - RP Adviser on quality control | 1/2 | 4,000 |
| China (Republic of) | (29-57/Rev.2) - RP Expert in industrial design | 1/3 | 6,000 |
| Ethiopia | (SIS 67/105 ETH-2) SIS Management accounting expert | 1/6 | 14,000 |

| V.B.44 (cont'd) | | <u>Man/months</u> | <u>Cost</u> \$ |
|-----------------|---|-------------------|-------------------|
| Ghana | (46-61/Rev.1) - RP Technical assistance to Ghana in the field of industrial management | 4/48 | 66,200 |
| Ghana | (SIS 66/2 GHA-2) - SIS Team of three industrial management experts | 3/30 | 40,000 |
| Ghana | (SIS 66/4 GHA-4) - SIS Expert in finance and cost control | 1/3 | 4,650 |
| India | (37-57) - RP Statistical expert | 1/3.5 | 9,000 |
| Indonesia | (43-57) - RP Production engineer | 1/12 | 22,000 |
| Iran | (XBO-713) - RP Industrial marketing specialist | 1/1 | 5,409 |
| Korea | (XBO-66) - RP Quality control expert | 1/12 | 22,000 |
| Malaysia | (19-66/Rev.3) - RP Industrial management expert | 1/12 | 22,000 |
| Singapore | (203-67) - UNDP/TA Senior industrial research adviser | 1/12 | 22,000 |
| Yugoslavia | (SIS 67/202) SIS UNIDO exploratory mission to improve quality control in management, including promotion of exports | 2/1 | 600 |
| Zambia | (139-65) - RP Senior industrial adviser | 1/12 | 22,000 |

C. In-plant training of engineers (including apprenticeship and other training within undertakings)

V.C.1 UNIDO
(1966 CR:V.C.1)

In-plant group training programmes - Ukrainian SSR

An additional in-plant training programme in the iron and steel industry was conducted in the USSR in 1967.

V.C.2 UNIDO
(1966 CR:V.C.2)

In-plant training programme - Sweden

An additional in-plant training programme in the iron and steel industry was conducted in Sweden in 1967.

V.C.3 UNIDO
(1966 CR:V.C.3)

In-plant training programme - Yugoslavia

An in-plant training programme in Yugoslavia was conducted in 1967.

V.C.4 UNIDO
(1966 CR:V.C.4)

In-plant training programme - Poland

An in-plant training programme in Poland was conducted in 1967.

V.C.5 UNIDO
(1966 CR:V.C.5)

In-plant training programme - Italy

Two in-plant training programmes in Italy were conducted in 1967.

V.C.6 UNIDO
(1966 CR:V.C.6)

In-plant training programme - France

An in-plant training programme in France was conducted in 1967.

V.C.7 UNIDO
(1966 CR:V.C.7)

In-plant training programmes

As a result of negotiations with various governments of industrialized countries, it is planned to organize the following in-plant training programmes in 1968:

- Denmark - cement industry;
- Czechoslovakia - diesel oil engines;
- Sweden - electrical industries;
- USSR - iron and steel industries;
- Poland - textile industry.

D. Pre-industrial training and basic pre-employment training

V.D.1 ECA

Co-ordination of offers of bilateral fellowships and scholarships

The co-ordination of offers of bilateral fellowships and scholarships channelled through the ECA for training of Africans in fields essential to rapid development continues to remain an important activity. Of over 30 recipients of such awards in the first 9 months of 1967 20 per cent have pursued their studies and training in fields related to industrial development. Moreover, information on fellowship and scholarship facilities continues to be made available regularly to African governments and industrial institutions through the quarterly issue of the ECA Training Information Notice.

E. Accelerated and other training for adults for employment in industry

No planned or continuing projects reported under this heading.

F. Training of foremen and other first-line supervisors

V.F.1 ECA

Questionnaires aimed at building up a directory of African specialists

Two questionnaires have been prepared and issued to member states. The first was sent to science faculties and technical colleges to ascertain the facilities they offer. One of the objectives of this inquiry is to establish a national basis for requesting the International Association for Exchange of Students for Technical Experience (IAESTE) to arrange exchange programmes for African students during the long vacation. The second questionnaire was sent to institutions of higher education and research in order to obtain information on African specialists by fields or professional specialization and to identify the fields in which African specialists are likely to be available for service where required as consultants to other African countries and interested organizations. With this information it will be possible to build up in due course a directory of African specialists.

G. Training of instructors, training officers and administrators for industrial training

V.G.1 ECA ECA training course for manpower planners and administrators of national training programmes

An important activity during 1967 was the ECA training course for manpower planners and administrators of national training programmes which was held in Dakar, 17 July through 8 September 1967 with the co-operation of UNIDO, ILO, FAO, UNESCO, WHO, IDEP and the USAID. The aim of the course was to train senior officials in the techniques and approaches of determining manpower and training requirements of particular sectors. The UNIDO participants gave course lectures and ran seminars on the industrial sector.

Duration: Dakar, 17 July through 8 September 1967.

V.G.2 ECLA

Training

ECLA does not undertake directly training activities in the field of industry. Nevertheless close contact with the Latin American Institute for Economic and Social Planning is maintained and the staff of ECLA's Industry Division participates actively in the training courses in the field of industry offered by that institute.

H. Vocational training

V.H.1 ILO
(1966 CR:V.H.1)

In research, emphasis was placed by the ILO during the year 1967 on evaluation of various apprenticeship regulations and other in-service training systems with a view to determining the extent to which these are meeting the requirements of the countries concerned and what needs to be done to adapt the systems to changing requirements and, in particular, to make them effective in assisting smaller industries in their development. The most intensive research programme, comprising some ten projects, has been started in Latin America, where the ILO Regional Research Centre - CINTERFOR - has now become a consolidated unit for applied research, working in close co-operation with all the major national vocational training services of the area. Several reports on case studies have been published in 1967 and, in some cases, discussed with a view to exploring the practical implications of the results obtained at seminars and expert group meetings to be convened by the Centre. The studies related to supervisory training in Argentina; apprenticeship in Latin America; technological change and its influence on middle level staff; evaluation of accelerated training in Brazil; financing of vocational training; and the creation of training units in undertakings. Other reports, including studies of youth unemployment and the further education and training of adults, are in preparation.

V.H.2 ILO
(1966 CR:V.H.2)

Vocational training

A gradual extension of this research - in Latin America within the framework of the human resources development plan adopted by the Conference of the American States Members of the ILO at Ottawa in September 1966 - is being planned. Additional case studies have been made in six African and Arab countries. An expert meeting on the planning of vocational training systems was held in late November 1967. A study has been started, jointly with UNESCO, on the training of vocational teachers. Another study (for the UN Centre of Housing, Building and Planning) is under way on the training of personnel for the building construction industry in developing countries.

V.H.3 ILO
(1966 CR:V.H.3)

Vocational training

The integration of the research centre CIRF into the regular activities and budget of the Office has permitted ILO to intensify and somewhat broaden its information activities in the field of vocational training. The periodical publication of CIRF Abstracts, which reports on current developments in vocational training, was continued in 1967. (The sixth volume is now complete.) The bulletin "Training for Progress" in 1967 dealt, inter alia, with training for artisans and small-scale industry in developing countries.

V.H.4 ILO
(1966 CR:V.H.4)

Vocational training

On the basis of the principles laid down in ILO Recommendation No. 117 concerning vocational training and the development of research related to the role of vocational training for workers, supervisors and other technical staff in industrial and other economic development, the Office continued in 1966-1967 its technical co-operation activities at about the same level and along the same general lines of policy as in the past. Research activities have been somewhat broadened, the inter-relationships between human resources development, economic development and vocational training action have been further emphasized, and a beginning has been made towards assessing vocational training requirements in the light of the economic development needs of countries at various stages of economic and educational advance.

V.H.5 ILO
(1966 CR:V.H.5)

Vocational training

The operational activities of the ILO in the field of vocational training relating to industrial trades and activities comprise some 80 projects, implemented by about 250 experts in almost 60 countries.

V.H.6 ILO
(1966 CR:V.H.6)

Vocational and pre-vocational training; advisory services; and multi-trade training of instructors, supervisors and workers

The projects listed below started, continued or were prepared in 1967 for implementation in 1968.

V.H.6 (cont'd)

The projects are listed under five headings according to their major purpose, but it should be noted that many cover more than the area indicated by the headings: for example, many of the projects under heading 3 "Multi-trade training of workers" also include instructor training.

1. Organization and planning of vocational training, advisory services

| | | <u>Number of</u> <u>experts</u> | <u>Number of</u> <u>man-months</u> (used in 1967) |
|--------------------|--|------------------------------------|---|
| <u>Afghanistan</u> | Vocational training adviser | 1 | 2 |
| <u>Algeria</u> | Advisers on human resources planning to the Vocational Training Commissions | 3 | 14 |
| <u>China</u> | Vocational training adviser | 1 | 7 |
| <u>Ceylon</u> | Planning of vocational training | 1 | 12 |
| <u>Ethiopia</u> | Organization of vocational training | 2 | 22 |
| <u>Gabon</u> | Adviser to Ministry of Labour on organization of adult vocational training centres | 1 | 5 |
| <u>Hong Kong</u> | Planning and organization of vocational training | 1 | 8 |
| <u>India</u> | National apprenticeship scheme | 1 | 5 |
| | Organizing training scheme for industrial trades | 4 | 19 |
| <u>Indonesia</u> | Planning and organizing of vocational training for industry | 2 | 6 |
| <u>Iran</u> | Planning of vocational training | 1 | 1 |
| | Planning of training of young workers | 3 | 27 |
| <u>Ivory Coast</u> | Planning and organization of vocational training | 1 | 12 |
| <u>Kenya</u> | Organisation of vocational training | 1 | 5 |

V.H.6 (cont'd)

| | | <u>Number of</u> <u>experts</u> (Used in 1967) | <u>Number of</u> <u>man-months</u> (Used in 1967) |
|--|--|--|---|
| <u>Libya</u> | Training adviser, chief industrial training | 1 | 12 |
| | Organization of national apprenticeship scheme, inplant and supervisory training | 4 | 23 |
| <u>Malagasy Republic</u> | Vocational training scheme | 1 | 2 |
| <u>Malaysia</u> | Vocational training adviser | 1 | 12 |
| <u>Mauritius</u> | National system of vocational and technical education | 4 | 28 |
| <u>Pakistan</u> | Organization of apprenticeship schemes | 3 | 23 |
| <u>Philippines</u> | Vocational training adviser | 1 | 7 |
| <u>Republic of Korea</u> | Vocational training, technical adviser | 3 | 28 |
| <u>Senegal</u> | Planning and organization of vocational training | 1 | 9 |
| <u>Swaziland</u> | Vocational training adviser | 1 | 12 |
| <u>Thailand</u> | Vocational training adviser | 1 | 6 |
| <u>Tunisia</u> | Organization of apprenticeship in undertakings | 1 | 3 |
| <u>Zambia</u> | Organization of vocational training | 2 | 21 |
| <u>2. Multitrade projects: training of instructors and supervisors</u> | | | |
| <u>Cambodia</u> | Training centre for technical and productivity personnel | 3 | 33 |
| <u>Chile</u> | National centre for the training of instructors, foremen and highly skilled personnel (CENFIS) | 8 | 63 |
| <u>China (Taiwan)</u> | National vocational training service for industry - instructor training | 1 | 9 |

V.H.6 (cont'1)

| | | <u>Number of</u> <u>experts</u> (used in 1967) | <u>Number of</u> <u>man-months</u> (used in 1967) |
|---|--|--|---|
| <u>Democratic Republic of Congo</u> | National Institute of Vocational Training | 14 | 154 |
| <u>Greece</u> | Training of technical instructors for adults' vocational training centres and undertakings | 3 | 30 |
| <u>India</u> | Two central instructor training institutes | 6 | 24 |
| <u>Iran</u> | Instructor and foreman training institute | 9 | 46 |
| <u>Morocco</u> | National institute for training instructors and technical staff | 12 | 133 |
| <u>Nigeria</u> | Instructor and foreman training for industry and training centres | 2 | 13 |
| <u>Pakistan</u> | Instructor training centre | 1 | 6 |
| <u>Uruguay</u> | Instructor training institute of the Worker University of Uruguay | 5 | 31 |
| 3. <u>Multitrade projects: training of workers</u> | | | |
| <u>Algeria</u> | National institute for adult vocational training | 16 | 164 |
| <u>Argentina</u> | Adult vocational training | 2 | 20 |
| <u>Chad</u> | Vocational training of village artisans | 1 | 12 |
| <u>Colombia</u> | National vocational training service (SENA) | 7 | 61 |
| <u>Democratic Republic of Congo</u> | Reorganization and training in the workshops of the Central Mechanization Service | 6 | 72 |
| <u>Costa Rica</u> | National Apprenticeship Institute (INA) | 2 | 7 |
| <u>CYPRUS</u> | Vocational training development and supervisory training | 7 | 57 |

V.H.6 (cont'd)

| | | <u>Number of</u> <u>centres</u> (used in 1967) | <u>Number of</u> <u>man-months</u> |
|---------------------------------|---|--|---------------------------------------|
| <u>Greece</u> | Vocational training of workers and monitors | 4 | 38 |
| <u>India</u> | Upgrading training in tool and die industry | 1 | 7 |
| <u>Kuwait</u> | Pilot centre for the vocational training of adult workers | 3 | 14 |
| <u>Malaysia</u> | Trade training | 1 | 12 |
| <u>Mexico</u> | National service for the accelerated training of industrial manpower (ANMO) | 8 | 48 |
| <u>Nepal</u> | Vocational training in metal trades | 1 | 12 |
| <u>Pakistan</u> | Engineering unit | 2 | 12 |
| <u>Peru</u> | National vocational training service for industry (SEMATI) | 2 | 24 |
| <u>China</u> <u>(Taiwan)</u> | Auto technician and instructor training centre | 3 | 16 |
| | Metal industries development centre | 5 | 53 |
| <u>Ecuador</u> | Training in rural artisan trades (Andean Programme) | 1 | 12 |
| <u>El Salvador</u> | Vocational training for the building industry | 2 | 18 |
| <u>Iraq</u> | Mechanical maintenance | 1 | 4 |
| <u>Lebanon</u> | Vocational training in cartography | 1 | 12 |
| <u>Lebanon</u> | Vocational training in general mechanics | 1 | 3 |
| <u>Pakistan</u> | Vocational training for marine diesel centre | 1 | 7 |
| <u>Peru</u> | Training in rural artisan trades (Andean Programme) | 1 | 12 |
| <u>Sierre Leone</u> | Vocational training in building trades | 1 | 3 |

V.H.6 (cont'd)

| | | <u>Number of experts</u> (used in 1967) | <u>Number of man-months</u> |
|---------------------|--|--|---------------------------------|
| <u>Sudan</u> | Pilot training centre for maintenance personnel for earth moving equipment | 1 | 4 |
| <u>Saudi Arabia</u> | Vocational training in industrial building and electrical trades | 16 | 173 |
| <u>Syria</u> | Vocational training in metal, building and printing trades | 2 | 15 |
| <u>Togo</u> | Interplant centre for further training | 2 | 18 |
| <u>Tunisia</u> | National institute for vocational training and further training | 14 | 119 |
| <u>Turkey</u> | In-service vocational training and further training in industry | 5 | 40 |
| <u>UAR</u> | Upgrading training in several trades | 3 | 27 |
| | 4. <u>Sectoral projects</u> | | |
| <u>Bolivia</u> | Training in rural artisan trades (Andean Programme) | 1 | 12 |
| <u>Botswana</u> | Training in electrical trades | 1 | 12 |
| <u>Cambodia</u> | Vocational training of automobile mechanics | 1 | 12 |
| <u>UAR</u> | Vocational training for Egyptian Railways | 2 | 16 |
| | Electrical Power Institute | 1 | 12 |
| <u>Yugoslavia</u> | Training centre for building construction personnel | 7 | 53 |
| | 5. <u>Prevocational training</u> | | |
| <u>Algeria</u> | Prevocational training | 1 | 6 |
| <u>Pakistan</u> | Prevocational training | 1 | 9 |
| <u>Tunisia</u> | Pre-apprenticeship for girls | 1 | 12 |
| | Prevocational training in the coastal areas | 1 | 2 |
| <u>UAR</u> | Prevocational training | 1 | 12 |

V.H.7 ILO

U.A.R.- Productivity and vocational training

The management development portion of this project has been in operation for many years financed under UNDP/TA. The purpose of the project has been to advise the Department of Productivity and Vocational Training of the Ministry of Industry in the application of modern management principles and techniques, as well as in techniques for raising productivity and improving the level of skill of the labour force through vocational and supervisory training. Posts in the field of management development include the following: marketing, industrial engineering, operations research, financial control, management control for a total of 9 man-years. The project is now being re-oriented towards the training of industrial consultants.

I. Training of skilled and unskilled labour

No planned or continuing projects reported under this heading.

J. Upgrading and training for promotion

No planned or continuing projects reported under this heading.

K. Educational activities closely related to industry including educational planning for industry

V.K.1. ECA

Study to identify manpower requirements for the implementation of various industrial development projects

Work has been initiated to identify manpower requirements for the implementation of various industrial development projects which the ECA has identified in the various sub-regions. The study has as its objectives the identification of the type, level and magnitude of the requirements of trained manpower for industrial development and the evaluation of the potential of African educational systems and training programmes in meeting these requirements, both on national and multi-national levels.

V.K.2 UNESCO

Algeria - training of civil and electrical engineers at the University of Algiers

To train civil and electrical engineers to meet demands created by economic development in Algeria.

Estimated cost: Total costs for the five-year period (1963-1968) are estimated at \$4,266,012 which includes the Special Fund allocation of \$1,081,143 and a government contribution of \$3,184,869.

V.K.3 UNESCO

Algeria - training of engineers at the University of Algiers

The University of Algiers is being expanded to include courses in mechanical, chemical and industrial engineering.

Estimated cost: Total costs for the five-year period (1965-1969) are estimated at \$5,547,014, which includes the Special Fund allocation of \$991,300 and a government contribution of \$4,555,714.

V.K.4 UNESCO

Argentina - petroleum institute

A project to establish facilities for research and training of technical personnel for the Argentine petroleum industry.

Estimated cost: Total costs for the entire 5-year duration (1966-1972) are estimated at \$5,179,800 which include Special Fund allocation of \$1,110,100 and a government contribution of \$4,069,700.

- V.K.5 UNESCO Brasil - teaching of technology, University of Brasilia
A project assisting in the establishment and initial operation of the Central Science Institutes for Mathematics, Physics and Chemistry and in preparatory work for the establishment of the Faculty of Technology at the University of Brasilia. Total costs for the 4-year period (1965-1969) are estimated at \$8,835,483, which includes Special Fund allocation of \$1,234,571 and a government contribution of \$7,600,912.
- V.K.6 UNESCO Cambodia - National School for Public Works, Building and Mining, Phnom Penh
An extension of an existing institution to increase its output of engineers, technicians, draughtsmen and operators. Total costs for the 5-year period (1964-1969) are estimated at \$2,229,635 which includes the Special Fund allocation of \$688,143, and a government contribution of \$1,541,492.
- V.K.7 UNESCO Ceylon - Ceylong College of Technology, Colombo
An expansion of the programme and facilities of the Ceylon Technical College to provide training for technicians and engineers in civil, electrical and mechanical engineering. Total costs for the 6-year period (1965-1972) are estimated at \$4,084,104, which includes the Special Fund allocation of \$1,514,475 and a government contribution of \$2,569,629.
- V.K.8 UNESCO
(1966 CR:V.K.12) Chile - Faculty of engineering, University of Concepción
A project has been established to improve and expand the facilities of the departments of chemical and mechanical engineering of the University of Concepcion as well as those of Polytechnic School and the Institute of Technological Research, affiliated with the University. Total costs for the entire 5-1/2 year duration (1962-1967) are estimated at \$2,067,701, which includes the Special Fund allocation of \$1,089,723 and a Government contribution of \$977,978.

- V.K.9 UNESCO Chile - Naval construction training and research centre, Valdivia
This is a project to improve professional education and research in construction of fishing and other commercial vessels.
Estimated cost: Total costs for the entire 3-year period (1967-1970) are estimated at \$1,661,100, which includes the Special Fund allocation of \$622,400 and a government contribution of \$1,038,700.
- V.K.10 UNESCO (1966 CR:V.K.13) Colombia - Industrial University of Santander, Bucaramanga
Expansion and improvement of an existing institution designed to upgrade the quality of instruction, curriculum and research.
Estimated cost: Total costs for the entire 5-1/2 year duration (1962-1968) are estimated at \$7,715,582 which includes the Special Fund allocation of \$1,433,336 and a government contribution of \$6,282,246.
- V.K.11 UNESCO (1966 CR:V.K.14) Colombia - School of Engineering, National University Bogotá
Estimated cost: Total costs for the entire 5-year duration (1964-1970) are estimated at \$1,906,738 which includes the Special Fund allocation of \$561,388 and a government contribution of \$1,345,350.
- V.K.12 UNESCO Cuba - Faculty of Technology, University of Havana
A strengthening and expansion of facilities for training engineers and architects at the Faculty of Havana.
Estimated cost: Total costs for the entire 5-year duration (1966-1970) are estimated at \$25,436,700 which includes the Special Fund allocation of \$1,799,800 and a government contribution of \$23,636,900.
- V.K.13 UNESCO (1966 CR:V.K.31) Democratic Republic of Congo - National Institute of Building and Public Works, Leopoldville
Estimated cost: Total costs for the 6-year period (1963-1969) are estimated at \$4,824,830, which includes the Special Fund allocation of \$1,078,771 and a government contribution of \$3,746,059.

V.K.14 UNESCO
(1966 CR:V.K.32)

Democratic Republic of Congo - National Mining Institute
Bukavu

Estimated cost: Total costs for the 6-year period (1964-1970) are estimated at \$9,515,185, which includes the Special Fund allocation of \$1,423,695 and a government contribution of \$8,091,490.

V.K.15 UNESCO
(1966 CR:V.K.15)

Ecuador - National Polytechnic School, Quito

Estimated cost: Total costs for the 6-year period (1962-1968) are estimated at \$4,012,588, which includes the Special Fund allocation of \$1,438,005 and a government contribution of \$2,574,583.

V.K.16 UNESCO
(1966 CR:V.K.27)

Fine Instruments Centre, Seoul, Republic of Korea

V.K.17 UNESCO

India - Assistance to six regional engineering colleges

A project intended to implement, develop, and improve the programme of instruction at the regional engineering colleges located at Bangalore, Nagpur, Bhopal, Jamshedpur, Allahabad and Durgapur.

Estimated cost: Total costs for the 3-year period (1966-1969) are estimated at \$16,666,771 which includes the Special Fund allocation of \$2,011,488 and a government contribution of \$14,655,283.

V.K.18 UNESCO

India - National Institute of Foundry and Forge Technology at Ranchi, Bihar

This is an institute providing specialized training facilities in foundry and forge technology for foremen, technical instructors, technicians and engineers.

Estimated cost: Total costs for the 5-year period (1965-1971) are estimated at \$3,319,805, which includes the Special Fund allocation of \$786,605 and a government contribution of \$2,533,200.

- 7.K.19 UNESCO India - Refining and Petrochemical Division, Indian Institute of Petroleum, Dehra Dun
- This project is intended to strengthen the Refining Division and establish a petro-chemical division at the Indian Institute of Petroleum for the purpose of providing training and research in petroleum refining and in petro-chemical production and utilization. Total costs for the 4-year duration (1966-1970) are estimated at \$2,456,350, which includes the Special Fund allocation of \$1,121,650 and a government contribution of \$1,334,700.
- 7.K.20 UNESCO India - Teacher training for engineering colleges, Warangal
- Expansion of an existing institution to provide a training centre for teachers of eight regional engineering colleges, and also (1) to improve academic standards, and (2) to develop new specialized fields of study. Total costs for the 5-year duration (1964-1969) are estimated at \$10,379,953, which includes the Special Fund allocation of \$1,706,226 and a government contribution of \$8,673,727.
- 7.K.21 UNESCO Iraq - Petroleum Institute, Baghdad
- An institute to carry out research, provide post-graduate training for engineers and train technicians for the petroleum industry, and to strengthen and improve the training of petroleum and chemical engineers at the University of Baghdad. Total costs for the entire 5-year period (1965-1970) are estimated at \$2,900,551, which includes the Special Fund allocation of \$896,800 and a government contribution of \$2,003,751.
- 7.K.22 UNESCO Iraq - Technical Training Institute, Baghdad
- This is a project to establish an institute at post-secondary level to train technicians for industry and Government services, as well as teachers for vocational and technical schools.
- Estimated cost: Total costs for the entire 8-year duration (1961-1968) are estimated at \$5,177,630, which includes the Special Fund allocation of \$1,158,963 and a Government contribution of \$4,018,667.

V.K.23 UNESCO
(1966 CR:V.K.17)

Kenya - Faculty of Engineering, University College, Nairobi

Estimated cost: Total costs for the 5-year period (1963-1968) are estimated at \$3,208,010, which includes the Special Fund allocation of \$728,468 and a government contribution of \$2,479,542.

V.K.24 UNESCO
(1966 CR:V.K.18)

Kenya - Kenya Polytechnic, Nairobi

An institute to train technicians, and operating and maintenance engineers in the field of civil, electrical and mechanical engineering.

Estimated cost: Total costs for the 6-year period (1963-1969) are estimated at \$3,903,800, which includes the Special Fund allocation of \$1,317,050 and a government contribution of \$2,586,750.

V.K.25 UNESCO

Libya - College of Advanced Technology

An institute training university-level graduates in mechanical, civil, and electrical engineering, also in food technology.

Estimated cost: Total costs for the 7-year period (1961-1968) are estimated at \$7,919,889, which includes the Special Fund allocation of \$1,140,246 and a government contribution of \$6,779,643.

V.K.26 UNESCO

Malta - Malta Polytechnic Institute

This is a project to assist in establishing a Polytechnic Institute by providing experts for the seven technical departments and equipment.

Estimated cost: Total costs for the 5-year period (1961-1967) are estimated at \$2,910,029, which includes the Special Fund allocation of \$607,870 and a Government contribution of \$2,302,159.

V.K. 27 UNESCO
(1966 CR:V.K. 24)

Malaysia - Faculty of Engineering, University of Malaya,
Kuala Lumpur

Estimated cost: Total costs for the 4-year period (1965-1970) are estimated at \$2,877,718, which includes the Special Fund allocation of \$689,150 and a government contribution of \$2,188,568.

V.K. 28 UNESCO

Mexico - National Centre for Technical Teacher-Training,
Mexico City

The centre has the objective of training instructors and teachers for intermediate and specialized technical teaching institutions, and improving the teaching methods and curricula for such institutions.

Estimated cost: Total costs for the 5-year period (1962-1968) are estimated at \$7,091,480, which includes the Special Fund allocation of \$933,820 and a government contribution of \$6,157,660.

V.K. 29 UNESCO

Mexico - Centre for Training Graduate Engineers and Professors
of Engineering, Science and Technology, Mexico City

This is a 5-year project whose purpose is to assist the Government in strengthening the National Polytechnic Institute at Mexico City to train undergraduate and graduate-level engineers for industry and professors for the country's institutes of science and engineering.

Estimated cost: Total costs for the 5-year period (1966-1971) are estimated at \$14,883,000, which includes Special Fund allocation of \$1,934,000 and a government contribution of \$12,949,000.

V.K. 30 UNESCO

Mongolia - Polytechnic Institute, Ulan-Bator

This is a 5-year project whose purpose is to assist the Government in the establishment and initial operation of the Institute in training highly qualified teaching personnel, developing the curricula and improving the teaching methods on a continuing basis, and building up modern laboratory facilities.

Estimated cost: Total costs for the 5-year period (1966-1972) are estimated at \$13,683,300, which includes the Special Fund allocation of \$1,883,300 and a Government contribution of \$11,800,000.

V.K. 31 UNESCO
(1966 CR:V.K. 19)

Nigeria - Faculty of Engineering, University of Lagos

A faculty for the training of civil, electrical and mechanical engineers.

Estimated cost: Total costs for the 5-year period (1964-1968) are estimated at \$6,519,296, which includes the Special Fund allocation of \$1,160,744 and a government contribution of \$5,358,552.

V.K. 32 UNESCO
(1966 CR:V.K. 30)

Pakistan - Chittagong Polytechnic Institute, East Pakistan

Estimated cost: Total costs for the 4-year period (1963-1967) are estimated at \$3,795,968, which includes the Special Fund allocation of \$839,893 and a government contribution of \$2,956,075.

V.K. 33 UNESCO
(1966 CR:V.K. 25)

Pakistan - Training of engineering and other technical personnel in West Pakistan

This is a project directed towards up-grading engineering education to professional level in two technical institutes in West Pakistan, also improving training in institutions operating on a lower level. Total costs for the 6-year period (1961-1967) are estimated at \$3,510,317, which includes the Special Fund allocation of \$2,263,947 and a government contribution of \$1,246,370.

V.K. 34 UNESCO
(1966 CR:V.K. 16)

Peru - School of Technology, National Engineering University, Lima

This is an institution providing post-secondary training leading to the diploma of "Technical Engineer" in mechanical engineering, electrical engineering and chemical (process) engineering.

Estimated cost: Total costs for the 5-year period (1963-1968) are estimated at \$2,802,576, which includes the Special Fund allocation of \$1,078,171 and a government contribution of \$1,724,405.

- V.K. 35 UNESCO Regional - West Indies - Faculty of Engineering, University College of the West Indies
The faculty trains civil, mechanical and electrical engineers.
Estimated cost: Total costs for the entire 5-year duration (1964-1968) are estimated at \$1,568,635, which includes the Special Fund allocation of \$964,818 and a government contribution of \$603,817.
- V.K. 36 UNESCO Saudi Arabia - College of Engineering, Riyadh
This is an institute training mechanical, electrical and civil engineers, also providing vocational and technical courses.
Estimated cost: Total costs for the 5-year period (1962-1968) are estimated at \$5,651,856, which includes the Special Fund allocation of \$927,619 and a government contribution of \$4,724,237.
- V.K. 37 UNESCO Spain - Higher Mining Engineering School, Oviedo
This is a 5-year project whose purpose is to assist the Government in strengthening and expanding the undergraduate programme of the Higher Mining Engineering School, and to establish there a graduate school of engineering education.
Estimated cost: Total costs for the 5-year period (1966-1972) are estimated at \$3,966,900, which includes the Special Fund allocation of \$1,320,900 and a government contribution of \$2,646,000.
- V.K. 38 UNESCO Syria - Technological Institute, Damascus
An institute training physical, mechanical, production and electrical engineers to meet the needs of local industry and public services.
Estimated cost: Total costs for the 5-year period (1963-1968) are estimated at \$3,337,761, which includes the Special Fund allocation of \$1,076,489 and a government contribution of \$2,261,272.

V.K.39 UNESCO

Syria - Faculty of Engineering, University of Damascus
(training of Engineers at the University of Damascus)

A faculty training civil engineers.

Estimated cost: Total costs for the 5-year period (1963-1968) are estimated at \$3,606,516, which includes the Special Fund allocation of \$733,055 and a government contribution of \$2,873,461.

V.K.40 UNESCO

Thailand - Thonbury Technical Institute

An institute training electrical, mechanical and science engineers to meet the needs of industry and government services.

Estimated cost: Total costs for the 5-year period (1963-1968) are estimated at \$2,771,463, which includes the Special Fund allocation of \$1,033,246 and a government contribution of \$1,738,217.

V.K.41 UNESCO
(1966 CR:V.K.21)

College of Advanced Technology, Tripoli

V.K.42 UNESCO
(1966 CR:V.K.)

Turkey - Faculty of Engineering, Middle East Technical University, Ankara

An institution training chemical, electrical, mechanical and mining engineers at the Faculty of Engineering.

Estimated cost: Total costs for the 5-year period (1965-1970) are estimated at \$6,327,659, which includes the Special Fund allocation of \$1,476,700 and a government contribution of \$4,850,959.

V.K.43 UNESCO
(1966 CR:V.K.20)

Uganda - Uganda Technical College

This institution also provides training in the fields of mechanical, electrical and civil engineering, also telecommunications, applied chemistry and ceramics.

Estimated cost: Total costs for the 6-year period (1962-1968) are estimated at \$5,145,805, which includes the Special Fund allocation of \$1,171,100 and a government contribution of \$3,974,705.

V.K.44 UNESCO

United Arab Republic - Mansoura Polytechnic Institute for Higher Education

An institute providing courses for the training of practical engineers, teachers for vocational schools, technicians and other specialists for industry, agriculture and government services in these fields.

Estimated cost: Total costs for the 5-year period (1964-1969) are estimated at \$3,161,543, which includes the Special Fund allocation of \$816,543 and a government contribution of \$2,345,000.

V.K.45 UNESCO

United Arab Republic - Institute of Petroleum and Mining Engineering, Suez

An institute training technical personnel in the fields of petroleum and mining engineering.

Estimated cost: Total costs for the 6-year period (1965-1970) are estimated at \$2,208,607, which includes the Special Fund allocation of \$860,660 and a government contribution of \$1,347,947.

V.K.46 UNESCO

Venezuela - National Polytechnic, Barquisimeto

An institute providing courses for the training of intermediate level electrical and mechanical engineers.

Estimated cost: Total costs for the 5-year period (1963-1968) are estimated at \$7,523,406, which includes the Special Fund allocation of \$1,255,864 and a government contribution of \$6,267,542.

V.K.47 UNESCO

Venezuela - School of Industrial Engineering, Central University, Caracas

An institute for the training of mechanical, chemical and electrical engineers to provide industry and the government with specialized technicians.

Estimated cost: Total costs for the 5-year period (1963-1968) are estimated at \$8,125,317, which includes the Special Fund allocation of \$1,020,297 and a government contribution of \$7,105,020.

- V.K. 48 UNESCO Viet-Nam - National Technical Centre, Phu-Tho (Saigon)
A centre training electrical, civil and marine engineers, also technicians in electronics.
Estimated cost: Total costs for the 5-year period (1966-1971) are estimated at \$3,757,210, which includes the Special Fund allocation of \$1,273,710 and a government contribution of \$2,483,500.
- V.K. 49 UNESCO (1966 CR:V.K.9) Training course in welding for technicians from the English-speaking countries of Africa
- V.K. 50 UNIDO (1966 CR:V.K.6) Studies of managerial and technical personnel requirements in selected industries
These studies were submitted for publication in 1967 as No. 2 in the "Training for Industry Series" under the title "Estimation of Managerial and Technical Personnel Requirements in Selected Industries".
- V.K. 51 UNIDO (1966 CR:V.K.7) Interregional working party on training of economic administrators of the developing countries in industrial development
The report of the interregional working party and the paper prepared for the meeting were submitted for publication in 1967 as No. 1 in the Training for Industry series under the title "Training of Economic Administrators in Industrial Development".
- V.K. 52 UNIDO (1966 CR:V.K.33) Fellowship programme
UNIDO provided substantive services for about two hundred individual fellowships awarded in 1967 in various fields of industrial development.
- V.K. 53 UNIDO Training programme for industrial administrators in the Africa region
UNIDO seconded an expert to lecture at the course for African Government officials organized in Dakar by the United Nations African Institute for Economic Development and Planning and

V.K.53 (cont'd) the Economic Commission for Africa.

Duration: 1967.

V.K.54 UNIDO Paper on co-operation with leading universities in industrialized countries

This paper explores ways and means of co-operating with leading universities in the industrialized countries.

Duration: 1967.

V.K.55 UNIDO/ILO Manpower

Preparation of a general discussion paper and four working papers, jointly with the ILO, for the manpower item on the agenda of the International Symposium on Industrial Development.

Duration: 1967.

CHAPTER VI

IRON AND STEEL

- VI.1 ECA Feasibility study on the iron and steel industry in Liberia
A feasibility study on the iron and steel industry in Liberia sponsored by the Special Fund is being undertaken and ECA has provided background documents and a part of the initial briefings.
- VI.2 ECA Iron and steel - Central African sub-region
Another study on the iron and steel industry is due to be completed in 1968 for the Central African sub-region.
- VI.3 ECA Study on the developments of the iron and steel industry
ECA has under preparation a study on the development of the iron and steel industry which will form part of a report on industrialization and economic co-operation in the North African sub-region.
- VI.4 ECA Technical assistance - Cairo
An ECA team of two staff members visited Cairo in October 1967 to assist the General Organization for Industrial Development in preparing a study on iron and steel in the UAR.
- VI.5 ECAFE Iron and Steel Survey Mission - AIDC
The main objective of the Mission was to examine a possibility of harmonizing national plans for the co-ordinated development of the iron and steel industry. The Mission visited China (Taiwan), the Philippines, Malaysia, Singapore, Indonesia and Thailand.
The findings of the Mission include:
- specific suggestion for the establishment of rolling mills for billets, slabs, plates and sheets on joint venture basis;

- the need for organizing a pre-investment study group for further investigation and study of the economic aspects of the proposed regional steel plants;
- the need for establishing a permanent joint organization called the Southeast Asia Iron and Steel Institute or Bureau for facilitating exchange of information and for co-ordinating research on common problems;
- the desirability of the countries concerned to meet and discuss early how best to initiate further action;
- the desirability of joint research on utilization of non-coking coals for metallurgical purposes as well as the laterite and titanium containing iron sand for the economic production of iron and steel in the sub-region.

Authority: ECAFE work programme.

Duration: July 1967.

VI.6 ECAFE

Regional co-operation - integration of steel production in some of the less developed countries of the ECAFE region

The ECAFE secretariat prepared the document "Regional Co-operation - Integration of Steel Production in some of the less Developed Countries of the ECAFE region" (E/CN.11/I&NR.Sub.2/L.38), for the 11th session of the Metals and Engineering Sub-Committee held in Australia September 1967. This study presents various factors for integrating steel production facilities for setting up integrated steel complexes within the region.

Authority: Metals and Engineering Sub-Committee, 11th session, September 1967.

Duration: September 1967, Australia.

VI.7 ECAFE

Review of the iron and steel industry in the ECAFE region

The ECAFE secretariat prepared the document entitled "Review of the Iron and Steel Industry in the ECAFE Region" (E/CN.11/I&NR/Sub.2/L.37), for the 11th session of the Metals and Engineering Sub-Committee held in Australia September 1967. The study reviews the five year period of 1960-1965 in the development of iron and steel industry in the ECAFE region.

Authority: Metals and Engineering Sub-Committee, 11th session, September 1967.

Duration: September 1967.

- VI.8 ECE
(1966 CR:VI.A.5) Long-term trends in the competitive use of steel in comparison with other materials
Authority: Steel Committee, twenty-sixth session, September 1961.
- VI.9 ECE
(1966 CR:VI.A.6) Economic aspects of continuous casting of steel
A study on the economic aspects of continuous casting of steel which permits semi-finished steel to be produced without a number of intermediary and costly operations. The secretariat is revising the final draft of the study in the light of comments received to prepare it for publication.
Duration: It is expected that the study will be completed in the beginning of 1968.
- VI.10 ECE
(1966 CR:VI.A.7) The world market for iron ore
It will contain a discussion of prospects for the world market for iron ore in the years 1970, 1975 and 1980. These parts, and the work to be undertaken on the remainder of the study, were discussed in detail by the third and fourth meetings of the ad hoc Group of Rapporteurs on the World Market for Iron Ore, which met in January and October 1967. At present the Secretariat is preparing the study for publication.
Duration: It is expected that the study will be published in the course of 1968.
- VI.11 ECE
(1966 CR:VI.A.8) World trade in steel and steel demand in developing countries
The ad hoc Group of Rapporteurs at its first meeting in November 1965 agreed on an outline and methods of work for the implementation of the study. A second and a third meeting to discuss a first and a revised draft were held in January and July 1967. The Secretariat is at present preparing the study for publication.
Duration: It is expected that the study will be published in the course of 1968.

VI.12 ECE
(1966 CR:VI.A.9)

Productivity in the iron and steel industry

A report on international comparison of labour productivity in the iron and steel industry was prepared pursuant to the guidelines given by the ad hoc Meeting of Experts on Productivity. The study was circulated to Governments for comments and was published during 1967.

In 1966 the Steel Committee started a study dealing with factors affecting labour productivity in the iron and steel industries of the participating countries. Country studies were prepared, and the draft of a general survey of factors affecting labour productivity in the iron and steel industry was considered at a meeting of experts on productivity in the iron and steel industry in October 1967. A revised draft will be prepared for another meeting in 1968.

Duration: It is expected that the general report as well as the country studies will be published during 1968.

VI.13 ECE
(1966 CR:VI.A.10)

Automation in the iron and steel industry

A draft of a new review entitled "Economic Aspects of Computer Control of the Oxygen Steelmaking Progress" was reviewed by the Steel Committee in October 1967 and will be revised in the light of comments received.

Duration: It is expected that the report will be published in 1968.

VI.14 ECE
(1966 CR:VI.A.11)

Economic aspects of iron ore preparation

This study was published in 1966.

VI.15 ECE
(1966 CR:VI.A.12)

Review of the European steel market

The provisional version for 1966 has been reviewed by the Working Party of the European Steel Market at its 1967 session, as well as by the Steel Committee in October 1967. It will be revised in the light of comments received. The final report on 1966 will be published at the end of 1967.

VI.16 ECE

Problems relating to iron and steel scrap

A study analysing past and present developments in scrap consumption and supply and assessing the future demand-supply situation. The study will contain a description of consumption of scrap in individual sectors of the iron and steel industry and its relation to pig-iron use; of economic and technical factors influencing the volume and quality requirements of scrap consumed; of economic and technical factors affecting the quantity and the quality of scrap consumed; of economic and technical factors affecting the quantity and the quality of scrap consumed; of economic and technical factors affecting the quantity and quality of scraps arising and methods for improving their suitability; and of international scrap trade and problems of regional scrap supply and related questions. At a first meeting in October 1967 an Ad hoc Group of Experts on Scrap agreed upon an outline of the study as well as on a questionnaire and methods of work. A first draft of the report will be considered at a second meeting of the Group in October 1968.

Authority: Steel Committee, thirty-fourth session, September 1966.

Duration: It is expected that the study will be published in 1969 or 1970.

VI.17 ECE

Trends in new uses of iron and steel products

A study analysing the developments in new uses and new requirements of iron and steel products in various consuming sectors, the development of production technology and resulting properties, problems of promoting new uses of iron and steel products and an assessment of future trends and possibilities. At a first meeting in June 1967, a Group of Experts on New Uses of Steel agreed upon an outline of the study and on methods of work. A first draft of the report will be considered at a second meeting of the Group in June 1968.

Authority: Steel Committee, thirty-fourth session, September 1966.

Duration: It is expected that the study will be published in 1969.

- VI.18 ECLA Study of the economies of steel-making in Latin America
With the completion of the above study during 1966, follow-up work has concentrated in preparing an outline for the prospects of the steel industry in the relatively less developed countries in the Latin American region. It is expected that work will be initiated in the Central American region. A proposal was prepared for "A Latin American Centre for Iron and Steel Research" which is being circulated to organizations and institutions for comments before finalizing a definitive version.
Authority: ECLA 127 (VII).
Estimated cost: 8 man-months approximately in 1967.
- VI. 19 ECLA Study on sources of supply of pig-iron in Latin America
An outline has been prepared for the study of pig-iron for casting of parts for the mechanical industry. However, field work on this project has been delayed owing partly to the diversion of resources to other projects.
Authority: ECLA 127 (VII).
Estimated cost: 6 man-months approximately in 1967.
- VI.20 IAEA Study group on impregnated fibrous materials
A study Group in Bangkok, 20-24 November 1967, discussed both the technical and economic developments in radiation polymerization of monomers impregnated in fibrous material. Special interest was evidenced in the use of the process for making building materials from waste products; e.g. bagasse board, bamboo chip board. (Reports were presented from Australia, China, Finland, Hungary, India, Japan, Korea, Pakistan, the Philippines, Sweden, Thailand, the United Kingdom, USA, Viet-Nam, the United Nations Food and Agriculture Organization and the United Nations Economic Commission for Asia and the Far East.) The meeting was successful in co-ordinating research work in this field throughout the world and in accumulating statistics on resources and potential. In particular, it was decided that test buildings should be constructed using the new materials immediately to facilitate long-term weathering tests.
Duration: 20-24 November 1967.

VI.21 UNIDO
(1966 CR:VI.A.14)

Iron and steel manual

The manual will be completed by October 1968 and presented at the Second Iron and Steel Symposium.

VI.22 UNIDO
(1966 CR:VI.A.15)

Situation, problems and prospects of main industrial sectors

The Industry Sector Development Unit of the Technological Division will carry on as a continuing activity the organization of collection, analysis and periodic publication of basic industrial data relating to key industrial sectors, branches or limited product groups in developing countries. Such reports will be commissioned to appropriate organizations and institutions in developed countries, possibly also selected in the developing regions themselves. The Unit plans to organize expert group meetings and seminars to consolidate actual data, experience and information in a synoptic way suitable for publication so as to help UNIDO technical staff and governments to make decisions concerning the expansion of selected industry sectors.

Estimated cost and source of funds: The estimated costs in consulting services is \$10,000, to be financed under UNIDO's regular budget.

VI.23 UNIDO
(1966 CR:VI.A.18)

Second Iron and Steel Symposium

The iron and steel symposium which has been planned for some time will take place in September 1968.

VI.24 UNIDO

Mission to Mexico

A staff member participated in a technical assistance evaluation mission in Mexico City. The objective of the mission was to evaluate the application of chemical engineering process techniques to the reduction of iron ore to sponge iron. The mission was undertaken at the request of the Governments of Iran and Gabon which has under consideration a proposal for establishing a plant using the above technique. A report has been submitted to the Government of Iran and information concerning feasibility of the process has been passed to the Government of Gabon.

VI.25 UNIDO The following field projects were developed in 1967:

| | <u>1967</u> <u>Man/months</u> | <u>Cost</u> <u>\$</u> |
|--|----------------------------------|--------------------------|
| Bulgaria (269-65) - UNDP/TA Expert on automation processes of copper ore | 1/2 | 3,600 |
| Bulgaria (236-67) - UNDP/TA Electronics engineer | 1/6 | 8,800 |
| Dominican Republic (194-60/Rev.2) - UNDP/TA Expert on iron and steel industry | 1/12 | 24,000 |
| Iran (SIS 67/81) - SIS Four-man mission from Iran visited Mexico to study the HYL natural gas reduction process for sponge iron production and its industrial application to Iran | 3/2 | 2,200 |
| Iran (220-57) - UNDP/TA Expert evaluated existing industry development programme | 1/4 | 8,000 |
| Jordan (SIS 66/12 JOR-1) - SIS - Expert on electrical smelting of steel scrap and rolling of steel billets | 1/8 | 47,000 |
| Korea (60-57) - UNDP/TA Expert in foundry and metal corbing | 1/12 | 22,000 |
| Korea (60-57/Rev.2) - UNDP/TA Electrical and electronic equipment expert | 1/10 | 18,000 |
| Liberia (SIS 66/26 LIBE-1) - SIS Consulting firm to undertake techno-economic study of possible sources of financing for an integrated iron and steel plant | Consulting firm | 110,000 |
| Liberia (SIS 67/64 LIBE-2) SIS Adviser for iron and steel projects | 1/4 | 30,000 |
| Malaysia (19-66/Rev.2) - UNDP/TA Industrial design expert | 1/12 | 22,000 |
| Mali (6-66/Rev.4) - UNDP/TA Industrial economist | 1/12 | 22,000 |
| Morocco (SIS 67/66 MOR-1) - SIS Exploratory mission preparing projects dealing with the development of metallurgical industries | 1/2 weeks | 850 |

VI.25 (continued)

| | | 1967 | Cost |
|----------------------|--|-------------------|-----------|
| | | <u>Man/months</u> | <u>\$</u> |
| Nigeria | (SIS 66/10 NIC-4) - SIS Expert carried out an economic study of the iron and steel market | 1/2 | 10,000 |
| Philippines | (SIS 66/38 PHI-1) - SIS Expert visited Philippines to discuss his report on the integrated steel mill at Tligan | 1/1 | 5,600 |
| Philippines | (79-57/Rev.4) - UNDP/TA Steel industry expert | 1/12 | 22,000 |
| Singapore | (203-67/Rev.1) - UNDP/TA Light industries expert | 1/6 | 11,000 |
| Singapore | (203-67) - UNDP/TA Building hardware adviser | 1/9 | 16,000 |
| Turkey | (277-57 /Rev. 5) - UNDP/TA - Non-ferrous expert - Industrial economist - Industrial chemist | 3/30 | 66,000 |
| Turkey | (277-57/Rev.6) - UNDP/TA Gear manufacturing engineer | 1/11 | 20,000 |
| Turkey | (277-57) - UNDP/TA Forging expert | 1/7 | 12,000 |
| United Arab Republic | (SIS 67/139 UAR-10) - SIS Adviser studied the possibility of exploring commercially the country's large deposits of black sands | 1/5 days | 150 |
| Venezuela | (SIS 67-168 VEN-1/Rev.1) - SIS Staff member assisted government in formulating requests for SIS assistance for a study of prospects of iron ore deposits at San Isidoro | 1/1 week | 100 |

CHAPTER VII

NON-FERROUS METALS, INCLUDING ALUMINIUM

- VII.1 ECA Study on copper fabrication for the Central and East African sub-regions
ECA, with the assistance of a consultant, is preparing a study on copper fabrication for the Central and East African sub-regions. The study considers the continent's demand for copper products and is scheduled to be completed in 1968.
- VII.2 ECA Study on non-ferrous metals for the North African sub-region
ECA has prepared a study on non-ferrous metals for the North African sub-region within the framework of the study on Industrialization and Economic Co-operation.
- VII.3 ECAFE Review of the non-ferrous metal industry in the ECAFE region
The ECAFE Secretariat prepared the above document (E/CN.11/LAMR/Sub.2/L.34) reviewing the status of the existing non-ferrous metals industry, the development plans and problems of it for the 11th session of the Sub-committee on Metals and Engineering. The Committee recommended in particular that tin plate production should be an important segment of the projected iron and steel industry of the countries of the region.
Authority: Sub-committee on Metals and Engineering, eleventh session, September 1967.
Duration: September 1967, Australia
- VII.4 ECLA Advisory assistance in the field of steel-making
Technical personnel attached to the Programme took part in the proceedings of the Study Group on the Iron and Steel Industry set up by ALALC's Advisory Committee on Industrial Development (CADI), and are following up in contact with Central American agencies, the steel-making project or projects under consideration in relation to the Central American Common Market.

VII.5 ECLA
(1966 CR/Add.4:VI.2)

Development prospects and regional integration possibilities of the copper transforming industries

As indicated in the previous Consolidated Report the complex nature of the subject matter did not allow for progress to be as rapid as originally foreseen. A preliminary version of this study was completed by the end of 1967. A study on the economies of scale in this industry was published in early 1967.

Authority: ECLA 57 (V).

Estimated cost: 10 man/months approximately in 1967.

VII.6 UNIDO

First meeting of an expert consulting group on the aluminium industry

The first meeting of a group of experts on the aluminium industry "Alumina production from various ores", was held in Vienna from 10-17 November 1967. The participants of the meeting examined the technological and economic status of alumina production in the world and particularly in the developing countries. The Group Report, containing the guidelines and recommendations for creating, improving and expanding the alumina industry will be published in 1968.

Authority: Industrial Development Board, First Session, New York, April - May 1967.

Duration: 10-17 November 1967, Vienna.

Estimated cost: \$7,200 from consultants' funds; \$7,000 from ad hoc meeting fund.

VII.7 UNIDO

First meeting of an expert consulting group on the copper industry

The first meeting of a group of experts on copper industry: "Modernisation and expansion of plants in the copper industry" was held in Vienna from 20-27 November 1967. New processes and equipment, efficiency modernisation and expansion of plants in the copper industry were examined and discussed at the meeting. The Group Report containing the guidelines and recommendations for improvement and expansion of copper industry in the developing countries will be published in 1968.

VII.7 (continued)

Authority: Industrial Development Board, First Session,
New York, April - May 1967.

Duration: 20-27 November 1967, Vienna.

Estimated cost: \$4,800 from consultants' fund;
\$6,000 from ad hoc meeting fund.

CHAPTER VIII

MECHANICAL ENGINEERING INDUSTRIES, INCLUDING MANUFACTURE
OF PLANTS AND EQUIPMENT AND MACHINE TOOLS

- VIII.1 ECA La demande Maghrabine de produits industriels
A study entitled "La demande Maghrabine de produits industriels" was completed by ECA in 1967 with bilateral assistance. This study estimates the level of future demand of mechanical and electrical products.
- VIII.2 ECA Studies on the development of mechanical and electrical engineering of the North and Central African sub-regions
As a part of the general exercise aiming at completing surveys and studies of the North and Central African sub-regions, studies are under way for the development of mechanical and electrical engineering industries for both sub-regions.
- VIII.3 ECA Study on the development of the electronics industries for the North African sub-region
ECA, with the assistance of consultants, has completed in 1967 a study on the development of the electronics industries for the North African sub-region. After analysing the present demand and local production, the study makes, inter alia, concrete recommendations for the development of this industry on the basis of the projected demand for 1980.
- VIII.4 ECA Technical assistance - mechanical engineering
The same ECA team of two staff members which visited Cairo in October (see VI.A.4) provided also its assistance to the General Organization for Industrial Development in preparing the UAR contribution to the study of mechanical and electrical engineering industries.

VIII.5 ECAFE
(1966 CR:VI.C.4)

Centres for imparting skills for the development of metal-transforming industries

The first course of the Metal Industries Development Centre in Taiwan was inaugurated in March 1967.

VIII.6 ECAFE

AIDC action group on engineering industries

The AIDC Action Group on Engineering Industries held preliminary discussions with a view to determining the scope and specific objectives of a possible survey mission suitable for the engineering industry.

Authority: ECAFE work programme.

Duration: October 1967, Bangkok.

VIII.7 ECAFE

Development of engineering industries in the ECAFE countries

The secretariat prepared the above document (E/CN.11/LANR./Sub.2/L.39) reporting on a review of the plans, progress and problems of the engineering industries in the ECAFE countries.

Authority: Sub-Committee on Metals and Engineering, Eleventh Session, September 1967.

Duration: September 1967, Australia.

VIII.8 ECE
(1966 CR:VI.C.5)

Bulletin of statistics on world trade in engineering products

The first issue covered the year 1963 and was published under the symbol ST/ECE/ENQ/2; data for the years 1964 and 1965 appeared under the symbols ST/ECE/ENQ/3 and 4; data for 1966 will be issued towards the end of 1967.

VIII.9 ECE
(1966 CR:VI.C.6)

Requirements of European countries in the process of industrialization for engineering products

This study covers production, foreign trade and development plans and programmes of the European countries in the process of industrialization for engineering products, as well as an assessment of the requirements for engineering products of those countries. At its twenty-second session the Commission requested the Executive Secretary to submit the study to its twenty-third session.

Duration: It is expected that the study will be published in the course of 1968.

VIII.10 ECE
(1966 CR:VI.C.7)

Engineering industries and industrialisation

The study was submitted to the International Symposium on Industrial Development, Athens, December 1967. It is expected that the study will be published in 1968.

VIII.11 ECLA
(1966 CR:Add.4:
VI.3)

Advisory services

The Regional Adviser on the mechanical industry has continued to provide advisory services to the countries of the region, in particular in Brasil, Argentina and in Chile, principally with regard to the machine-tool industry.

Estimated cost: 12 man-months approximately in 1967.

VIII.12 ECLA
(1966 CR:Add.4:
VI.3)

The basic equipment industry in Latin America

As indicated in the previous Consolidated Report, work is proceeding on this project although progress has not been as fast as anticipated. Nevertheless, it is expected that the final report will be completed by the end of 1967.

Authority: ECLA 207 (IX).

Estimated cost: 10 man-months approximately in 1967.

VIII.13 ECLA

Machine tools

In June 1967 a report was finished on the prospects for establishing a machine-tool institute in Brasil (E/CN.12/L.16); it was prepared at the request of the Banco Nacional de Desenvolvimento Economico as a background document for discussions on this subject.

Estimated cost: 3 man-months approximately in 1967.

VIII.14 ECLA

The metal-transforming industry in Colombia

The study on the metal-transforming industry in Colombia was revised and completed during 1967 and was expected to be published before the end of the year.

Authority: ECLA 207 (IX).

Estimated cost: 2 man-months approximately in 1967.

VIII.15 ECLA

The metal-transforming industry in Ecuador

The preliminary version of the study on the above subject was completed in early 1967 and the revision, taking into account the comments received, was concluded in September 1967 and was expected to be published before the end of the year.

Authority: ECLA 207 (IX).

Estimated cost: 3 man-months approximately in 1967.

VIII.16 UNIDO

Adaptation of acceptance tests for new machine-tools

A constant increase of a number of machine-tools in the developing countries is an important base for accelerated industrialization. A proper acceptance and maintenance of new machinery are essential requirements for the use of machinery to full capacity and to prolong the lifetime of the machinery. The metal-working symposium recommended to up-date Schlesinger and other acceptance tests to correspond with current requirements. A consultant is now engaged in preparation of a detailed study in which all phases of tests to be conducted are described. This study will be completed by the end of 1967 and published later as a practical manual on the subject.

Authority: Recommendation of the Interregional Symposium on Development of Metal-working Industries and approved work programme of UNIDO for 1967-1968.

Duration: 1967, to be completed in 1968.

Estimated cost and source of funds: \$3,000 for preparation of the detailed study, UNIDO budget.

VIII.17 UNIDO

Advisory service on the supply of industrial equipment

The Expert Group Meeting, which included representatives of both - suppliers and users of industrial equipment - was held in New York in November 1967. The group explored appropriate ways and means for the collection, analysis, classification and dissemination of information on industrial equipment with a view to establishing an advisory service in UNIDO for such a purpose. The recommendations of the meeting are expected to assist UNIDO to organize in 1968 a suitable and effective advisory service which will be of value to both the industrialized and industrialising countries.

VIII.17 (cont'd) Authority: Industrial Development Board.
Cost and source of funds: Cost of meeting: \$11,000; also 2 man-months of UNIDO staff time.

VIII.18 UNIDO International classification systems for metal-working machinery and equipment

An international multi-language metal-working machinery classification to be prepared under the auspices of the United Nations in order to eliminate existing confusion in terminology and misunderstandings in various countries. The outside consultant is now engaged in preparing the basic draft which will be completed by the end of 1967. The draft will be sent to a number of experts and organizations for their comments, which will be incorporated in the draft by the consultant. The final version will be sent to the governments for their consideration after which it will be published.

Authority: Recommendation of the Interregional Symposium on Development of Metal-working Industries and approved work programme of the UNIDO for 1967-1968.

Duration: 1967-1968.

Estimated cost and source of funds: \$2,400 for preparation of initial draft and \$3,000 for completion of the project. From UNIDO budget.

VIII.19 UNIDO The following field projects were developed in 1967:

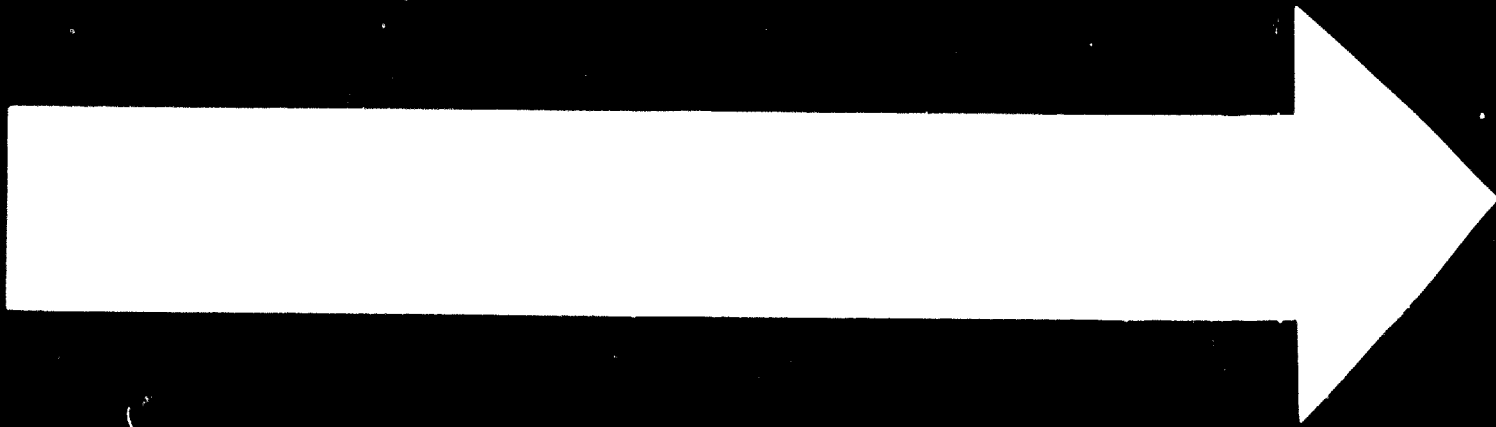
| | | <u>1967</u> | |
|-------------|---|-------------------|-------------|
| | | <u>Man/months</u> | <u>Cost</u> |
| Afghanistan | (155/63) - UNDP/TA Two industrial engineers | 2/18 | 35,000 |
| Argentina | (111-57/Rev.6) - UNDP/TA Expert in the installation of heavy high-velocity machinery | 1/2 | 5,000 |
| Argentina | (111-57/Rev.6) - UNDP/TA Combustion engineer | 1/6 | 11,000 |
| Brazil | (SIS 67/147 NRA-1) - SIS Five member exploratory mission to explore existent industrial capacity | 5/4 | 5,250 |

VIII.19 (cont'd)

| | | <u>1967</u> | |
|-----------------------|---|-------------------|-------------|
| | | <u>Man/months</u> | <u>Cost</u> |
| | | | \$ |
| Burma | (1-57/Rev.3) - UNDP/TA Industrial engineer | 1/12 | 22,000 |
| Chile | (SIS 66/8 CHIL-1) - SIS Five man mechanical engineers mission under SIS sponsorship | 5/17 | 45,900 |
| Chile | (130-57) - UNDP/TA Machine tools adviser | 1/3 | 5,000 |
| Chile | (ED-144/Rev.1) - RP Electrical equipment expert | 1/6 | 11,000 |
| China | (SIS 67/84 CHINA-1) - SIS Expert in electrical and electronic industries | 1/3 | 7,500 |
| China | (29-57) - UNDP/TA Expert in industrial design | 1/3 | 7,000 |
| Dominican Republic | (194-60/Rev.2) - UNDP/TA Industrial adviser | 1/12 | 22,000 |
| Ecuador | (SIS 67/102 ECUA-3) - SIS Expert to conduct survey of certain engineering industries | 1/2 | 1,800 |
| Ecuador | (51-60/Rev.2) - UNDP/TA Engineering industries adviser | 1/3 | 7,000 |
| Ghana | (46-61) - UNDP/TA Director of Industrial Production | 1/12 | 15,000 |
| India | (SIS 66/37 IND-2) - SIS Team of seven experts investigated engineering industries, chemical and metallurgical production | 7/14 | 35,000 |
| India | (37-57/Rev.5) - UNDP/TA Expert in electric measuring instruments | 1/9 | 18,000 |
| India | (37-57) - UNDP/TA Small industry tools designer | 1/4 | 9,000 |
| India | (37-57) - UNDP/TA Statistical quality control expert | 1/3.5 | 8,000 |
| India | (37-57) - UNDP/TA Die and tool designing expert | 1/5 | 10,000 |
| Indonesia | (43-57) - UNDP/TA Production engineer | 1/6 | 8,000 |

VIII.19 (cont'd)

| | | <u>1967</u> | |
|-----------|---|------------------|-------------|
| | | <u>Mo./month</u> | <u>Cost</u> |
| Iran | (SIS 67/108 IRAN-10) - SIS Metal products expert | 1/1 | 2,000 |
| Iran | (220-57/Rev.3) - UNDP/TA Machine building expert | 1/12 | 22,000 |
| Israel | (SIS 67/52 ISR-1) - SIS Team of 11 experts in the metal-working industry | 11/18 | 71,000 |
| Peru | (195-57/Rev.4) - UNDP/TA Expert in the automotive industry | 1/3 | 6,000 |
| Tunisia | (SIS 66/33 TUN-1) - SIS Special tool expert | 1/6 | 14,000 |
| Venezuela | (XEO-25) - UNDP/TA Expert to analyse under funds-in-trust the metal-transforming industry | 1/7 | 13,760 |
| Venezuela | (201-57) - UNDP/TA Metal-working industries expert | 1/12 | 26,900 |



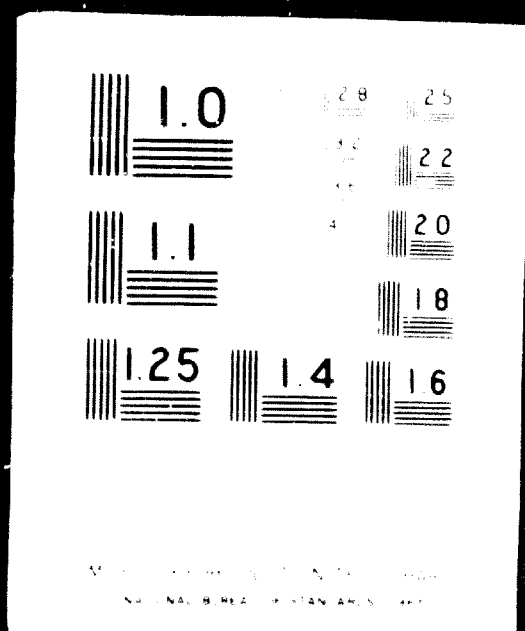
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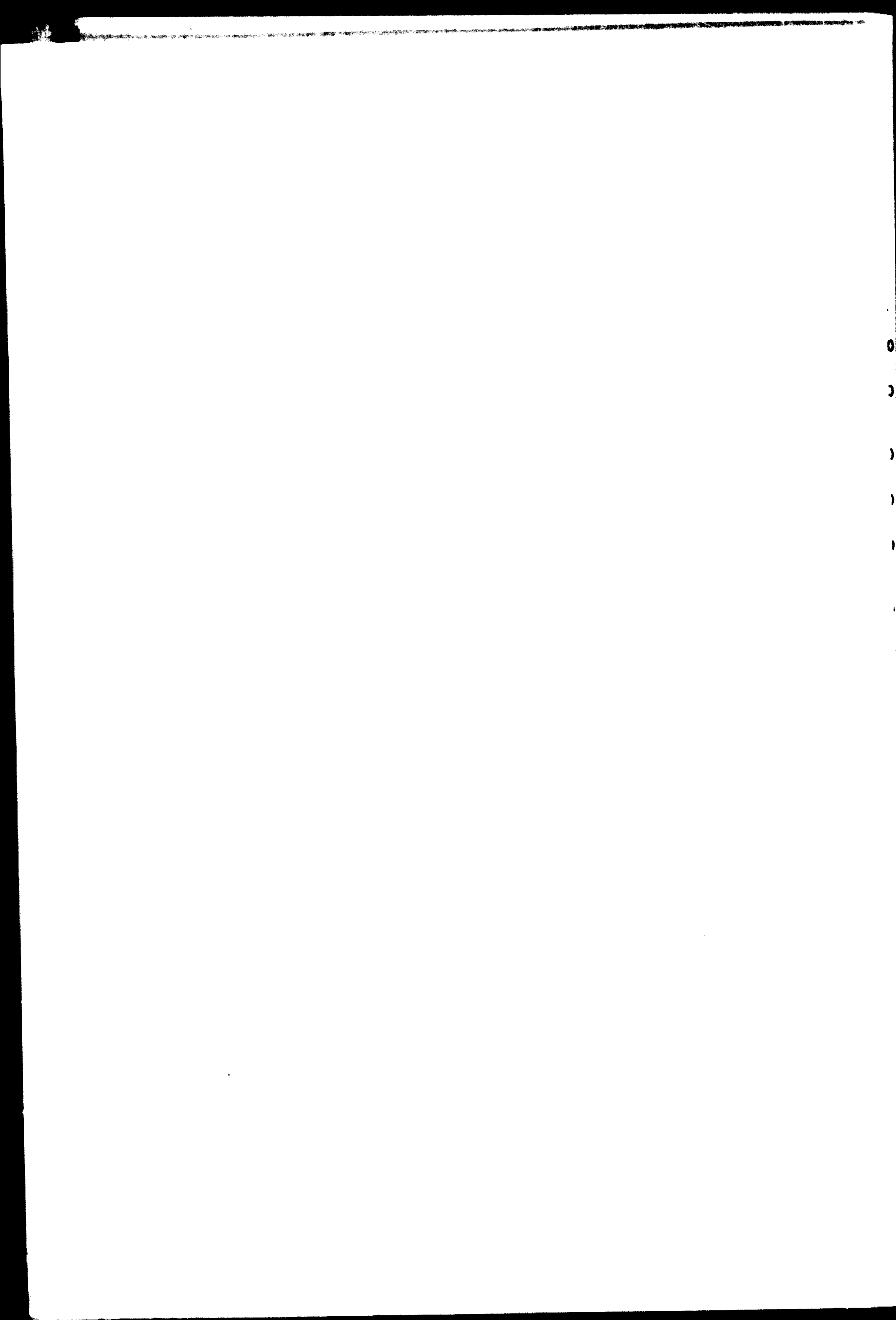


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CHAPTER IX

AGRICULTURAL MACHINERY AND EQUIPMENT

IX.1 ECAFE
(1966 CR:VI.D.1)

Requirements of Agricultural Inputs

CHAPTER X

ELECTRICAL MACHINERY

X.1 ECAFE
(1966 CR:VI.E.1)

Electrical manufacturing industry and standardisation in the field of electric power

CHAPTER XI

SHIPBUILDING AND THE MARITIME INDUSTRY

XI.1 ILO
(1966 CR:VI.F.8)

Joint Maritime Commission, 20th Session

At its 20th Session in 1967 the Joint Maritime Commission of the ILO studied questions of labour problems arising from technological developments and changes in the organization of work on board ship, vocational training of seafarers, conditions of Asian seafarers and seafarers' health and welfare. The Commission adopted a number of resolutions concerning these and other questions dealing with the conditions of life and work of seafarers. It proposed the convening of a preparatory technical maritime conference in 1969 and the next maritime session of the

XI.1
(continued)

International Labour Conference in 1970 with a view to securing further action by the ILO on the subjects of crew accommodation, problems stemming from shipboard modernization, accident prevention, and seafarers' vocational training, wages and welfare.

XI.2 ILO
(1966 CR: VI F.11)

Inland Waterways Deck Personnel Training Centre, Pakistan

A project to assist the Government of Pakistan in the establishment and initial operation of an Inland Waterways Deck Personnel Training Centre, in order to ensure the more efficient operation of the inland water transport fleet, was approved under the U.N.D.P. (Special Fund) in 1967, and the ILO was designated as the executing agency. The Centre will provide specialized training for personnel already employed in the industry which will prepare them for certification examinations and increase their knowledge and skills, and long-term basic training for entrants to the industry.

XI.3 ILO

ILO participation in Interregional Seminar on Containerization: social repercussions on dockworkers

The ILO participated in an in an inter-regional seminar on containerisation and other Unitized Methods for the Intermodal Movement of Freight, which was organized by the United Nations during 1967 and oriented primarily for senior government officials from some forty developing countries responsible for transport development or policy. The ILO contribution consisted in presentation of a paper concerning the social repercussions on dockworkers of the introduction of unit load systems in the handling of ships' cargoes.

XI.4 ILO

Dockworkers' productivity and conditions of work (ILO participation in ports and shipping seminar)

The ILO participated in the 1967 session of the United Nations Ports and Shipping Training Centre - an annual seminar financed by the Danish Board for Technical Co-operation with Developing Countries and attended by port administrators and senior officials in the shipping departments of developing countries - by providing lectures on better organisation of work in port, increasing the productivity of dockworkers and improving dockworkers' conditions of employment.

XI.5 ILO

International code for safety on board shipping vessels

The ILO is co-operating with F.A.O. and I.M.C.O. in the preparation of an international code of practice on safety on board fishing vessels, dealing with the navigational, operational and occupational aspects of this subject. The proposed code will provide international guidance with respect to minimum standards of safety for fishermen and fishing vessels.

XI.6 ILO

Employment opportunities and training for the fishing industry-Tunisia

Within the framework of a project financed by UNICEF for assisting the Government of Tunisia in the field of prevocational training of adolescents, an ILO expert prepared in 1967 a feasibility study on training for the fishing industry and examined employment opportunities in this occupation.

CHAPTER XII

TRANSPORT EQUIPMENT

XII.1 ECLA
(1966 CR/Add.4:
VI.7)

Transport equipment - study on the motor vehicle industry in Latin America

Work on this project described in the previous Consolidated Report has progressed during 1967 although difficulties in obtaining the necessary data as well as some of the technical personnel have not allowed progress to be as rapid as anticipated.

Authority: ECLA 207 (IX).

Estimated cost: 34 man-months approximately in 1967.

XII.2 UNIDO
(1966 CR:VI.G.1)

Development of the automotive industry in developing countries

During 1967 six additional studies were contracted for; four have been completed and received by UNIDO; two more should be completed by 1 January 1968.

It is expected that eleven additional studies will be prepared during 1968.

An Expert Group Meeting on the Establishment and Development of the Automotive Industry in Developing Countries is planned by UNIDO for 1968 in Argentina.

CHAPTER XIII

PETROCHEMICAL INDUSTRIES

- XIII.1 ECA Studies on petroleum and petrochemical industries for the North African sub-region
As a part of the sub-regional industrial co-ordination studies ECA, with the assistance of consultants, is completing in 1967 studies on petroleum and petrochemical industries for the North African sub-region. ECA is assisting in the preparation of background data for chemical studies and in co-ordinating the over-all studies made by consultants.
- XIII.2 ECA Study on petroleum and petrochemical industries for the Central African sub-region
A study on the petroleum and petrochemical industries is being undertaken by ECA in 1967 for the Central African sub-region.
- XIII.3 ECAFE (1966 CR:VI.H.11) Seminar on man-made fibre industry, Tokyo/Osaka, 28 October - 7 November 1966
The report of the Seminar on the Development of Man-made Fibre Industry in Asia and the Far East is contained in the secretariat document E/CN.11/I & NR/L.65.
- XIII.4 ECAFE Petrochemical industries action group of AIDC
The Petrochemical Industries Action Group of AIDC met in October 1967 in Bangkok to hold preliminary discussions on the possibilities of establishing the petrochemical industries through co-operative efforts between two or more of the participating countries in the region. Representatives from Brunei, China (Taiwan), Japan, Indonesia, the Philippines and Singapore attended. The Action Group considered the production of liquified natural gas and liquified petroleum gas; methanol; carbon black; caprolactum/DMT; acrylonitrile; ethylene; ethanol and ethylene; and di-chloride.
Authority: ECAFE work programme.
Duration: October 1967.

XIII.5 ECE

Gas statistics

The Committee decided to compile an annual bulletin of gas statistics for Europe and the USA. Every few years a recapitulative bulletin of the main statistical indicators of the gas economy of Europe during the past six years was to be prepared. The group meets periodically but at least once a year to complete when and where necessary the statistical items pertaining to the gas economy and to improve their comparability. Several subjects, among which productivity in the gas industry, are also studied by this group of experts which reports to the Committee on Gas.

Authority: Decision of the Committee on Gas of ECE 1958: Group of Experts on Gas Statistics.

Duration: The Committee on Gas, at its 13th session, gave the group permanent status because of the immediate interest of the tasks entrusted to it.

XIII.6 ECLA

Petrochemical industry

A study on the fabrication of rubber was completed in September 1967 (E/CN.12/792). This study was presented at the XIX Assembly of the International Rubber Study Group held in October 1967 in Sao Paulo.

Estimated cost: Six man-months approximately in 1967.

XIII.7 UNIDO

First exploratory mission to Brazil (20 July - 12 August 1967)

A five-member mission, including two staff members of the Division, went to Brazil to assist the officials of the Brazilian Government as well as agencies and individuals concerned with industry in the identification of areas where they could draw on UNIDO's contribution under various United Nations programmes of international co-operation. Of some 41 export posts, for which UNIDO's assistance is required, six are directly concerned with petrochemicals. The implementation of various projects is being processed through official channels.

Duration: 20 July to 12 August 1967.

XIII.8 UNIDO

Selection of projects and production processes for basic and intermediate petrochemicals for developing countries

The study presents comparative process economics for a number of petrochemicals. The main objective is to illustrate specific projects where some unique aspect of chemical process technology makes the projects feasible for a developing country.

Authority: 1966 work programme, Technological Division.

Duration: Initiated in August 1967 and completed in December 1967.

Estimated cost and source of funds: \$1,000, UNIDO budget.

XIII.9 UNIDO

Studies on the setting-up of an integrated plastics industry

The project covers the following topics: the factors affecting the integration in the various sectors of the plastics industry; examples of countries that have utilized plastics in their economic growth in Latin America, Asia and Africa; problems encountered in development, and guidelines showing how a developing country could establish a plastics fabrication industry leading to integration into polymers, intermediate and raw materials.

Authority: 1966 work programme.

Duration: Initiated in April 1967 and completed in December 1967.

Estimated cost and source of funds: \$7,000, UNIDO budget.

XIII.10 UNIDO

Studies on the setting up of regional or national pilot plants in developing countries

The project was specifically designed to provide information concerning the establishment of pilot plant work in synthetic polymer industries in developing countries.

Authority: 1966 work programme.

Duration: Initiated in June 1967 and completed in December 1967.

Estimated cost and source of funds: \$2,500, UNIDO budget.

- XIII.11 UNIDO Study on testing and quality control of polymers
An investigation has been made to determine the facilities required to establish standards and quality control laboratories in developing countries. The work is complementary to the overall UNIDO standardization programme.
Authority: 1966 work programme, Technological Division.
Duration: Initiated in July 1967 and completed in December 1967.
Estimated cost and source of funds: \$1,000, UNIDO budget.
- XIII.12 UNIDO Study on the wider utilization of natural rubber
Information on the various recent technologies in the conversion of natural rubber into plastics has been collected in response to interest shown by some rubber-producing countries.
Authority: 1966 work programme, Technological Division.
Duration: Initiated in June 1967 and completed in December 1967.
Estimated cost and source of funds: \$1,000, UNIDO budget.
- XIII.13 UNIDO/
UNESOB Note on the fertilizer and petrochemical industry in the Middle East and North Africa
This note entitled "Developing the fertilizers and petrochemical industry in the Middle East and North Africa - importance and prospects", has been submitted as a background document to the Seminar of Experts on fertilizers and petrochemicals which was organized by the Government of Kuwait in May 1967.
Authority: General Assembly Resolutions 1823 (XVII) and 1941 (XVIII) and Industrial Development Board Resolution 1 (I).
Duration: One month in 1967.
Estimated cost and source of funds: \$2,100 has been allocated for the study.

CHAPTER XIV

FERTILIZERS

- XIV.1 ECAFE Fertilizers and allied chemical industries action group of AIDC
- The Fertilizers and Allied Chemical Industries Action Group of AIDC met from 18-23 October 1967 to discuss the possibilities of establishing fertilizer and allied chemical industries through joint efforts of two or more countries participating in the Action Group meeting. Representatives from Brunei, Japan, Indonesia, Iran, the Philippines and Singapore, and an observer from Australia attended the meeting. The Action Group considered the following:
- (1) Ammonia from natural gas, urea, cyanamide and other nitrogenous fertilizers;
 - (2) Phosphoric acid, sulphur, triple phosphate and di-ammonium phosphate;
 - (3) Sulphur and sulphuric acid.
- Authority: ECAFE work programme.
Duration: 18-23 October 1967.
- XIV.2 ECAFE Seminar on sources of mineral raw materials for the fertilizer industries in Asia and the Far East, Bangkok
- Documentation is being prepared for the seminar.
- Authority: ECAFE work programme.
Duration: 4-11 December 1967.
- XIV.3 ECLA
(1966 CR/Add.4:
VI.9) ICAP working group on fertilizers (second meeting)
- The working group held its second meeting in Washington towards the end of May 1966 with the twofold purpose of reviewing the activities of the various international and inter-American organizations that are concerned with the use and production of fertilizers and of considering the possible balance of supply and demand in respect of nitrogenous, phosphate and potassium fertilizers in 1970 and 1975 in the light of the studies requested at the previous meeting. The joint

ECLA/Institute/IBD programme was asked to prepare a full report on the present situation and future prospects of the fertilizer industry, with special reference to production costs and the way in which the industry should develop if its output was to be priced at international market levels. The results are embodied in the above-mentioned report. All that remains to be done is to add the conclusions of the meeting and the work programme for the coming months.

Estimated cost: 13 man-months in 1967.

XIV.4 ECLA
(1966 CR/Add.4:
VI.9)

Supply of fertilizers in Latin America

The study on fertilizers, referred to in the previous Consolidated Report, is being revised on the basis of comments received from countries in the region. Work in this field is undertaken in close contact with the Working Group on Fertilizers of the Inter-American Committee on the Alliance for Progress.

Authority: ECLA 137 (VII), 162 (VIII).

Estimated cost: 15 man-months approximately in 1967.

XIV.5 UNIDO
(1966 CR:VI.I.5)

Fertiliser manual

The fertiliser manual was published in English. Sales No. 67.II.B.1. Translation into French and Spanish is in progress.

XIV.6 UNIDO
(1966 CR:VI.I.9)

Jordan - Request for a chemical engineer to advise on setting up a fertiliser complex in Aquaba

An expert was in the field from 29 August to 29 November 1967 attached to the Jordan Centre for Industrial Development. His services have been extended to 28 February 1968 to complete the work.

Authority: Request from the Government of Jordan.

Estimated cost: \$13,700.

XIV.7 UNIDO Pakistan - Pre-investment studies for the promotion of the
(1966 CR:VI.I.10) fertilizer and petrochemical industries

XIV.8 UNIDO United Arab Republic - Location studies for a urea complex and
(1966 CR:VI.I.11) engineering studies for the Aswan/Saibya phosphorous complex
Under implementation.

XIV.9 UNIDO Action oriented research and sectoral studies
(a) "Planning successful execution of large-scale ammonia projects - consideration in design, construction and operation".
(b) "Dual process for the production of fertilizers and soda ash".
(c) "The new process for production of phosphate fertilizers using hydrochloric acid".
(d) "Projection analysis of production and consumption of fertilizers using the Compartz equation and other mathematical projection methods".

Authority: ID/B/9 - 20 February 1967.

Estimated cost and source of funds: \$4,000, UNIDO consultants' fund.

XIV.10 UNIDO Activities in co-operation with other United Nations agencies
and regional economic commissions - Study of agricultural
inputs

"Study of Agricultural Inputs such as Fertilizers, Pesticides and Agricultural Machinery required in Developing Countries". This was prepared in connexion with FAO's study on "Food Production Resources in Agricultural Development" and is incorporated in C 67/41 of FAO dated 22 August 1967.

Authority: Executive Director.

Cost and source of funds: \$1,000, UNIDO funds.

- XIV.11 UNIDO Exploration of the potential and possibilities to manufacture in Ghana compound fertilizers
The study is expected to lead to a Special Fund project for a demonstration plant where UNDP may allocate up to 1 million dollars in foreign exchange.
Authority: Preparatory UNDP allocation.
Duration: One man-month.
Estimated cost and source of funds: \$2,000.
- XIV.12 UNIDO Fertilizer technology, production and usage
The technical papers presented at the Interregional Seminar on the Production of Fertilizers, held in Kiev, Ukrainian SSR, 24 August to 11 September 1965, were edited and submitted for publication in 1967.
Authority: Resolution 1179 (XLI) of ECOSOC.
Estimated cost and source of funds: \$20,000, UNIDO budget.
- XIV.13 UNIDO Report of the preparatory UNDP-UNIDO assistance mission to Togo for setting up a demonstration plant for production of phosphatic fertilizers
The study is leading to a Special Fund project where UNDP will put up 1 million dollars.
Authority: SIS/preparatory UNDP.
Duration: One man-month.
Estimated cost and source of funds: \$2,000.
- XIV.14 UNIDO Seminar of experts on fertilizers and petrochemicals in Arab Countries (Kuwait, 15-18 May 1967)
A paper was presented by UNIDO entitled "Fertilizer Industry - UNIDO's assistance to Developing Countries with particular reference to Africa and the Middle East".
Cost and source of funds: \$1,500; UNIDO funds.

XIV.15 UNIDO

The following field projects were developed in 1967:

| | | <u>1967</u> | |
|----------|--|-------------------|-------------------|
| | | <u>Man/months</u> | <u>Cost</u> \$ |
| Africa | Regional (ED-439-Rev.5) - RP Adviser on chemical industries | 1/12 | 24,000 |
| Bolivia | (SIS 67/127 BOL-1) - SIS Staff member undertook exploratory mission to formulate proposal for a pilot demonstration plant using natural gas to produce explosives and fertilizers | 1/3 weeks | 1,000 |
| Iran | (XBO-713) - UNDP/TA Industrial marketing specialist | 1/1 | 5,409 |
| Israel | (11) - SF Industrial Research Centre | 1/12 | 22,600 |
| Israel | (243-57/Rev.3) - UNDP/TA Mechanical engineer | 1/2 | 4,000 |
| Jordan | (13) - SF Jordan Centre for Industrial Development | 2/15 | 27,000 |
| Pakistan | (26) - SF Pre-investment studies for the promotion of the fertilizer and petrochemical industries | 2/18 | 33,800 |
| Peru | (195-57/Rev.4) - UNDP/TA Industrial adviser | 1/6 | 11,000 |
| Rwanda | (3) - SF Pilot plant for industrialization and pyrethrum production | 1/6 | 12,200 |
| Sudan | (SIS 67/103 SUD-6) - SIS Exploratory mission by staff member to study raw materials, location, transport and capacity of proposed ammonia and urea project | 1/1 week | 1,250 |
| Syria | (SIS 67/204 SYR-1) - SIS Exploratory mission to determine assistance provided for fertilizer project under construction, as well as proposed urea and triple super-phosphate projects | 1/1 week | 500 |

| XIV.15 (continued) | | <u>1967</u> | |
|-------------------------|--|-------------------|-------------------|
| | | <u>Man/months</u> | <u>Cost</u> \$ |
| Tunisia | (SIS 67/67 TUN-2) - SIS Expert to report on the economics of sulphuric acid production from gypsum | 1/2 | 4,000 |
| United Arab Republic | (SIS 67/57 UAR-6) - SIS (1967/68) - Economist - Fertilizer production expert | 2/1 | 3,700 |
| United Arab Republic | (SIS 67/53) - SIS Expert prepared study on bromine recovery and utilisation | 1/1 | 4,500 |

CHAPTER XV

BASIC AND OTHER CHEMICAL INDUSTRIES

- XV.1 ECA Studies on basic chemicals, fertilizers, paints, varnishes, other chemicals and insecticides
ECA, with the assistance of consultants, is preparing a number of papers on basic chemicals and fertilizers, on paints, varnishes and other chemicals, including insecticides as a part of the North African sub-regional industrial co-ordination study.
Duration: These studies are expected to be completed early in 1968.
- XV.2 ECA Studies on miscellaneous chemicals
Similar studies on basic chemicals, paints, varnishes and miscellaneous chemicals are being undertaken by ECA in collaboration with consultants for the Central African sub-region.
- XV.3 ECA Technical assistance - chemical industries group
ECA has assisted the Imperial Ethiopian Government on appraisals of projects in the chemical industries group.
- XV.4 ECE
(1966 CR:VI.J.3) Market trends and prospects for chemical products in the countries participating in the work of ECE
In accordance with the outline approved by governmental experts, the study analyses the development of production, consumption, foreign trade and prices of all chemicals as defined under Section 5, "Chemical elements and compounds" with the addition of Subgroup 231.2 - "Synthetic rubber and rubber substitutes" and of Group 862 - "Photographic and cinematographic supplies" of the SITC (revised), in the years 1950, 1953, 1955, 1958 and in each year from 1960 to 1966. The latest technological progress is considered to see its impact on the development of the chemical industry; forecasts of production and consumption up to 1970 have been made; existing national plans have been analysed in

XV.4 (cont'd)

this context. A first draft of the study has been considered by the Group of Experts in January 1967; a revised version will be discussed at a meeting of the group in January 1968. A final version will be prepared in the light of comments received.

Authority: Meeting of Experts on Chemicals, pursuant to Commission Resolution 6 (XIX), held in Geneva in October 1964. Commission Decision G (XXII).

Duration: It is expected that the study will be published in 1968.

XV.5 ECE
(1966 CR:VI.J.4)

Development of the Chemical Industry in the Developing Countries

The study covers production, consumption and foreign trade in chemicals in selected countries of Africa, Asia and Latin America in recent years. An assessment is made of the possibilities and obstacles to establishment of chemical industries in developing countries. The study was submitted to the International Symposium on Industrial Development as a background document, Athens, December 1967.

XV.6 ECLA

Advisory services

The Regional Adviser on Chemical Industries carried out a mission to Central America in early 1967 and completed his contract in April of this year. The new Regional Adviser assumed his functions at the end of August 1967.

Estimated cost: 8 man/months approximately in 1967.

XV.7 ECLA
(1966 CR/Add.
4:VI.10)

Evolution of the chemical industry in Latin America 1959-65

Work on this project, described in the previous Consolidated Report has continued during 1967 and is expected to be completed by the end of the year.

Authority: ECLA 162 (VIII).

Estimated cost: 11 man/months approximately in 1967.

XV.8 ECLA
(1966 CR/Add.
4:VI.10)

Regional report on the sodium alkalis industry

An up-to-date study on sodium alkalis is being prepared based on the findings of the preliminary study undertaken in 1966 and taking into account comments and criticisms obtained from national experts.

Authority: ECLA 137 (VII), 162 (VIII).

Estimated cost: 7 man/months approximately in 1967

XV.9 UNIDO

The following field projects have been developed during the year 1967.

| | <u>1967 Man/months</u> | <u>Estimated Cost</u> \$ |
|---|----------------------------|---------------------------------|
| Argentina (SIS 67/203) - SIS Expert assisted in locating most economical site for the establishment of a soda ash manufacturing plant | 1/3 | 10,000 |
| Guinea (149-61) - UNDP/TA Industrial chemist | 1/12 | 22,000 |
| Iceland (SIS 67/115 ICE-1) - SIS Staff member assisted in exploring possibilities for developing a sodium-sulphate industry by freezing of sea water | 1/2 weeks | 550 |
| Trinidad and Tobago (SIS 66/39 TRTO-1) Three experts assisted in finalizing study on uses of furfural and its derivatives | 3/3 | 7,500 |

CHAPTER XVI

FOOD INDUSTRIES, INCLUDING BEVERAGES, TOBACCO, FISH PRODUCTS, ETC.

- XVI.1 ECA Reports on food processing industries of North Africa
Another report on food processing industries of North Africa has also been prepared for ECA by a consultant. This study provides detailed comparative study of existing industrial potentialities, in particular from the viewpoint of production capacities volumes of production and their uses, prime costs, etc., putting particular emphasis on the technical possibilities of installing new and additional production units wherever the prospects seem favourable. In this report, some eight main commodities are studied in detail.
- XVI.2 ECA Sectoral studies covering tobacco, beverages and other industries
For the industrial development and economic co-operation study of North Africa, ECA has completed a number of sectoral studies of the sub-region. Sectoral studies so far completed by ECA cover tobacco, beverages and other industries. These papers provide general surveys of capacities and actual production; and also outline measures needed for their development up to 1980.
- XVI.3 ECA Studies on the food processing industry of the Central-African sub-region
Similar studies (see XVI.1 and 2) are also under preparation by ECA staff members or ECA in collaboration with some consultants for the Central African sub-region. The food processing industry items under consideration cover beverages, tobacco, sugar, food and vegetable oils, etc.
- XVI.4 IAEA/FAO
(1966 CR:VI.K.8) Radiation disinfection of grain in Turkey
This is the world's first large scale pilot-plant irradiation facility for the disinfection of grain in Turkey. This plant has been built on the southeast coast of Turkey (Iskenderun).

XVI.4 (cont'd)

The capacity of the facility is thirty tons an hour, though a maximum of fifty tons an hour is possible. Besides wheat, barley, rye and maize, lentils could also be treated. The essential elements of the physical construction have been completed, the first shipment of 100,000 Curies of Cobalt sixty have been installed and it is anticipated that experimental treatments of grain to control insects will start in the near future. This plant is to be used for demonstration and training on an international basis. It is the first facility at which comparative technical and economical evaluations can be carried out with sufficient precision and reliability for the benefit of other developing countries.

XVI.5 UNIDO

Activities in co-operation with other UN agencies and regional economic commissions: role of food-production resources in stimulating agriculture.

UNIDO contributed to the FAO study under the food production resources programme: role of food production resources in stimulating agriculture in developing countries. Also with FAO the unit co-operated in the project of coffee industry in Ethiopia and in the fish concentrated plant project in Morocco. The basis for a feasibility study for the production of protein for human diet were established with ECLA.

XVI.6 UNIDO

Analysis of a meat products plant for the Ministry of Industries, Nigeria.

Analysis of the actual meat production in Nigeria. Programme and requirements for the further development of the industry.

Authority: Special Industrial Services Programme.

Duration: 42 days.

Estimated cost
and source of
funds: \$6,000.

XVI.7 UNIDO

Food processing in Bolivia
(Report pertaining to UNIDO's mission to Bolivia)

Description of the actual Food Industry in Bolivia. Presentation and analysis of the governmental programme. Suggestions regarding new projects and priorities.

- XVI.7 (cont'd) Authority: Special Industrial Services Programme.
Duration: 6 days.
Estimated cost and source of funds: \$1,500.
- XVI.8 UNIDO Industrial aspects of protein production
Report for the Advisory Committee on Application of Science and Technology, New York.
The actual stage of the actual industrial protein production is presented followed by its basic problems and suggestions of means to be employed to solve them.
- XVI.9 UNIDO Milk processing in developing countries
Presentation of up-to-date flask sterilization methods for milk processing.
Authority: ID/B-9 20 February 1967.
Estimated cost and source of funds: UNIDO consultant funds.
- XVI.10 UNIDO Packaging problems in developing countries
A review of packaging techniques for different food items and suggestions of how to substitute expensive and imported raw materials by cheaper and domestic ones.
Authority: ID/B-9 20 February 1967.
Estimated cost and source of funds: \$1,000; UNIDO consultant funds.
- XVI.11 UNIDO Production of foodstuffs and protein-enriched mixtures and concentrates
Information about the production of foodstuff mixtures and concentrates from local raw materials enriched by protein from animal and vegetable sources.

XVI.11 (cont'd)

Authority: ID/B-9 20 February 1967.

Estimated cost
and source of

funds: \$1,000 UNIDO consultant funds.

XVI.12 UNIDO

Report of exploratory mission for fish concentrated plant in Morocco

Analysis of the actual situation of SONAFAP, factory of fish concentrate at Agadir. Suggestions of a new technology and means for the plant reorganization.

Authority: Special Industrial Services Programme.

Duration: 30 days (1967).

Estimated cost
and source of

funds: \$6,000.

XVI.13 UNIDO

Report on the meat canning plant in Malge Wondo National Meat Corporation, Addis Ababa - Ethiopia

Description of the actual situation of meat processing in Ethiopia. Specifications of equipment, buildings and engineering to be used in the meat plants.

Authority: Special Industrial Services Programme.

Duration: 8 days (1967).

Estimated cost
and source of

funds: \$800.

XVI.14 UNIDO

Report on the possibilities of agro-industrial food-processing development during the Iranian Four-to-Five-Year Plan

Analysis of the actual food industry in Iran. Suggestions for the development of integrated projects from raw materials through processing and distribution of food products. Priorities in order to substitute imports and develop the exportation.

XVI.14 (cont'd) Authority: Special Industrial Services Programme.
Duration: 23 days (1967).
Estimated cost
and source of
funds: \$1,600.

XVI.15 UNIDO Starch production in developing countries
Description of the industrial starch extraction and production processes. Suggestions of how to use refined starch in new food industry.
Authority: ID/B-9 20 February 1967.
Estimated cost
and source of
funds: \$1,000; UNIDO consultant funds.

XVI.16 UNIDO Water-saving techniques in food-processing plants
Guide-lines of how to face water deficiency in developing countries. Techniques for using water several times, on several levels with or without chemicals.
Authority: ID/B-9 20 February 1967.
Estimated cost
and source of
funds: \$1,000; UNIDO consultant funds.

XVI.17 UNIDO

| | | <u>1967</u> <u>Man/months</u> | <u>Estimated</u> <u>Cost</u> <u>\$</u> |
|-----------------|---|----------------------------------|--|
| Bolivia | (EK-6/Rev.1) - UNDP/TA Expert to co-ordinate and organize operations of sugar plantations | 1/9 | 11,000 |
| Ethiopia | (SIS 67/107 ETH-5) - SIS Meat processing expert | 1/3 weeks | 2,500 |
| Iran | (SIS 67/93) Expert made survey of needs of the food industry | 1/2 weeks | 1,400 |
| Morocco | (SIS 67/82) - SIS Exploratory mission to assess situation of the Fish Concentrate Plant at Agadir | 4/1 | 4,900 |
| Thailand | (SIS 67/62) - SIS Expert advised government on organization and promotion of sugar industry | 1/3 | 6,000 |

CHAPTER XVII

TEXTILES

- XVII.1 ECA Studies on textiles, clothing and hard fibres - North African sub-region
Within the general framework of FCA studies and surveys for the North African sub-region, FCA is about to complete papers on textiles, clothing and hard fibres. The content of these studies will be similar to that undertaken last year for the West African sub-region.
- XVII.2 ECA Studies on textiles, clothing and fibres - Central African sub-region
Similar studies as in XVII.1 are under way for textiles, clothing and hard fibres for the Central African sub-region.
- XVII.3 ECA Technical Assistance - Dahomey
At the request of the Dahomey Government, a team of two FCA experts provided advice to the Government in 1967 on the possibilities of mechanized weaving not integrated with spinning and/or finishing. A report of the findings of the team and its recommendations were issued in a report to the Government of that country.
- XVII.4 ECE Changes in the pattern of production, consumption and trade in textiles in Western Europe
This note examines, over the past 10-15 years, four aspects of the "changes": (a) changes in the pattern of production consumption and trade in cotton, wool and man-made fibres; (b) changes in the growth and pattern of foreign trade, particularly, inter-regional trade; (c) the effect of differences in critical commodity and market patterns on relative export performances, and (d) trade creation and diversion in cotton, yarn and thread and cotton fabrics, following the creation of the EEC and EFTA.

XVII.4 (cont'd)

Authority: Terms of reference of the Commission, relevant resolutions and decisions of the Economic and Social Council and of the Economic Commission for Europe.

Duration: The study was initiated in 1967 and will be published in Vol. 19, No. 1 of the Economic Bulletin for Europe.

XVII.5 ECLA
(1966 CR/Add.4:
VI.12)

Textile industry: regional report

The revision of the regional report based on the comments on the preliminary version, was completed during 1967 and it is expected that this study will be published before the end of the year.

Authority: ECLA 235 (X)

Estimated cost: Approximately 6 man/months in 1967.

XVII.6 ILO

Eighth session of the textiles committee

Apart from a General Report, two technical reports will be prepared dealing with (1) Labour problems in the textile industry in developing countries; and (2) The effects of structural and technological changes on labour problems in the textile industry.

Authority: The convening of this meeting was decided upon by the Governing Body of the ILO.

Duration: Initiated in 1967. The meeting will be held from 29 April to 10 May 1968.

Source of funds: ILO budget.

XVII.7 UNIDO
(1966.CR:VI.L.5)

Operational characteristics of the textile industry in developing countries

A survey is being undertaken as part of technical assistance operations.

XVII.8 UNIDO
(1966 CR:VI.L.6)

Elaboration of guidelines for selection of machinery in the textile industry

The first of a series of meetings for the elaboration of guidelines for selection of machinery in the textile industry was held in Vienna in October 1967. Nine cotton industry experts participated

XVII.8 (cont'd)

and prepared a report on the selection of machinery in the cotton industry. The report has been published as ID/WG/8/1. A second meeting in the series will be held in November 1968 on the selection of machinery in the worsted industry, and a report will be prepared by the participating experts.

XVII.9 UNIDO

The following field projects were developed in 1967:

| | | <u>1967</u> <u>Man/months</u> | <u>Cost</u> <u>\$</u> |
|------------------|---|----------------------------------|--------------------------|
| Bulgaria | (OH-2) - UNDP/TA Expert advising on the dyeing of synthetic fibres | 1/6 | 11,000 |
| Ceylon | (ID-482/Rev.4) - RP Textile manufacturing adviser | 1/12 | 22,000 |
| Morocco | (421-57/Rev.2) - UNDP/TA Textile industry expert | 1/8 | 14,600 |
| Sudan | (67/61 SUD-4) - SIS Textile industry expert | 1/3 | 6,000 |
| Venezuela | (XBO-25) - UNDP/TA Expert evaluating consumption and production of synthetic fibres | 1/12 | 28,000 |

CHAPTER XVIII

CERAMICS, INCLUDING GLASS AND EARTHENWARE

XVIII.1 ECA Studies on ceramics, glass and earthenware - North African sub-region

ECA has completed studies on ceramics, glass and earthenware for the North African sub-region. The reports on the development of these industries cover the present situation, projected demand of the products, through to 1980, the input requirements, prices, etc., for the six countries of the sub-region.

XVIII.2 ECA Studies on ceramics, glass and earthenware for the Central African sub-region

Similar studies are underway for the Central African sub-region and are expected to be completed in 1968.

XVIII.3 UNIDO The following field projects were developed in 1967:

| | | 1967 <u>Man/months</u> | <u>Estimated Cost</u> |
|----------------------|---|---------------------------|---------------------------|
| Ceylon | (20-57/Rev.2) - UNDP/TA Ceramics expert | 1/12 | \$ 19,000 |
| Republic of Korea | (XBO-66) - UNDP/TA Expert on quality control | 1/12 | 20,000 |

CHAPTER XIX

BUILDING MATERIALS AND CONSTRUCTION INDUSTRY

- XIX.1 ECA Studies on brick, cement, cement-based products, asbestos cement and construction industry in North Africa
Within the framework of the Industrial Co-ordination Study for North Africa, ECA has completed separate studies on brick, cement, cement-based products, asbestos cement and the construction industry. The papers survey the current situation of the individual industries, outline the major problems and prospects of development and indicate the broad lines of action in the context of more rapid economic development.
- XIX.2 ECA Studies on brick, cement, cement-based products, asbestos cement and construction industry in Central Africa
Similar studies are underway for the Central African sub-region and are expected to be completed in 1968.
Duration: 1968.
- XIX.3 ECAFE Studies and surveys on building materials
Studies and surveys on the various traditional building materials as well as new and substitute building materials from agricultural and industrial wastes were undertaken in connection with the Seminar on the Development of Building Materials, held from 8 to 15 January 1967.
Authority: Seminar on the Development of Building Materials, January 1967.
Duration: 8 to 15 January 1967.
- XIX.4 ECE
(1966 CR:VI.N.6) Production of building materials and components in developing countries
A study was prepared by ECE to provide a background for the discussion of the building materials and components sector at the International Symposium on Industrial Development, held in Athens in December 1967. A draft report on the study, finalized by the ECE Secretariat in co-operation with a number of experts,

XIX.4 (cont'd)

was issued under the title "Development of the Building Materials and Components Sector" (document ME/52/67/D4) and circulated as a reference document at the Symposium. It will also be submitted to the Sub-Committee on the Building Industry of the ECE Committee on Housing, Building and Planning for information and comments in connexion with its third session to be held in November 1967. A 75-page sectorial summary paper, essentially based on the above mentioned report, was prepared by the ECE Secretariat and circulated by UNIDO at the Symposium as document ID/CONF.1/23. This paper will be submitted for comments to the third session of the ECE Sub-Committee on the Building Industry. If so recommended by the ECE Sub-Committee on the Building Industry, a revised and completed version of the full report will be published as a UN/ECE document in 1968.

Duration: The project was initiated in July 1965.

XIX.5 ECE
(1966 CR:VI.N.7)

Periodic review of the development of the building industry in ECE countries and of Government measures affecting this development

Twenty-four national monographs have been exchanged between countries participating in the ECE. The information received has been collated and analysed by the Secretariat. A provisional "Directory of Public Authorities and Principal Organizations Related to the Building Industry in ECE Countries" (document HOU/BUILD/31 and Add.1.) has been compiled and circulated to Governments. A revised and completed version of the directory is expected to be published in 1968. Further results of the analytical work carried out by the Secretariat will be submitted in the form of working papers for the third session of ECE Sub-Committee on the Building Industry (documents HOU/BUILD/25 and Add.1, HOU/BUILD/32, ME/52/67/D.5 and ME/52/67/D.6). The analytical work by the ECE Secretariat on the basis of these monographs was completed in November 1967. The orientation of the future work on this project will be decided upon by the Sub-Committee on the Building Industry at its third session in November 1967.

Duration: The project was initiated at the first session of the Sub-Committee on the Building Industry in November 1964 and is of a continuing nature. The first exchange of country monographs was completed in April 1966.

XIX.6 ECE
(1966 CR:N.8)

Promotion of standardization and dimensional co-ordination in building

Since the last report on activities in this field, a report on "Dimensional Co-ordination in Building - Current Trends in ECE Countries" (document ST/ECE/HOU/30) has been published in English, French and Russian. Problems involved in the standardization of various types of building components was the subject of intensive discussion at the Second ECE Seminar on the Building Industry, held in Paris in April 1967. Follow-up work to this Seminar is expected to be decided upon at the third session of the ECE Sub-Committee on the Building Industry in November 1967.

Authority: Long-term programme of work of the Sub-Committee on the Building Industry of the ECE Committee on Housing, Building and Planning.

XIX.7 ECE
(1966 CR:VI.N.12)

Organization of seminars and study tours on the development of industrialised building and related subjects.

XIX.8 ECE

Design, production and use of industrially made building components

The future design, production and use of industrially made building components was subject to a thorough discussion at the Second ECE Seminar on the Building Industry, held in Paris in April 1967. More than 50 papers were contributed to this Seminar. A synthesis of all the material received in advance of the Seminar, a summary of the discussion and some 15 pages of conclusions and recommendations adopted by the Seminar will be contained in the report on the proceedings of the Seminar, which is under preparation by the ECE Secretariat.

Authority: Long-term programme of work of the Sub-Committee on the Building Industry of the ECE Committee on Housing, Building and Planning.

Duration: The preparatory work for the Second ECE Seminar of the Building Industry was started at the first session of the Sub-Committee on the Building Industry in November 1964. An interim report on the proceedings of the Seminar will be submitted to the third session of the Sub-Committee on the Building Industry in November 1967. The final report is expected to be published in printed form in 1968. A third ECE Seminar on the Building Industry is scheduled for 1970.

XIX.9 ECE

Methods of estimating and programming the required growth of production capacity in the building industry

A scientific study of the methodology used in the programming of the building industry, carried out by a group of rapporteurs, appointed by the ECE Sub-Committee on the Building Industry. A draft report, based on case studies of a few selected ECE countries, is under preparation.

Authority: Long-term programme of work of the Sub-Committee on the Building Industry of the ECE Committee on Housing, Building and Planning

Duration: The project was initiated at the second session of the Sub-Committee on the Building Industry in February 1966. A draft report is expected to be submitted to the third session of the Sub-Committee in November 1967. It is expected that the final report will be issued for general circulation.

XIX.10 ESA

Selected studies on industrialization of building

The following studies are being prepared on the industrialization of building:

- (a) Prefabrication of wooden doors and windows;
- (b) Comparative study on construction techniques for seismic and hurricane areas;
- (c) Prefabrication and housing in developing countries;
- (d) Designing of building components and elements;
- (e) Application of mathematical methods and computers in housing construction.

These studies are carried out in close collaboration with UNIDO, the specialized agencies, the regional economic commission and competent international non-governmental organizations. The studies are being selected and oriented in such a way as to give particular emphasis to the problems posed by the adaptation of industrialized processes to the conditions prevailing in developing countries.

Authority: Work Programme of the Committee on Housing, Building, Planning, fourth session.

Duration: 1967 for (a) and (b), 1968 for (c), (d) and (e).

Estimated cost: 1967: 1 professional, 6 consultants for (a); and 1 professional, 10 consultants, 1 inter-regional adviser for (b); 1968: 8 professional, 10 consultants, 2 inter-regional advisers for (c); 8 professionals, 6 consultants for (d); 8 professionals, 10 consultants for (e).

- XIX.11 ESA/
 UNIDO/
 UNESOB Study on building materials industry
- This study concentrates on production, consumption and projections of requirements of basic building materials in the region, the relation of the building materials to overall industrial production and economic and social development, the process of modernization in the industry, and the problem of adaptation and efficiency of labour in the building industry.
- Authority: General Assembly Resolution 2036 (XX), and ECOSOC Resolution 1169 (XLI) and Industrial Development Board Resolution 1 (I).
- Duration: The study is expected to be completed by the spring of 1968.
- Estimated cost and source of funds: \$8,400 has been allocated for the study.
-
- XIX.12 ILO Eighth session of the Building, Civil Engineering and Public Works Committee
- Apart from a General Report, two technical reports will be prepared dealing with (1) Social aspects of prefabrication in the construction industry; and (2) Social problems in the construction industry arising out of the industrialization of developing countries.
- Authority: The convening of this meeting was decided upon by the Governing Body of the ILO.
- Duration: Project initiated in 1967. It is expected that the meeting will be held during the second half of 1968.
- Source of funds: ILO budget.
-
- XIX.13 UNIDO Development of building materials and construction industries in
(1966 CR:VI.N.13) developing countries
-
- XIX.14 UNIDO Development of building materials and construction industries in
(1966 CR:VI.N.14) developing countries: Seminar on clay-products industry

XIX.15 UNIDO/
UNDP Interregional seminar on the development of clay building materials in developing countries

UNIDO is assisting in the preparations for this Seminar which will be held in August 1968. Two discussion papers commissioned by UNIDO were completed in 1967:

- (1) "Sanitaryware from Common Clays" by C. Castelli
- (2) "Testing and Evaluation of Brick Clays" by V. Lach

Duration: 1967-1968,

Estimated cost and source of funds: \$1,300 for the two papers, financed from UNDP funds for the seminar.

XIX.16 UNIDO The following field projects were developed in 1967:

| | | 1967 <u>Man/months</u> | <u>Estimated cost</u> \$ |
|----------|--|---------------------------|---------------------------------|
| Malta | (SIS 67/100 MALTA-1) - SIS Expert to advise on improvements in factory building methods and materials | 1/2 | 1,800 |
| Paraguay | (Funds-in-Trust EX-2/Rev.1) - UNDP/TA Chief of Production at cement plant | 1/6 | |
| Rwanda | (SIS 67/181) - SIS Expert advised on the technical and financial aspects of establishing a cement factory | 1/2 | 5,000 |
| Syria | (ED-513) - RP Expert in project evaluation | 1/12 | 22,000 |
| Turkey | (SIS 67/55 TUR-2) - SIS Cement production expert | 1/5 | 14,000 |

CHAPTER XX

PULP AND PAPER

XX.1 ECAFE: Survey Mission on Pulp and Paper Industry - AIDC

A Survey Mission on the Development of the Pulp and Paper Industry was organized by the ECAFE secretariat in July 1967 and visited the following countries: Thailand, Malaysia, Singapore, Indonesia and the Philippines.

The findings of the Mission include:

- the need for organizing a Mission to survey the development of other forrests-based industry;
- the need for carrying out detailed survey of raw materials in areas having potential for the establishment of large pulp and paper mills;
- the need for conducting detailed techno-economic studies on the establishment of pulp and paper mills in countries where raw material and other facilities exist;
- the need for carrying out extensive commercial runs on various grades of paper to find out the feasibility of using a new method for pulping heterogeneous tropical hardwoods;
- the desirability of establishing, operating and maintaining the present rayon pilot plant at Bandung, Indonesia, as a regional research centre for dissolving pulp and rayon;
- the desirability of establishing an ASEAN pulp and paper research co-ordinating body;
- the desirability of these five countries synchronizing their development plans;
- the need for the establishment of a small permanent body to expedite the implementation of the recommendations of the mission.

Authority: ECAFE work programme.

Duration: July 1967.

XX.2 ECLA
(1966 CR/Add.4:
VI.15)

Advisory services: Panama

XX.3 ECLA
(1966 CR/Add.4:
VI.15)

Pulp and paper industry

During 1967 the name of the ECLA/BTAO/FAO Pulp and Paper Advisory Group was changed to the ECLA/BTAO/FAO Forest Industry Advisory Group for Latin America to reflect more accurately the nature of the work undertaken by that group.

A study was completed for the X Session of the Latin American Forestry Commission, on Latin America's forest industry and prospects for developing it.

The Group has continued to render advisory services to the Governments in the region.

Authority: ECLA 236 (X).

Estimated cost: 12 man/months approximately in 1967.

CHAPTER XXI

PHARMACEUTICAL INDUSTRIES, INCLUDING PESTICIDES, VACCINES ETC.

XXI.1 UNIDO

The following field projects have been developed during the year 1967:

| | | 1967 <u>Man/months</u> | <u>Cost</u> \$ |
|-------------------------|---|---------------------------|-------------------|
| Iran | (220-57) - UNDP/TA Adviser on basic pharmaceutical products | 1/12 | 22,000 |
| Israel | (243-57/Rev.3) - UNDP/TA Pharmacologist | 1/12 | 22,000 |
| United Arab Republic | (SIS 67/54 UAR-4) - SIS Expert reported on chlorine utilization for DDT manufacture | 1/4 | 7,500 |

CHAPTER XXII

INSTRUMENTS AND APPLIANCES, INCLUDING PRECISION
ENGINEERING AND HOUSEHOLD APPLIANCES

No continuing or planned projects have been reported under this heading.

CHAPTER XXIII

LEATHER AND RUBBER INDUSTRIES

XXIII.1 ECA Feasibility study on leather and shoe industry in North Africa
 ECA is preparing a pre-feasibility study on leather and shoe industry in North Africa as a part of industrial studies undertaken for this sub-region. The study will inter alia review existing markets for footwear and leather, present production of shoes and tanned leather, possible expansion and projected markets of these articles up to 1980.

XXIII.2 ECA Feasibility study on leather and shoe industry in Central Africa
 Similar study for Central Africa is also under preparation by ECA.

XXIII.3 UNIDO The following projects were developed in 1967:

| | | <u>1967 Man/months</u> | <u>Estimated cost \$</u> |
|----------|--|----------------------------|----------------------------------|
| India | (37-57/Rev.7) - UNDP/TA Organic pigments and dyes adviser | 1/2 | 5,000 |
| Jamaica | (XBO-427 Funds-in-Trust) - UNDP/TA Footwear production expert | 1/12 | 23,200 |
| Malaysia | (19-66) - UNDP/TA Leather industries expert | 1/12 | 22,000 |
| Niger | (SIS 67/121) Tannery expert | 1/2 | 3,800 |

CHAPTER XXIV

CLOTHING INDUSTRIES

No continuing or planned projects have been reported under this heading.

CHAPTER XXV

WOOD INDUSTRIES, INCLUDING FOREST PRODUCT INDUSTRIES

- XXV.1 ECA Study on pulp, paper and other forest industries for North Africa
ECA, with the help of experts deputed by FAO, is preparing a study on pulp, paper and other forest industries (including furniture) for North Africa. This study will comprise surveys on raw material resources, the situation of forest industries and their development prospects and problems.
- XXV.2 ECA Study on forest based industries for the Central African sub-region
Likewise, ECA is also preparing a study on forest based industries for the Central African sub-region survey.
- XXV.3 ECE
(1966 CR:VI.T.3) Studies of economic and technical aspects of the wood-processing industries
A symposium on the integration in the forest industries was organized in the spring of 1967. A symposium on factors influencing the consumption of wood-based panel products (fibreboard, particle board, plywood and veneers) is currently being prepared and will be held in February 1968.
- XXV.4 ECE
(1966 CR:VI.T.4) Review of the forest products market for Europe including forest products statistics
- XXV.5 ECE
(1966 CR:VI.T.5) Increasing efficiency in wood harvesting including mechanization
- XXV.6 ECE
(1966 CR:VI.T.6) Technical co-operation and contacts
Preparations are being made for a seminar in 1968, possibly combined with a study tour on transport, handling and packaging of forest products; also for a seminar and training course on the applications and uses of tropical hardwoods.

XXV.7 ILO

Tripartite technical meeting for the woodworking industries

The project consisted of preparing three reports on the wood-working industries, which were world-wide in scope. Apart from a report giving a General Review of Social Problems in the Wood-working Industries, two technical reports were prepared dealing with: (1) Technological changes in the woodworking industries and their social consequences; and (2) Occupational safety and welfare in the woodworking industries. These reports were examined by the meeting and a series of conclusions were reached.

Authority: This meeting was convened in accordance with a decision taken by the Governing Body.

Duration: Initiated in 1967. The meeting was held from 11 to 22 September 1967. Project is expected to be completed by the end of 1967.

Source of funds: ILO budget.

XXV.8 UNIDO

SIS preparatory mission to Peru, June 1967

A staff member went to Peru to discuss with local representatives on a proposed feasibility study on the paper and pulp plant based on sugar bagasse. The request under SIS has since been granted. Discussions also took place to explore possibilities of assistance by UNIDO in the field of petrochemicals and plastics.

Duration: 2-19 June 1967

XXV.9 UNIDO

The following projects were developed in 1967:

| | | <u>Man/months</u> | <u>Cost</u> ↓ |
|-------------------------|---|-------------------|------------------|
| Africa | Regional (ED-439) - RP Adviser on chemical forest industries | 1/3 | 24,000 |
| Cyprus | (SIS 66/46 CYP-4) - SIS Expert on timber marketing | 1/2 | 4,000 |
| India | (37-57/Rev.2) - UNDP/TA Industrial investment survey - Investigations of mineral-based and forest-based industry | 3/21 | 40,000 |
| Ivory Coast | (SIS 66/22 IVCO-1) - SIS Expert advising on establishment, management and training in paper mill | 1/3 weeks | 3,000 |
| Jamaica | (ED-951) - UNDP/TA Furniture production engineer | 1/12 | 19,500 |
| Peru | (SIS 67/95 PERU-1) - SIS Exploratory mission dealing with feasi- bility study of a plant manufacturing pulp and paper from Bagasse | 2/1 | 1,700 |
| Turkey | (SIS 67/76 TUR-3) - SIS Pulp and paper mill expert | 1/1 | 2,000 |
| Uganda | (SIS 67/131 UGAND-1) - SIS Pulp and paper industry expert | 1/2 | 5,000 |
| United Arab Republic | (SIS 67/78 UAR-7) - SIS Pulp and paper mill expert | 1/6 | 57,200 |
| Western Samoa | (XBO-382) - UNDP/TA Expert in furniture and cabinet making | 1/12 | 13,098 |
| Yugoslavia | (294-57) - UNDP/TA Panel production expert | 1/4 | 8,000 |

CHAPTER XXVI
MINING INDUSTRIES

- XXVI.1 ECA** Coal map of Africa
ECA has already published a coal map of Africa which shows the quantity and type of deposits and reserves as well as the quality of the mineral.
- XXVI.2 ECA** Study on mining industries in Central Africa
With bilateral assistance, ECA is preparing a study on mining industries in Central Africa as a part of the overall industrial survey of this sub-region.
- XXVI.3 ECA** Study on mining of non-ferrous metal ores and phosphates in North Africa
ECA is preparing also a study on mining of non-ferrous metals ores and phosphates in North Africa.
- XXVI.4 ILO** Second tripartite technical meeting for mines other than coal mines
Apart from a general report, two technical reports will be prepared dealing with (1) employment and conditions of work in mines other than coal mines, in the light of fluctuations in the international mineral trade; (2) measures - particularly training - needed to meet safety and health requirements in mines other than coal mines. All the reports are world-wide in scope. The reports will be examined at the meeting with a view to reaching conclusions on the technical reports.
Authority: The convening of this meeting was decided upon by the governing body of the ILO.
Duration: Project initiated in 1967. It is expected that the meeting will be held during the second half of 1968.
Source of funds: ILO budget.

XXV.9 UNIDO

The following projects were developed in 1967:

| | | <u>Man/months</u> | <u>Cost</u> \$ |
|-------------------------|---|-------------------|-------------------|
| Africa | Regional (ED-439) - RP Adviser on chemical forest industries | 1/3 | 24,000 |
| Cyprus | (SIS 66/46 CYP-4) - SIS Expert on timber marketing | 1/2 | 4,000 |
| India | (37-57/Rev.2) - UNDP/TA Industrial investment survey - Investigations of mineral-based and forest-based industry | 3/21 | 40,000 |
| Ivory Coast | (SIS 66/22 IVCO-1) - SIS Expert advising on establishment, management and training in paper mill | 1/3 weeks | 3,000 |
| Jamaica | (ED-951) - UNDP/TA Furniture production engineer | 1/12 | 19,500 |
| Peru | (SIS 67/95 PERU-1) - SIS Exploratory mission dealing with feasi- bility study of a plant manufacturing pulp and paper from Bagasse | 2/1 | 1,700 |
| Turkey | (SIS 67/76 TUR-3) - SIS Pulp and paper mill expert | 1/1 | 2,000 |
| Uganda | (SIS 67/131 UGAND-1) - SIS Pulp and paper industry expert | 1/2 | 5,000 |
| United Arab Republic | (SIS 67/78 UAR-7) - SIS Pulp and paper mill expert | 1/6 | 57,200 |
| Western Samoa | (XBO-382) - UNDP/TA Expert in furniture and cabinet making | 1/12 | 13,098 |
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CHAPTER XXVI
MINING INDUSTRIES

XXVI.1 ECA

Coal map of Africa

ECA has already published a coal map of Africa which shows the quantity and type of deposits and reserves as well as the quality of the mineral.

XXVI.2 ECA

Study on mining industries in Central Africa

With bilateral assistance, ECA is preparing a study on mining industries in Central Africa as a part of the overall industrial survey of this sub-region.

XXVI.3 ECA

Study on mining of non-ferrous metal ores and phosphates in North Africa

ECA is preparing also a study on mining of non-ferrous metals ores and phosphates in North Africa.

XXVI.4 ILO

Second tripartite technical meeting for mines other than coal mines

Apart from a general report, two technical reports will be prepared dealing with (1) employment and conditions of work in mines other than coal mines, in the light of fluctuations in the international mineral trade; (2) measures - particularly training - needed to meet safety and health requirements in mines other than coal mines. All the reports are world-wide in scope. The reports will be examined at the meeting with a view to reaching conclusions on the technical reports.

Authority: The convening of this meeting was decided upon by the governing body of the ILO.

Duration: Project initiated in 1967. It is expected that the meeting will be held during the second half of 1968.

Source of funds: ILO budget.

CHAPTER XXVII

POWER AND ELECTRICITY

- XXVII.1 ECA High-voltage interconnections between the countries of the North African sub-region
- A study to investigate possible high-voltage inter-connexions between the countries of the North African sub-region with particular emphasis on their economic feasibility has been completed by the ECA. Its main conclusions are that for the time being only the interconnexions between Morocco and Algeria on the one hand and Algeria and Tunisia on the other are technically possible and economically justified.
- XXVII.2 ECA Studies on the development of power and electricity for the Central-African sub-region
- ECA has completed studies on the development of power and electricity for the Central African sub-region. A monograph has been produced for each of the six countries covering the present situation of energy resources and recommendations for their development. The power and energy resources of the sub-region are also covered in a separate summary report.
- XXVII.3 ECA Sub-regional conference on energy in Central Africa
- A sub-regional conference in Central Africa on energy is scheduled for January 1968. ECA is to present the above studies. In addition to the six countries, Rwanda, Burundi and Zambia are also to participate in the conference.
- Duration: January 1968.
- XXVII.4 ECE
(1966 CR:VI.V.2) General Energy Problems
- The following studies and activities are being pursued in this field. On the basis of information obtained in reply to an enquiry, the secretariat is preparing joint studies on: Experience acquired in participating countries in respect of the degree of accuracy achieved in projecting requirements for the various forms of energy; and methods used for systematically assessing the influence on the energy market and energy policy (a report is to be issued in 1968).

XXVII.5 ECE
(1966 CR:VI.V.3)

General energy problems

The following enquiry is also being undertaken for the preparation of a report in 1968: Methods used for the long-term planning of energy supplies.

XXVII.6 ECE
(1966 CR:VI.V.4)

General energy problems

The secretariat prepares and submits to the three Committees concerned with energy an annual survey of the recent energy situation in Europe. The latest document, issued in 1966, is ST/ECE/ENERGY/7.

XXVII.7 ECE
(1966 CR:VI.V.5)

General energy problems (Report Prague symposium)

Volume I of the report on the Symposium held in Prague, September 1966 issued in 1967 is ST/ECE/ENERGY/8 - ST/ECE/HOU/31.

XXVII.8 ECE
(1966 CR:VI.V.10)

Development work in special fields

At its 26th. session ECE will consider setting up a new working party on economic management of large power stations.

XXVII.9 ECE
(1966 CR:VI.V.11)

Hydroelectric resources in Europe and their utilization

The following items are a selection from the work of the Group of Experts working in this field:

Hydroelectric potential of Europe's water resources - its assessment and geographical distribution: In continuation of earlier studies prepared in this field, the secretariat is preparing a definitive study, containing an international map of surface potential throughout Europe. A provisional version of this study was prepared as EP/WP.2/ Working Paper No. 42 and Adds. 1-3. The definitive study will be published in 1968.

The role of water recycling by pumping on a daily or weekly cycle in hydro-electric plants and multiple-purpose schemes: A provisional version of a report on this subject has been prepared as EP/WP.2/Working Paper No. 44 and Adds. 1-4. The Group's programme includes the study of a number of other subjects including the following:

- Elaboration of Methodology for the Assessment of an Exploitable Hydropotential and Related Problems;

- XXVII.9 (cont'd.)
- Possibilities of increasing the utilization of the hydro-electric potential in existing or future storage installations
 - Methods to increase the effectiveness and productivity of multiple purpose hydro-electric schemes;
 - Prospects for the development of hydro-electric plants and for their incorporation in large energy supply systems in the future.

XXVII.10 ECE
(1966 CR:VI.V.12)

Problems in the design and operation of thermal power stations

Five volumes of reports have been issued on specific questions in the series "Problems in the Design and Operation of Thermal Power Stations" (ST/ECE/EP.23, Vol. 1 - 5). The following are examples of the reports:

Advantages and disadvantages of outdoor thermal power stations:

The final text of this study will be published early in 1968 in the next volume of ST/ECE/EP.23. It has already been published in EP/WP.6/Working Paper No. 34/Rev.1.

Problems of fuel transport to high-output thermal power stations:

The final text of this study will be published early in 1968 in the next volume of ST/ECE/EP.23. It has already been published in draft form in EP/WP.6/Working Paper No. 35/Rev.1.

Use of gas turbines for electric power production:

A report on this topic containing information on recent developments in this field and certain considerations on prospects for development of gas-steam cycle plants will be published in 1968. A draft text has been issued in EP/WP.6/Working Paper No. 30 and Adds. 1 - 2.

A number of other studies are programmed including the following:

- Analysis of new techniques for the full automation of thermal power stations consisting of blocks, and utilization of regulating computers and electronic computers for this and other purposes.
- Mechanization and automation of methods of construction and assembly in the building of thermal power stations.
- Technical and economic study of the chemical characteristics of water-steam cycles in thermal power stations
- Cooling equipment at thermal power stations.

XXVII.11 ECF
(1966 CR:VI.V.14)

Coal mining problems

The programme of work of the Sub-Committee on Mining Problems for 1968/69 includes three studies:

- (a) Use of electronic computers in the coal industry;
- (b) Optimum economic exploitation of the aggregate formed by a high output thermal power station, the mines which supply it with coal, and the means of conveying the coal and the generated power;
- (c) Means of achieving broader international co-operation in science and technology.

The Sub-Committee undertakes studies of the following nature:

General problems of organization having a bearing on the coal industry;

New management techniques;

Remote control and automation;

Joint economic studies with other subsidiary bodies of the Economic Commission for Europe on questions affecting mining technology.

XXVII.12 ECE
(1966 CR:VI.V.15)

Productivity in the coal industry

The programme of work for the years 1968/69 includes three main items:

(a) Definition of the main technical problems; measures which should be adopted to solve these problems;

(b) Present situation and methods used to increase productivity in pithead operations;

(c) The use of a mixture of ammonium nitrate and diesel oil as an explosive in driving roads.

The Group of Experts on Productivity deals with all problems relating to mining methods and techniques.

Authority: Decision of the Group of Experts on Productivity at its Fifty session approved by the Sub-Committee of Mining in July 1967.

XXVII.13 ECE
(1966 CR:VI.V.17)

Open-cast mining

XVII.14 ECE
(1966 CR:VI.V.18)

Operational research on the coal industry

The two main problems to be studied by the Group of Experts in 1968 are:

- (a) Modern management methods in the coal industry and their impact on productivity;
- (b) Use of methods of operational research to ascertain the potential scope for increasing labour productivity in the mines.

XVII.15 ECE
(1966 CR:VI.V.19)

Solid fuel utilisation

The following main subjects are being studied:

- Coking problems;
- Solid fuel utilisation in the household sector;
- Methods for the quality control of coal;
- Coal preparation.

XVII.16 ECE
(1966 CR:VI.V.20)

Coking problems

The group of experts on coking is concerned with two new problems this year:

- (a) Preparation of coals for coking;
- (b) New methods of coking.

XVII.17 ECE
(1966 CR:VI.V.21)

Utilisation of ash: Consideration of all problems connected with the utilisation of ash from thermal power stations.

The group of experts on the utilisation of ash is engaged on a programme of work which includes the following topics:

- (a) Trends in the production and commercial utilisation of ash;
- (b) Main research work carried out in the field of the utilisation of ash;
- (c) Survey of the production and utilisation of lignite.

- XXVII.18 ECE
(1966 CR: VI.V.23) The use of gas in the glass industry
The report has been published in 1967. The study will be pursued in the future to cover other aspects.
- XXVII.19 ECE
(1966 CR:VI.V.24) The use of gas in the iron and steel industry
The report has been published. The study will be pursued to cover other aspects.
- XXVII.20 ECE
(1966 CR:VI.V.25) The use of gas in the chemical industry
A questionnaire to collect the necessary information was sent to all member countries of the ECE. A consolidated report based on the replies received will be elaborated and reviewed in 1968.
- XXVII.21 ECE
(1966 CR:VI.V.26) Use of gas by electric power stations
The Working Party on the Preferential Uses of Gas is now proceeding with that study as it concerns the special aspects related specifically to the use of gas as a fuel while the Electric Power Committee is dealing with the other more general aspects of the problem.
- XXVII.22 ECE
(1966 CR:VI.V.27) Use of gas for space-heating purposes
The secretariat has prepared a consolidated report based on the replies to the questionnaire circulated earlier, which was examined by the Working Party at its December 1967 session. The study will be extended to cover other aspects.
- XXVII.23 ECE
(1966 CR:VI.V.28) Economic aspects of the use of non-metallic and aluminium pipes for the transport and distribution of gas
Appraisal of the economic advantages of the use of non-metallic and aluminium pipes for the transport and distribution of gas. The study will also include a survey on the materials used for the manufacture of non-metallic and aluminium pipes.

XXVII.23 (cont'd.) A consolidated report was drafted by the Secretariat on the basis of the information collected from a number of countries; the report was approved by the Working Party which requested its general distribution. The matter is to be reviewed every three years.

Authority: Decision taken by the Working Party on the transport of gas at its first session in 1966 and endorsed by the Committee on gas at its thirteenth session in 1967.

XXVII.24 ECE

Survey of the natural gas market in Europe

To ascertain the existing and potential markets for natural gas in the light of the energy market in Europe. To ascertain the possibilities and conditions of covering these markets on the basis of the natural gas resources likely to be available for European countries.

Authority: Decision taken by the Committee on gas at its thirteenth session in 1967.

Duration: Two years.

XXVII.25 ECE

Symposium on the future role of coal in national and world economies

At the invitation of the Polish Government, a symposium will be held at Warsaw from 13 to 18 May 1968 with the following objectives:

- (a) To define, quantitatively and qualitatively, the present and long-term trends in coal consumption in the energy economy of Europe and the world;
- (b) To acquire a deeper insight into the factors influencing the development of the coal industry;
- (c) To formulate conclusions capable of providing an economic basis for a definition of the role of coal in the energy economy of the future, with a view to facilitating the decisions required for an optimum development of the coal industry in producing countries;
- (d) To determine the impact of the coal industry's development on the required numbers and qualifications of key staff.

XXVII.25(cont'd.) Ten following topics will be discussed:

- (a) World energy prospects;
- (b) Geography and geology of coal deposits;
- (c) Present situation and future trend of production capacities in the coal industry;
- (d) Organization of the coal industry: productivity; production costs;
- (e) Problems of key professional, technical and scientific staff in relation to the future development of the coal industry;
- (f) Solid-fuel utilization;
- (g) Trends in the methods and economics of solid fuel transport;
- (h) Problems of the domestic and international trade in solid fuels;
- (i) Methods of abating air and water pollution caused by the production and use of solid fuels;
- (j) Utilisation of wastes from solid fuel production and use.

Authority: Coal Committee decision taken in 1967.

Duration: 13 - 18 May 1968.

XXVII.26 ECE

Legal protection of international gas pipelines

To study the existing national and international legislations having a direct bearing on the subject and to carry out a comparison between them, so as to identify the problems likely to arise from them and their possible solutions. The basic information gathered has been examined by the countries concerned and has been published by the Secretariat after revision. A first set of basic principles to be recommended to governments has been elaborated by a group of rapporteurs for consideration by the Committee on gas at its coming plenary session in February 1968.

Authority: Decision taken by the Committee on gas at its eleventh session in 1965.

XXVII.27 ECE

Economic and technical aspects of gas storage by the various systems in current use

Appraisal of the major factors taken into account to evaluate the economic interest of a given storage capacity. The study covers also the storage of gas in water-bearing beds and the safety problems which may arise in relation with a possible pollution of drinking water resources. A consolidated report is to be presented to the Committee on gas at its coming session.

Authority: Decision taken by the Working Party at its first session in 1966 and endorsed by the Committee on gas at its thirteenth session in 1967.

XXVII.28 ECE

Economics of the conversion of distribution networks to natural gas

The study is aimed at identifying the problems likely to arise during the operation and to collect information on the experience gained in countries which have gone or are going through that process. Upon conclusion, the Committee may adopt a number of recommendations for the governments to enable the gas industry to go through the difficult stage.

Authority: Decision taken by the Committee on gas at its thirteenth session in 1967.

XXVII.29 ECE

Economic aspects of long-distance transmission of gas by pipelines

A questionnaire (aiming at identifying the problems most commonly met with, and the solutions given to them) has been circulated. A consolidated preliminary report based on the expected answers is to be prepared for March 1968.

Authority: Decision taken by the Working party on the transport of gas at its first session in 1966 and endorsed by the Committee on gas at its thirteenth session in 1967.

CHAPTER XXVIII

MISCELLANEOUS INDUSTRIES

XXVIII.1 ECA Third consultative meeting of the regional group for Africa of the United Nations Advisory Committee on the application of science and technology to development

ECA has participated in the third consultative meeting of the regional group for Africa of the United Nations Advisory Committee on the application of science and technology to development, held in Addis Ababa from 9 to 15 March 1967.

Duration: Addis Ababa, 9-15 March 1967

XXVIII.2 IAEA Advisory missions to Greece and Turkey

Missions were made to Greece and Turkey (21-30 May 1967) in response to the requests of these nations. The general purpose of these missions was to co-ordinate and advise on national programmes involving industrial application of radio-isotopes. Problem areas were well defined in advance and specific outside consultants were chosen to accompany the missions who are experts in these areas. For example the head of the Isotope Techniques Laboratory, Stockholm, participated in the mission to Turkey, where a forthcoming special fund project using radio-isotopes to study sewage outfall from Istanbul was the chief topic of interest.

Duration: 21-30 May 1967

XXVIII.3 IAEA Advisory missions to the Republic of China, India and the United Arab Republic

Missions were made to the Republic of China, India and the United Arab Republic (16-21 November 1967) in response to the requests of these nations. The general purpose of these missions was to co-ordinate and advise on national programmes involving industrial applications of radio-isotopes. Problem areas were well defined in advance and specific outside consultants were chosen to accompany the missions who are experts in these areas.

Duration: 16-21 November 1967

CHAPTER XXIX

INDUSTRIAL RESEARCH

A. Application of new technological developments to industry in developing countries

XXIX.A.1 ECAFE Report on ECAFE activities in science and technology

This report was submitted to the Asian Regional Group of the Advisory Committee on the Application of Science and Technology to Development at its meeting in Bangkok in August 1967. The report is a brief review of the activities of ECAFE on the application of science and technology to the development and utilization of natural resources in the developing countries in the region. The secretariat also prepared a summary document introducing the first substantive report of the Advisory Committee on the application of science and technology to development entitled "Feeding the expanding world population: Recommendations for international action to avert the impending protein crises". Finally, a study was prepared for the purpose of providing some basis for the identification of probable areas of co-operation in research on coconut entitled "Co-operation in industrial research for the development of the coconut industry in the ECAFE Region".

Duration: 7 to 9 August 1967, Bangkok.

XXIX.A.2 ECLA Problems relating to the transfer of technical know-how and applied technological research
(1966 CR/Add.4: VII.1)

Work on this project, referred to in the 1966 Consolidated Report, was intensified during 1967 and a note entitled "Arrangements for the transfer of industrial technology to developing countries" was prepared for the purpose of facilitating the precise terms of reference for this project. It is expected that the Inter-American Bank will collaborate with ECLA on this project.

Authority: ECLA 245 (XI).

Estimated cost: 6 man/months approximately in 1967.

XXIX.A.3 IAEA Advisory Mission to China

An expert from the United States Atomic Energy Commission accompanied the mission to China where radiation processing of industrial products was the most important consideration.

XXIX.A.4 IAEA Advisory Mission to India

An expert from the United States Atomic Energy Commission accompanied the mission to India where radiation processing of industrial products was the most important consideration.

B. Establishment and operation of industrial research institutions

XXIX.B.1 ECA Comprehensive study on industrial research and development in Africa

A comprehensive study on industrial research and development in Africa and covering all the four sub-regions has been completed. It includes a survey of existing institutions in the field of industrial research in the continent, a discussion of the model organization recommended for the East African sub-region in an earlier study (E/CN.14/INR/94) and its possible application to other sub-regions.

XXIX.B.2 ECLA
(1966 CR/Add.4:
VII.2) Advisory services

The Regional Adviser on Technological Research has continued his activities in the countries of the region and has also maintained close contact with the Advisory Committee on the Application of Science and Technology to Development. A paper on a "Latin American Centre for Iron and Steel Research" was presented at the Committee's VII session (New York, April-May 1967).

The Regional Adviser also serviced the meeting of the Latin American Group of the Advisory Committee on the Application of Science and Technology to Development held in Santiago, Chile, from 27 February to 1 March 1967.

Estimated cost: 12 man/months approximately in 1967.

XXIX.B.3 UNIDO
(1966 CR:VII.B.6) Industrial Research and Development News
(formerly the Industrial Research News)

This series (ID/S&R.-) is continuing. Vol. II, No. 1 was published in English in 1967, including brief synopses in French and Spanish. Vol. II, No. 1, prepared for publication early in 1968, will include a report of the International Symposium on Industrial Development held in Athens in November-December 1967.

XXIX.B.4 UNIDO Case studies and reports on industrial research problems
(1966 CR:VII.B.9)

XXIX.B.5 UNIDO Central American Research Institute for Industry (ICAITI)
(1966 CR:VII.B.19)

XXIX.B.6 UNIDO National Institute of Industrial Technology, Argentina
(1966 CR:VII.B.20)

XXIX.B.7 UNIDO Institute for Technological Research (IIT), Colombia
(1966 CR:VII.B.21)

XXIX.B.8 UNIDO Industrial Research Centre, Israel
(1966 CR:VII.B.22)

XXIX.B.9 UNIDO Industrial Research, Libya
(1966 CR:VII.B.23)

XXIX.B.10 UNIDO National Institute for Scientific and Industrial Research
(1966 CR:VII.B.24) (NISIR), Malaysia

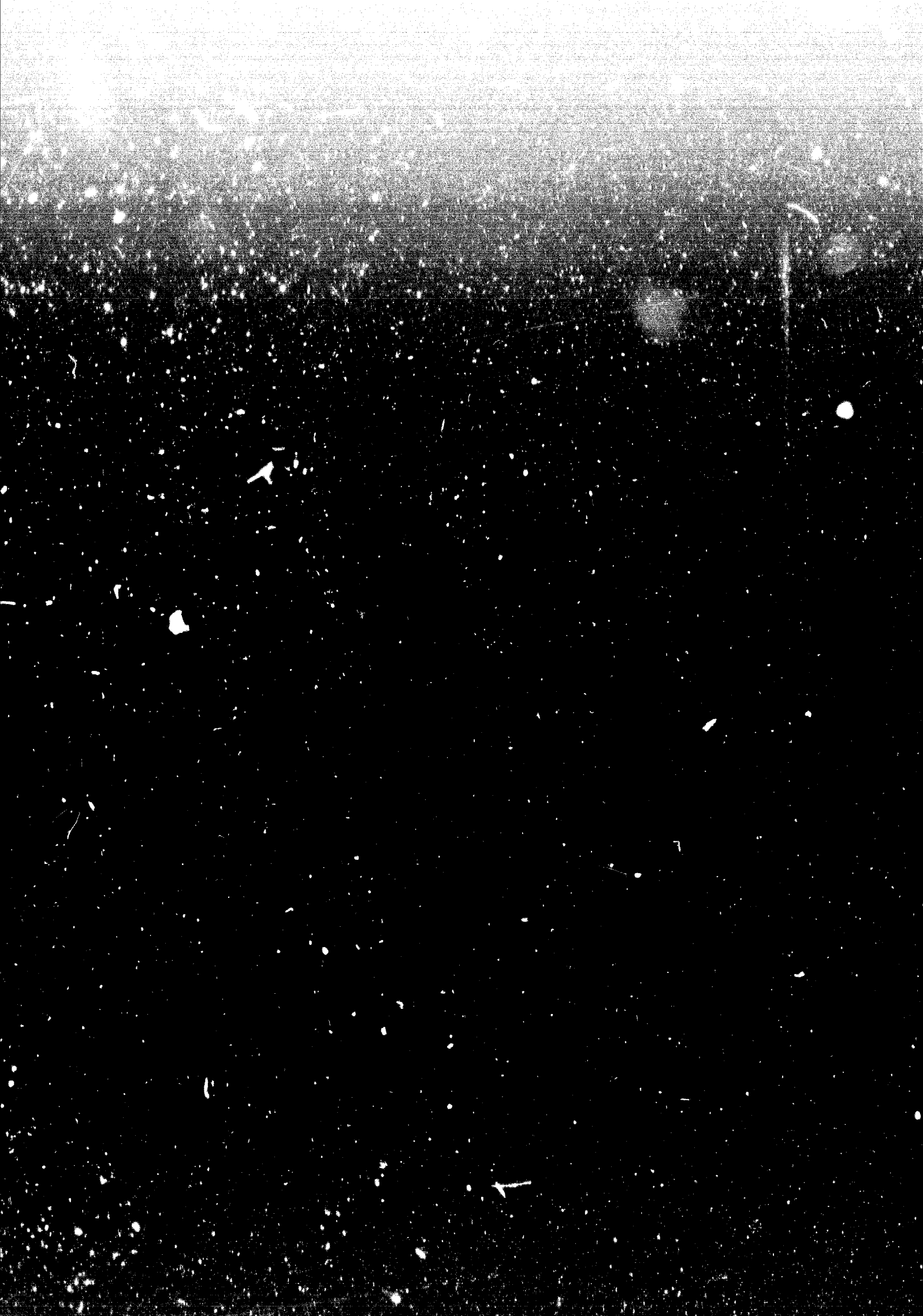
XXIX.B.11 UNIDO Technical Standards Institute, Paraguay
(1966 CR:VII.B.25)

XXIX.B.12 UNIDO Industrial Research Institute, The Sudan
(1966 CR:VII.B.26)

XXIX.B.13 UNIDO Technological Research Institute, Thailand
(1966 CR:VII.B.27)



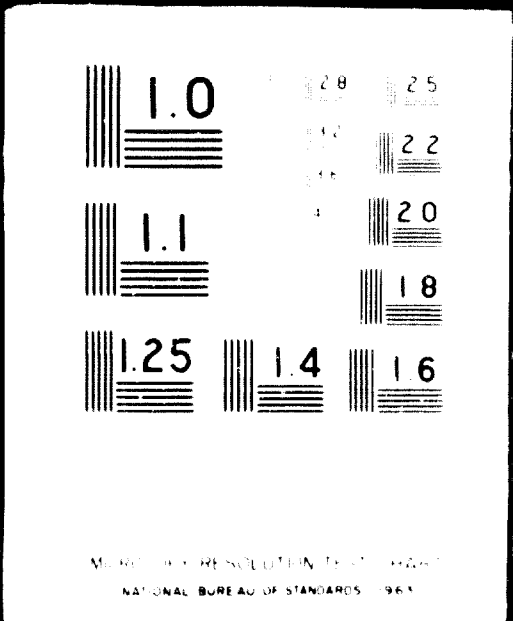
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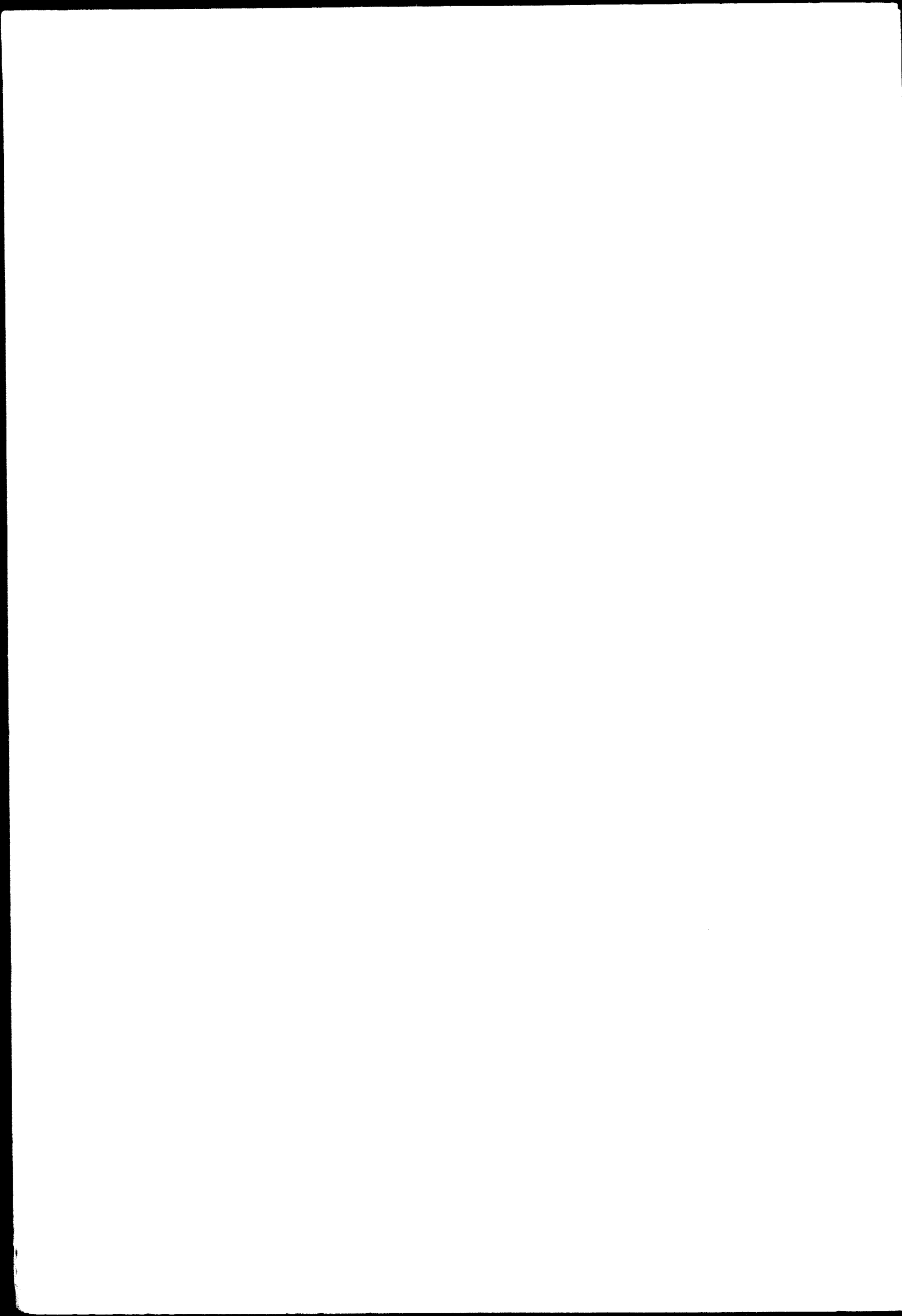
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MEASURING RESOLUTION IN TEST TARGETS
NATIONAL BUREAU OF STANDARDS 1963



XXIX.B.14 UNIDO Workshop for Managers of Industrial Research Institutes

UNIDO organized in Athens on 4-8 July 1967, a training workshop for managers of industrial research institutes. The workshop was attended by 19 participants (managers or directors of various industrial research institutes in Africa and the Middle East, Asia and the Far East and Latin America), eight experts and 24 observers from the host country. UNIDO supervised the preparation of nine papers and six studies which were submitted to the workshop. Statements from 18 countries were presented and discussed. A number of recommendations were prepared by working committees which were unanimously adopted. The report of the proceedings and recommendations of the workshop has been completed and will be published and disseminated in 1968.

Authority: Industrial Development Board.

Duration: 4 man/months of UNIDO staff time.

Total cost and source of funds: \$45,000 including travel and subsistence for the experts and participants. TA Operations budget.

XXIX.B.15 UNIDO The following field projects were developed in 1967:

| | | <u>1967</u> <u>Man/months</u> | <u>Cost</u> <u>\$</u> |
|----------|--|----------------------------------|--------------------------|
| Colombia | (7) - SF Institute for Technological Research | | |
| Israel | (11) - SF Industrial Research Centre | | |
| Nigeria | (10-61/Rev.1) - UNDP/TA Expert to serve as director of the Federal Institute of Research | 1/6 | 11,000 |
| Paraguay | (8) - SF Technical Standards National Institute | | |
| Regional | (68) - SF The Central American Research Institute for Industry (ICAITI) - Phase II | | |
| Sudan | (12) - SF Industrial Research Institute | | |
| Thailand | (82-57/Rev.3) - UNDP/TA Industrial economist (market research) | 1/1 | 2,000 |
| Thailand | (16) - SF Technological Research Institute | | |

C. Establishment of testing laboratories

No planned or continuing projects reported under this heading.

D. Definition and adoption of industrial standards and specifications

XXIX.D.1 ECA Seventh session ISO Assembly and the Conference on Standardization in Developing Countries

ECA was represented by a senior consultant at the seventh session of the ISO Assembly and the Conference on Standardization in Developing Countries held in Moscow in June 1967.

Duration: Moscow, June 1967.

XXIX.D.2 ECA Over-all study on standardization in Africa covering all four sub-regions

Following earlier studies on standardization for West Africa (E/CN.14/INR/116) and North Africa (E/CN.14/NA/ECOP/6) an over-all study on standardization in Africa covering all four sub-regions has now been completed. Training in standardization (based on offers from friendly governments to conduct courses for African standards officers) has been emphasized.

XXIX.D.3 ECAFE (1966 CR:VII.D.6) Technical assistance on standardization in Asia

XXIX.D.4 ECAFE Report of the Working Group on the Development of Standards Institutions in the ECAFE

The Asian Industrial Development Council at its second session 28 February to 6 March 1967, considered the above report; the Council favoured the setting up of an Asian Standards Committee - care being taken to avoid duplication with existing bodies.

Authority: ECAFE work programme.

Duration: 28 February to 6 March 1967.

XXIX.D.5 UNIDO (1966 CR:VII.D.21) The role and problems of standardization in industrial development

XXIX.D.6 UNIDO The following field projects were developed in 1967:

| | | <u>1967</u> | |
|--------------------------------------|---|-------------------|--------------|
| | | <u>Man/months</u> | <u>Cost</u> |
| Afghanistan | (155/63 Rev.1) - UNDP/TA Metric system expert | 1/12 | \$ 22,000 |
| Asia and the Far East Regional | (ED-1083 Rev.6) (ED-1084 Rev.1) - RP Regional standards adviser | 1/5 | 12,000 |
| Barbados | (87-63) - UNDP/TA Industrial standards adviser | 1/11 | 22,000 |
| Burma | (1-57) - UNDP/TA Metrological services expert | 1/12 | 7,200 |
| Guyana | (SIS 67/213) - UNDP/TA Industrial standards experts | 2/2 weeks | 1,200 |
| Libya | (Funds in Trust) - UNDP/TA Industrial standards expert | 1/2 | 16,000 |
| Thailand | (82-57) - UNDP/TA Industrial standards expert | 1/12 | 22,000 |
| Trinidad and Tobago | (SIS/67/87 TRTO-2) - SIS Two industrial standardisation experts | 2/1 | 2,000 |

E. Technical problems of industrial quality control in the developing countries
No planned or continuing projects reported under this heading.

F. Adaptation of technology

XXIX.F.1 ECE

Economic aspects of automation

A study analysing the economic aspects of automation. After an introductory chapter dealing with the concept of automation and its definition, the study centers on two main aspects: conditions required for introduction of automation and the effects of automation on its production process and its organization, as well as on the product pattern. A final chapter will be devoted to automation in developing countries. A first meeting of Rapporteurs on Automation met in August 1966 and agreed upon an outline and methods of work. A second meeting, scheduled to meet in January 1968, will consider a first draft of the study.

Authority: Resolution 13 (XX), Economic Commission for Europe, twentieth session, April 1965.

Duration: It is expected that the study will be published in 1969.

CHAPTER XXX

INDUSTRIAL INSTITUTIONS

A. Industrial promotion and development organizations

- XXX.A.1 ECA Proposal to create sub-regional or multi-national industrial information and promotion centres
- As a part of the implementation programme, the conference of industrialist and financiers, convened in January 1967, considered investment opportunities in Africa (particularly those which called for sub-regional co-operation); methods of capital generation within Africa and external sources of finance; incentive measures; and institutional machinery through which the commission could play its role as "regional catalyst" and investment promoter (see II.D.7 and 8 above). ECA has proposed the creation of sub-regional or multi-national industrial information and promotion centres and panels of correspondence from industrialized countries, for which some industrialized countries have already nominated representatives.
- XXX.A.2 ECA Study on the establishment of multi-national industrial promotion centres
- The ECA has completed a study on the establishment of multi-national industrial promotion centres. The study covers, Inter alia, the conditions for successful multi-national industrial promotion; the functions, operation and organization of the centres; their constitution, staffing, locations and financing; the relationships of the multi-national centres to national centres and to other organizations including the industry committees of the sub-regional economic communities; and the link to industrial information activities in the industrialized countries. The ECA has proposed that the recommendations of the study be tabled until the second Conference of Industrialists to be held in March 1968.
- Authority: Resolution 153 (VIII) of the Commission.
- XXX.A.3 UNIDO (1966 CR:VIII.A.1) Organization and administration of public and semi-public agencies in the field of industrial development

XXX.A.4 UNIDO Directory of industrial agencies
(1966 CR:VIII.A.2)

XXX.A.5 UNIDO Administration of industrial activities in
(1966 CR:VIII.A.3) developing countries

XXX.A.6 UNIDO Industrial promotion service

The industrial promotion service operated during the International Symposium for Industrial Development (Athens 29 November - 19 December 1967) as a clearing house for individuals and organizations - both private and public - from industrialized and industrializing countries interested in technical and financial assistance on specific projects and problems related to industrial development. This special service provided Ministers of Industry, managers, and industrialists from the developing countries with a meeting ground where they had the chance to discuss specific project proposals and financial requirements with representatives of a wide range of international agencies as well as public and private organizations from industrialized countries. ILO and UNCTAD co-operated with UNIDO in staffing this activity.

Authority: Industrial Development Board.

Duration: 14 man-months of staff time and the services of one consultant and three outside private organizations; Athens, 29 November - 19 December 1967.

Estimated cost
and source of

funds: \$30,000 (for outside contracted services, including travel and subsistence for the consultant).

- XXX.A.7 UNIDO The following field projects were developed in 1967:
- Madagascar (SIS 67/160 MAA-5) - SIS.
A UNIDO staff member studied means of improving the efficiency of the Bureau of Promotion and Industrial Development.
Estimated cost: 2 man-weeks \$300.00.
- Mauritius (SIS 67/190 MAR-3) - SIS.
A UNIDO staff member visited Mauritius to examine the need for the establishment of an Industrial Promotion Centre.
Estimated cost: 3 man-months \$1,600.
- Trinidad and Tobago (ED-830/Rev.3) - RP.
Industrial development adviser.
Estimated cost: 3 man-months \$7,000.

B. Industrial property

- XXX.B.1 UNIDO Industrial legislative series
- During 1967 some material was collected for the industrial legislative series which will be undertaken on a periodical basis starting in 1968. As the "Series" will not be limited exclusively to legislation, and will include also pertinent administrative directions, executive orders and other regulations affecting the various subject categories, the operations of ILO's Legal Section were investigated by a member of the staff in order to gain from their 50 years of experience in this field. Furthermore, discussions were held with BIRPI and ECOSOC on possible co-operation in the preparation of material pertinent to the publication of patent and investment laws.
- Authority: Industrial Development Board.

C. Industrial information and documentation services

- XXX.C.1 UNIDO Industrial information: Industrial enquiry service
- This service aims to assist industries in developing countries to gain access to industrial information of possible use to them. Such information is the fruit of industrial research or practical experience in areas which have already been faced with problems similar to those now being encountered by the newer enterprises in the industrializing countries. UNIDO continued to enlist scientific, industrial and professional bodies throughout the world as voluntary contributions to the service, thus providing ad hoc replies

XXX.C.1 (cont'd)

to about 250 specific inquiries on technological and business management subjects in 1967. In view of setting up and operating a central industrial information service for developing countries in UNIDO's new headquarters, consultancy advice was sought for the planning and organizing of such a service. A detailed report has been prepared on the equipment and staff, as well as the methods of operation to be adopted by this service in order to assure effective day-to-day performance.

Two issues of the UNIDO Newsletter were published and distributed to an industrial audience of approximately 3,000 addressees in advanced and developing countries. The Newsletter serves as a periodic means of regular communication of UNIDO's field activities in progress, as well as of meetings and publications.

Authority: Industrial Development Board resolution on future programme of work and activities.

Estimated cost and source of funds: 18 man-months in 1967.

XXX.C.2 UNIDO

Seminar on industrial information

Discussions with Danish authorities continued and resulted in their agreement to hold a seminar on industrial information in 1968-1969. An annotated agenda was submitted and approved by the Danish authorities. The seminar will identify problems of organization of industrial information services in developing countries and serve as a forum for the exchange of views on the required technical assistance in this field. Arrangements for the participation of 30 officials concerned with industrial information in developing countries are being made; 10 senior industrial information officers from well established extension services in advanced and developing countries will introduce the main agenda items and lead the discussion.

Authority: Industrial Development Board resolution on future programme of work and activities.

Estimated cost and source of funds: 2 man-months in 1967; Seminar to be financed from a special contribution by the Danish Government.

XXX.C.3 UNIDO Advisory service on the supply of industrial equipment

The Expert Group Meeting, which included representatives of both - suppliers and users of industrial equipment - was held in New York in November 1967. The group explored appropriate ways and means for the collection, analysis, classification and dissemination of information on industrial equipment with a view of establishing an advisory service in UNIDO for such a purpose. The recommendations of the meeting are expected to assist UNIDO to organize in 1968 a suitable and effective advisory service which will be of value to both the industrialized and industrializing countries.

Authority: Industrial Development Board.

Cost and source of funds: Cost of November 1967 Meeting: \$11,000; 2 man-months of UNIDO staff time.

D. Industrial and professional associations of specific interest to industrial development

No planned or continuing projects reported under this heading.

E. Industrial consulting and advisory services

XXX.E.1 UNIDO Seminar on the organization of industrial services in Africa

In continuation of previous plans UNIDO and the African Training and Research Centre in Administration for Development (CAFRAD) organized jointly the scheduled seminar on the organization and administration of industrial services in Africa, which was held in Tangier, Morocco on 14-30 August 1967. The seminar was attended by 22 Government representatives, 3 expert consultants and 19 observers from various international organizations and UN agencies. The seminar adopted an eleven point recommendation to be transmitted through UNIDO to the various African governments. The recommendations include suggestions concerning technical assistance in the area of industrial services and other ways and means of strengthening and improving the organization and administration of these services.

Authority: Industrial Development Board.

Duration: 3 man-months of UNIDO staff time; 14-30 August 1967.

Cost and source of funds: UNIDO \$8,000; CAFRAD \$30,000.

F. Industrial co-operatives and marketing organizations

XXX.F.1 ILO Co-operative enterprise development centres

(CR 1966 -
pp.328-329
VIII E1, 2 and 3)

As a result of the interest expressed by many governments, particularly those of countries in Africa, to the idea of these centres and the growing recognition of the need to have broad-based technology centres rather than traditional type of

XXX.F.1 (cont'd) training institutions, a number of preliminary surveys were carried out in the Cameroon, Colombia, Ivory Coast, Peru, Malagasy Republic and Tunisia. Out of these countries, the Ivory Coast, Tunisia and Cameroon have already submitted their request to the UNDP/Special Fund for setting up such centres.

XXX.F.2 ILO Inter-regional study tour and training workshop in the co-operative field

One aspect of the ILO's work in the co-operative field includes the organization of seminars, study tours, and workshops. Particularly relevant in this connection is the inter-regional study tour and training workshop on "Co-operation as an agent for economic and social development" for countries in Asia, the Near and Middle East and Africa which was held in Warsaw, Poland from 21 September to 11 October 1967. The study tour was held within the framework of the United Nations Development Programme with the ILO as the executing agency. The study tour was intended for leading and career officials in government departments with special responsibilities for co-operative development particularly in the field of industrial and artisanal co-operatives.

Authority: ILO.

Duration: Warsaw, Poland, 21 September - 11 October 1967.

XXX.F.3 UNIDO Technical meeting on industrial co-operatives

The Expert Group Meeting on industrial co-operatives was held in New York on 6-15 November 1967. The meeting considered the different aspects of industrial co-operatives related to technical feasibility and planning, financial viability, productivity, marketing, standardization and quality control, industrial advisory services, and technical assistance. The report on the proceedings and recommendations of this Expert Group Meeting will be made available in the first quarter of 1968.

Authority: Industrial Development Board.

Duration: About 4 man-months of UNIDO staff time; 6-15 November 1967.

Total cost and source of funds: \$11,000 including fees, subsistence and travel for experts.

J. Financial institutions

No planned or continuing projects reported under this heading.

CHAPTER XXXI

CAPITAL INVESTMENT ACTIVITIES

Activities of the World Bank Group in Industrial Development during 1966-1967

The World Bank Group has played an active part in the development of industry over the past twenty years. By June 30, 1967 the three institutions in the Group - the Bank itself (whose formal title is the International Bank for Reconstruction and Development) and its two affiliates, the International Development Association (IDA) and the International Finance Corporation (IFC) had together provided \$2,402 million to assist industry in 46 countries.

The following table gives details of the World Bank Group's industrial financing during the past fourteen years:

WORLD BANK GROUP
DEVELOPMENT FINANCE SUPPLIED TO INDUSTRY, 1953/1954-1966/1967
(\$ millions)

| <u>Fiscal Years</u> | <u>World Bank a/ Loans</u> | <u>IFC b/ Investments</u> | <u>IDA a/ Credits</u> | <u>Total</u> |
|---------------------|---|-------------------------------|---------------------------|-------------------|
| 1953/54 | 31.3 | - | - | 31.3 |
| 1954/55 | 53.4 | - | - | 53.4 |
| 1955/56 | 91.9 | - | - | 91.9 |
| 1956/57 | 91.8 | 2.0 | - | 93.8 |
| 1957/58 | 105.0 | 8.7 | - | 113.7 |
| 1958/59 | 148.9 | 10.6 | - | 159.5 |
| 1959/60 | 145.9 | 23.8 | - | 169.7 |
| 1960/61 | 47.5 | 6.2 | - | 53.7 |
| 1961/62 | 128.3 | 21.3 | 4.9 | 154.5 |
| 1962/63 | 110.0 | 18.1 | 11.4 | 139.5 |
| 1963/64 | 73.0 | 20.8 | 90.0 | 183.8 |
| 1964/65 | 179.0 | 25.6 | 15.0 | 219.6 |
| 1965/66 | 107.5 | 32.6 | 125.0 | 265.1 |
| 1966/67 | <u>216.9 c/</u> | <u>34.2</u> | <u>255.0</u> | <u>506.1</u> |
| Total | <u>1,530.4 d/</u> | <u>204.0 d/</u> | <u>501.3 d/</u> | <u>2,235.7 d/</u> |
| | Cumulative total March 1948 - June 30, 1967 | | | \$2,401.8 |

- a/ Net of cancellations.
b/ Loans, share subscriptions and standby and underwriting commitments.
c/ Figure includes Bank loan of \$100 million to IFC.
d/ Includes commitments for development finance companies.

The following table shows the volume of Bank, IDA and IFC industrial financing in various categories (March 1948 - June 30, 1967):

| <u>Type of Industry</u> | <u>Amount (in US \$ millions)</u> |
|-------------------------------|-----------------------------------|
| Development Finance Companies | 670.3 |
| Iron and Steel | 446.1 |
| Mining | 201.6 |
| Pulp and Paper | 164.7 |
| Chemicals and Fertilizer | 153.2 |
| Other Industries | <u>765.9</u> |
| | 2,401.8 |

A. World Bank Loans

During the fiscal year 1966-67, the World Bank Group committed a total of \$506.1 million for industrial development. This included a bank loan of \$100 million to IFC. The following table shows the amounts provided by each institution (in US \$ millions):

| | |
|------------|--------------|
| World Bank | 216.9 |
| IFC | 34.2 |
| IDA | <u>255.0</u> |
| Total | 506.1 |

Much of the Bank Group's financing of private enterprise continued to be directed toward industrial production. A large proportion of the year's industrial financing was accounted for by three IDA credits totaling \$240 million to assist selected industries in India and Pakistan, principally manufacturers of capital goods, to import components and raw materials essential for utilizing existing productive capacity.

Two World Bank loans totaling \$60 million went to assist individual industrial enterprises. A loan of \$30 million went to the Indian Iron and Steel Company Limited to help finance a project designed to increase the company's output of saleable steel by about a third by 1970. This loan brought total assistance from the World Bank to the Indian steel industry in the private sector to \$206 million. In the Congo (Brazzaville), the Bank provided \$30 million in association with the European Investment Bank, which provided \$9 million, for a project designed to produce 500,000 tons of potash annually. The loans were made to the Compagnie des Potasses du Congo, a Congolese company established in 1964 by the Congolese Government and a French syndicate largely owned by French Government agencies. This was the Bank's first loan to a government-owned manufacturing agency. The Bank is willing to consider financing ventures of this kind provided it is satisfied that they have experienced and efficient management.

The Bank and IDA together extended \$75 million in 1966/67 - \$60 million from the Bank and \$15 million from IDA - to development finance companies in Iran, the Philippines and Turkey. All three had previously received assistance from the Bank Group.

B. IFC investments

The International Finance Corporation (IFC) was established in 1956 to supplement the activities of the World Bank by encouraging the growth of productive private enterprises in less developed countries. IFC provides risk capital to productive private enterprises in the form of equity and long-term loans; it encourages the development of local capital markets by carrying out standby and underwriting arrangements; and it provides financial and technical assistance to private and controlled development finance companies. IFC neither seeks nor accepts government guarantee for its investments. By June 30, 1967, IFC had undertaken investment commitments in support of industrial development totaling \$204 million.

During the fiscal year 1966-1967, IFC investment commitments for industrial development amounted to \$34.2 million. The total capital costs of projects undertaken with IFC assistance in 1966-67 totaled about \$330 million. A list of IFC's investment commitments in 1966-67 follows:

IFC's investment commitments, 1966-1967
- in United States dollars -

| | <u>Loan</u> | <u>Equity</u> | <u>Total</u> |
|--|-------------|---------------|--------------|
| <u>Brazil</u> | | | |
| Ultrafertil, S.A. - Industria e Comercio de Fertilizantes (Fertilizer) | 7,632,000 | 3,026,000 | 10,658,000 |
| <u>Colombia</u> | | | |
| Enka de Colombia, S.A. (Synthetic Fiber) | - | 923,988 | 923,988 |
| Compania Colombiana de Tejidos, S.A. (Textiles) | - | 22,150 | 22,150 |
| <u>India</u> | | | |
| Jayshree Chemicals Limited (Caustic Soda) | 1,050,000 | 104,816 | 1,154,816 |
| Indian Explosives Limited (Fertilizer) | 8,600,000 | 2,866,666 | 11,466,666 |
| <u>Nigeria</u> | | | |
| Area Textiles Limited (Cotton Textiles) | 632,800 | 198,524 | 831,324 |
| <u>Pakistan</u> | | | |
| Pakistan Paper Corporation Limited (Printing and writing papers) | 3,200,000 | 1,999,202 | 5,199,202 |
| <u>Peru</u> | | | |
| Compania de Cemento Pacasmayo, S.A. (Cement) | - | 5,151 | 5,151 |
| <u>Senegal</u> | | | |
| Societe Industrielle d'Engrais au Senegal (Fertilizer) | 2,450,000 | 1,009,766 | 3,459,766 |
| <u>Spain</u> | | | |
| Fabrica Espanola Magnetos, S.A. (Automotive Electrical Equipment) | - | 150,119 | 150,119 |
| <u>Turkey</u> | | | |
| Turkiye Sinai Kalkinma Bankasi, A.S. (Development Finance Company) | - | 337,500 | 337,500 |
| | 23,564,800 | 10,643,882 | 34,208,682 |

B. (cont'd)

IFC investment standby and underwriting commitments for industry, 1956-1967

| | <u>Initial Commitment</u> | <u>No. of Commitments</u> | <u>Total Commitment</u> \$ |
|------------------------------------|-------------------------------|-------------------------------|-----------------------------------|
| <u>AFRICA</u> | | | |
| Ethiopia | 1964 | 2 | 4,416,058 |
| Ivory Coast | 1965 | 1 | 204,081 |
| Liberia | 1965 | 1 | 250,000 |
| Morocco | 1963 | 2 | 2,884,260 |
| Nigeria | 1963 | 3 | 3,001,125 |
| Senegal | 1966 | 1 | 3,459,766 |
| Sudan | 1964 | 1 | 688,893 |
| Tanzania | 1960 | 2 | 4,731,085 |
| Tunisia | 1962 | 2 | 4,075,926 |
| Uganda | 1965 | 1 | 3,509,707 |
| | | <u>16</u> | <u>27,220,901</u> |
| <u>ASIA AND MIDDLE EAST</u> | | | |
| India | 1959 | 11 | 23,397,098 |
| Iran | 1959 | 1 | 300,000 |
| Malaysia | 1963 | 2 | 2,866,881 |
| Pakistan | 1958 | 8 | 17,807,671 |
| Philippines | 1962 | 1 | 4,359,063 |
| Thailand | 1959 | 2 | 493,108 |
| | | <u>25</u> | <u>49,223,821</u> |
| <u>AUSTRALASIA</u> | | | |
| Australia | 1957 | 3 | 975,000 |
| <u>WESTERN HEMISPHERE</u> | | | |
| Argentina | 1960 | 5 | 13,710,000 |
| Brazil | 1957 | 9 | 33,054,671 |
| Chile | 1957 | 9 | 10,291,346 |
| Colombia | 1959 | 16 | 12,713,559 |
| Costa Rica | 1962 | 2 | 589,552 |
| Ecuador | 1963 | 1 | 1,963,309 |
| El Salvador | 1959 | 1 | 140,000 |
| Guatemala | 1958 | 1 | 200,000 |
| Honduras | 1964 | 2 | 377,500 |
| Jamaica | 1961 | 1 | 224,000 |
| Mexico | 1957 | 12 | 21,713,787 |
| Peru | 1959 | 8 | 8,918,441 |
| Venezuela | 1960 | 5 | 5,491,253 |
| | | <u>72</u> | <u>109,387,418</u> |

C. IDA credits

The International Development Association (IDA) was formed in 1960 to provide financing to the poorer of the less developed countries on terms more liberal than the World Bank can offer. IDA's usable resources are in the form of subscriptions and contributions, predominantly from industrialized member countries. IDA makes 50 year credits to developing countries free of interest. By June 30, 1967 it had extended credits to industry totaling \$501.3 million, representing about 30 per cent of all lending by the Association at that date.

In 1966, IDA extended two credits totaling \$50 million to Pakistan. A credit of \$25 million is helping to modernize and expand the commercial vehicles fleet in Pakistan. The other credit of \$25 million was made to finance import requirements of capital goods industries like steel and non-ferrous castings, steel construction, electrical equipment and diesel engines.

CHAPTER XXXII

OTHER ACTIVITIES RELATED TO INDUSTRIAL DEVELOPMENT

A. Social aspects of industrialization

XXXII.A.1 ESA/
UNIDO(UNESOB)

Study on social services in industrial undertakings

The provision of social services to industrial undertakings is reviewed with particular attention to social planning in relation to industrial development; financing of social services; priorities among different services, different patterns; and the roles of the public and private sectors in the provision of over-all and of industry-level social services.

Authority: General Assembly Resolution 2035 (XX), ECOSOC Resolution 1139 (XLI) and Industrial Development Board Resolution 1 (I).

Duration: The study is expected to be completed by the spring of 1968 for submission to ECOSOC.

Estimated cost

and source of funds: \$3,600 has been allocated for the study.

XXXII.A.2 ESA/
UNIDO/UNESOB

Study of social factors that induce or inhibit industrialization

This study includes consideration of the traditional social system, family structure, values and attitudes, and their bearing on industrialization, particularly on labour commitment and efficiency in industrial undertakings. It also explores the social consequences arising from industrialization.

Authority: General Assembly Resolution 2035 (XX), ECOSOC Resolution 1139 (XLI) and Industrial Development Board Resolution 1 (I).

Duration: The study is expected to be completed by the spring of 1968 for submission to ECOSOC.

Estimated cost: \$3,800 has been allocated for the study.

XXXII.A.3 ESA

Social aspects of industrialization and urbanization

A concerted programme on the social aspects of industrialization is being developed in collaboration with the specialized agencies concerned. Considerable research has already been done,

XXXII.A.3 (cont'd) concentrated mainly on the social preconditions or obstacles to industrial development, the social consequences and concomitants of industrialization. Within the framework of this continuing programme, it is proposed to initiate a series of studies of specific social problems connected with industrialization, including those related to patterns of urbanization.

Authority: Social Commission work programme, 1965-1967 (E/4061, annex I).

Duration: Proposed date of completion: 1970.

Estimated cost: 1967: 10 professionals; 1968: 10 professionals.

XXXII.A.4 ILO Technical assistance projects in the field of social security initiated in 1967

| | | <u>Man-months</u> | <u>Source of funds</u> |
|--------------------------|---|-------------------|----------------------------|
| <u>Cameroon</u> | Family allowances: planning and organization | 4 | RP |
| <u>Cyprus</u> | Social security administration | 3 | RP |
| <u>India</u> | Social security planning and legislation (unemployment insurance) | 2 | UNDP/TA |
| <u>Lebanon</u> | Social security administration | 12 | UNDP/TA |
| <u>Libya</u> | Social security actuary | 6 | UNDP/TA and Funds-in-Trust |
| * <u>Libya</u> | Social security medical care | 1 | UNDP/TA |
| <u>Malagasy Republic</u> | Social security actuary | 4 | UNDP/TA |
| <u>Morocco</u> | Social security actuary | 4 | UNDP/TA |
| <u>Niger</u> | Social security planning and pension administration | 12 | UNDP/TA |
| <u>Nigeria</u> | Social security planning | 6 | RP |

*Programme scheduled to begin in December 1967 or early in 1968.

| XXXII.A.4 (cont'd.) | | <u>Man-months</u> | <u>Source of funds</u> |
|----------------------------|--|-------------------|------------------------|
| <u>Nigeria</u> | Social security administration | 4 | RP |
| <u>Rwanda</u> | Social security planning and pensions | 2 | UNDP/TA |
| <u>Senegal</u> | Social security planning and pensions | 3 days | UNDP/TA |
| <u>Singapore</u> | Social security planning and legislation | 6 | UNDP/TA |
| <u>Sudan</u> | Social security planning and legislation | 4 | UNDP/TA |
| <u>Sudan</u> | Social security legislation and administration | 4 | UNDP/TA |
| <u>*Syria</u> | Social security medical care | 1 | UNDP/TA |
| <u>Trinidad and Tobago</u> | Social security planning | 4 | UNDP/TA |

B. Sociological research: Entrepreneur and labour motivation

XXXII.B.1 · ESA/
UNIDO/UNESOB

Case study of social policy issues involved in industrialization

A rapidly industrializing district and/or a specific industry (industries) in Lebanon is being studied in depth to gain a better understanding of social policy issues in industrialization, particularly the social factors affecting the commitment and productivity of labour in industry.

Authority: General Assembly Resolution 2035 (XX), ECOSOC Resolution 1139 (XVI) and Industrial Development Board Resolution 1 (I).

Duration: The study is expected to be completed by the spring of 1968 for submission to ECOSOC.

Estimated cost and source of funds: \$1,600 has been allocated for the study.

*Programme scheduled to begin in December 1967 or early in 1968.

C. Ergonomics

No continuing or planned projects under this category.

D. Health and safety measures concerning work and working conditions

XXXII.D.1 ILO
(1966 CR:X.D.4)

Social security

A report "Social Security in Asia: Trends and Problems" is being prepared for the sixth Asian Regional Conference to be held in 1968. This report pays special attention to Social Security and economic development in the region. A study on "Income security in the light of structural changes" is presently being prepared for the Second European Regional Conference to be held in 1968.

XXXII.D.2 ILO

Encyclopaedia of occupational health and safety

The ILO is undertaking publication of a new Encyclopaedia of Occupational Health and Safety. With the assistance of an international committee of experts, it has worked out detailed plans concerning the scope and approach of the new work and articles to be included. These provide for a total of about 850 articles, with numerous illustrations.

XXXII.D.3 ILO
(1966 CR:X.D.11)

Guatemala - Occupational safety

XXXII.D.4 ILO
(1966 CR:X.D.12)

Asia Regional Project - Occupational safety and health

XXXII.D.5 ILO
(1966 CR:X.D.13)

India - Industrial hygiene and physiology

The expert missions have been completed and have provided the necessary advice for continuing development of the India Labour Institutes. The industry psychology post will continue with another expert in 1967. An industrial engineer will also be provided in 1967.

XXXII.D.6
(1966 CR:X.D.23)

Manual on health in agriculture

The material which has been prepared will probably be incorporated in an ILO manual on health in agriculture.

XXXII.D.7 ILO
(1966 CR:X.D.7)

Occupational safety and health in manufacturing

Continuing project, with following changes:

Publication of manuals on occupational safety and health in dock work, building, civil engineering, agriculture, forestry, uranium mining and milling etc.

Organization of training courses on specialized subjects such as radiation protection, dust prevention, basic safety matters etc.

Convening of international conferences and symposia on a wide range of occupational safety and health problems, including ergonomics.

XXXII.D.8 ILO

Fellowships - occupational safety and health - 1967

| | | <u>Duration</u> (months) | <u>Source of funds</u> |
|---------|--|-----------------------------|------------------------|
| Burma | Occupational health | 12 | UNDP/TA |
| Burma | Occupational safety | 12 | UNDP/TA |
| Ghana | Occupational health | 6 | UNDP/TA |
| Ghana | Occupational safety | 6 | UNDP/TA |
| Jordan | Occupational safety | 3 | ILO Regular |
| Korea | Planning and Development of occupational safety and health institute | 6 | UNDP/TA |
| Kuwait | Factory Inspection | 6 | Trust Fund |
| Rumania | Occupational safety in mines | 3 | UNDP/TA |
| Rumania | Occupational safety | 3 | UNDP/TA |
| Rumania | Occupational safety | 3 | RP |
| Rumania | Safety in agriculture | 3 | RP |

XXXII.D.8 (cont'd.)

| | | <u>Duration</u> (months) | <u>Source of funds</u> |
|------------|---|-----------------------------|------------------------|
| Syria | Industrial accidents in USSR | 6 | UNDP/TA |
| Sudan | Occupational safety | 6½ | ILO Regular |
| Sudan | Occupational safety | 6½ | ILO Regular |
| Tunisia | Organization of occupational health institute | 3 | ILO Regular |
| Turkey | Safety in mines | 12 | ILO Regular |
| Turkey | Organization of safety and health institute | 9 | Special Fund |
| Uganda | Occupational health | 6 | ILO Regular |
| UAR | Occupational safety and health institute | 6 | Special Fund |
| UAR | Occupational safety | 6 | UNDP/TA |
| Uruguay | Occupational safety | 6 | ILO Regular |
| Yugoslavia | Occupational safety | 3 | ILO Regular |

XXXII.D.9 ILO

Korea - Industrial hygiene

Following the mission of the ILO regional expert, the Korean Government has requested expert advice in the industrial hygiene field. A 12-month project will begin to carry into 1968 for advice on industrial hygiene including teaching, laboratory make-up and industrial hygiene surveys.

Duration: 12 months

Source of funds: UNDP/TA

XXXII.D.10 ILO

Uganda - Occupational health survey

A joint ILO/WHO expert will begin in 1967 on a 2-month mission at the request of the government to survey occupational health problems and make proposals for future action in Uganda. The ILO and the WHO have decided to send this expert to Sudan,

XXXII.D.10 (cont'd.)

Kenya and Tanzania after his Uganda mission to achieve a better insight of occupational health problems in East Africa.

Duration: 3 months in 1967.

Source of funds: ILO Regular.

XXXII.D.11 ILO

Middle East regional project - occupational safety and health

This ILO project started in 1966 and is continuing. One occupational health expert has been working in the region since the project commenced. This expert is charged with: preparing informative surveys; making detailed studies of occupational conditions; drafting long-term programmes; regarding means for effective ILO assistance; and advising counterparts within the region. The expert has visited and made surveys in the United Arab Republic, Cyprus, Saudi Arabia, Afghanistan, Iran, Lebanon, Syria and Iraq. In many of these countries, a nucleus exists for implementing the expert's recommendations. Where conditions were favourable, counterparts available, and interest aroused the regional project has been well received by the governments.

Duration: continuing.

Estimated cost and source of funds: UNDP/TA - \$24,000/expert/1 year; \$3,000/fellowship/6 months; \$5,000/fellowship/1 year.

XXXII.D.12 WHO
(1966 CR:X.D.19)

Medical fitness of motor vehicle drivers

A revised version of the 1965 document has been produced and will be submitted to a group of experts for discussion.

XXXII.D.13 WHO
(1966 CR:X.D.20)

Effects of vibration on health; study on textile dust

The study on the effects of vibration on health and the study on textile dust and hazards to textile workers have been continued.

XXXII.D.14 WHO
(1966 CR:X.D.13)

Ergonomics

A grant in the amount of \$10,000 for research on "Physiological Performance Capacity in Different High Altitude Populations" has been given to the School of Physical Therapy in Oslo, Norway.

XXXII.D.15 WHO
(1966 CR:X.D.24)

Human physiology and ecology

A joint WHO/PAHO/IBP meeting was organized in Washington to discuss research in human physiology and the ecology of populations at high altitude.

XXXII.D.16 WHO
(1966 CR:X.D.25)

Pilot health centres for seamen

The project is continuing and a consultant has been sent to various ports to prepare a report on the feasibility of creating pilot health centres in some of them.

XXXII.D.17 WHO
(1966 CR:X.D.26)

ILO/WHO Committee on occupational health

A report has been published as WHO Technical Report 354.

XXXII.D.18 WHO
(1966 CR:X.D.29)

Health factors involved in working under conditions of physical stress

This project has been completed and a report prepared which will be published soon.

XXXII.D.19 WHO
(1966 CR:X.D.31)

Criteria for threshold limit values of exposure to toxic substances

This project is continuing and the proposed meeting is likely to be held during 1968.

XXXII.D.20 WHO
(1966 CR:X.D.38)

Central institute of public health, Sofia, Bulgaria

This project is continuing and discussions have been held with ILO on certain aspects of the project.

XXXII.D.21 WHO
(same as
XXXII.E.3)

Occupational health and hygiene

Two consultants were sent by WHO to Viet-Nam in 1967 to assist the Government in the development of a programme of occupational health and hygiene.

XXXII.D.22 WHO

Aspects of occupational physiology of concern to WHO

A consultant prepared a report on "Aspects of Occupational Physiology of Concern to WHO". The report contains suggestions for future work and action under WHO auspices.

XXXII.D.23 WHO

Aspects of occupational psychology of concern to WHO

A consultant prepared a report on "Aspects of Occupational Psychology of Concern to WHO". The report contains suggestions for future work and action under WHO auspices.

XXXII.D.24 WHO

Occupational health, Iran

Recruitment is proceeding to send a consultant to Iran in order to review the occupational health programmes in that country.

Authority: Director General's Programme

XXXII.D.25 WHO

Study of physiological performance capacity in different high altitude populations

A grant in the amount of \$10,000 for research on physiological performance capacity in different high altitude populations has been given to the School of Physical Therapy in Oslo.-

Authority: Director General's Programme

E. Health measures in planning industrial communities

XXXII.E.1 ILO

Peru - Safety in mines

A 6½ month project was begun in 1967 with a safety mining expert to survey Peruvian mines and provide recommendations to the Government.

Duration: 6½ months.

Source of funds: ILO Regular.

XXXII.E.2 ILO

Singapore - Occupational health - factory inspection

A six-month mission of an occupational health expert was requested following the work of the regional expert. This mission will carry into 1968 with an expert providing advice to the Ministry of Labour on the organisation of medical facilities and factory inspection services.

Duration: 6 months 1967, continuing 1968.

Source of funds: UNDP/TA

XXXII.E.3 WHO

Occupational health and hygiene in the Republic of Viet-Nam

One consultant was sent to Viet-Nam in 1967 in order to assist the Government in the development of a programme of occupational health and hygiene. It is expected that two consultants will visit the country in 1968 for the same purpose.

Authority: Director General's Programme

F. Urban planning and development

XXXII.F.1 ECA

Studies in the general field of housing, building and physical planning

ECA has arranged bilateral collaboration with the Netherlands in the general field of housing, building and physical planning. In consultation with Bouwcentrum, Rotterdam, a plan of operations has been prepared and agreed with the Governments of Kenya and Ghana. The results of these operational pilot

XXXII.F.1 (cont'd.)

projects are contained in the plan and will be made available to other countries in the establishment of similar co-ordinated projects. To this end, negotiations are in progress with the British, French and German authorities.

The plan of operations quoted above contains recommendations for series production of houses and the use of industrialized housing, particularly mass manufacture of building components. A report on the reformulation of housing policy and programming in Ghana has been finalized.

Authority: Programme of Work and Priorities for the biennium 1967-1968 (project 110-114).

Duration: 1967 - continuing.

XXXII.F.2 ECA

Studies to increase production of low-cost housing

Further steps towards increased production of low-cost housing are being taken in technical assistance projects for examination of house-building costs, training of African building contractors, and examination of financial administration and control.

Increased production of low-cost housing through this programme of operational pilot projects depends to a great extent on the organisation and development of the building materials and construction industries. These measures should make local building materials more readily available in African countries and thus reduce the present large element of foreign exchange involved.

Duration: 1967 and continuing

XXXII.F.3 ECA

Second sub-regional training course in aided self-help and co-operative housing in Kenya

ECA carried out its second sub-regional training course in aided self-help and co-operative housing in Kenya in 1967. The report and recommendations arising from this five weeks' course has been circulated as an ECA document (E/CN.14/HOU/10).

Duration: Kenya, 1967

- XXXII.F.4 ECA Country dossiers in the field of housing, building and physical planning
- ECA has arranged in accordance with the Work Programme for country dossiers to be prepared in the field of housing, building and physical planning. The first dossier concerning Kenya is being finalized in consultation with the Government. These dossiers will be subject to review to maintain up-to-date information.
- Duration: 1967 and continuing
- XXXII.F.5 ECA Seminar in town planning in over-all development
- ECA participated in a seminar in town planning in over-all development, sponsored by the German Foundation for Developing Countries held in Berlin from 20 July - 20 August 1967. ECA contributed two papers: one on regional planning and industrialization and the other on construction in development planning.
- Duration: Berlin, Germany, 20 July - 20 August 1967.
- XXXII.F.6 ESA
(1966 CR:X.F.1) Technical assistance to India in connexion with the physical planning of a new capital city for the State of Gujarat
- XXXII.F.7 ESA/
UNIDO/UNESOB
(1966 CR:X.F.2) Study of urbanisation as an independent process and as a concomitant of industrialization
- This study pays particular attention to internal migration to urban-industrial centres, over-all population distribution and location of industry. Short-term and long-term policies in connexion with urbanization are being considered, including regional planning and development and settlement policy in the context of over-all development.
- Authority: General Assembly Resolution 2035 (XX), ECOSOC Resolution 1139 (XLI) and Industrial Development Board Resolution 1 (I).
- Duration: Some of this work has already been issued in a UNESOB paper submitted to the Inter-Regional Seminar on urbanisation held in Pittsburgh in October 1966, and in United Nations

XXXII.F.7 (cont'd.)

Publication Sales No. 67.II.C.9 entitled "Settlement Patterns and Problems and Related Measures and Policies in Various Countries of the Middle East". Further work in this field is envisaged in 1968 and 1969.

Estimated cost: \$7,000 has been allocated for the study.

G. Industrial legislation

XXXII.G.1 UNIDO The following field projects were developed in 1967:

| NEPAL: (183-65) - UNDP/TA | <u>Man/months</u> | <u>Cost</u> |
|-----------------------------------|-------------------|-------------|
| Industrial legislation adviser | 1/4 | \$7,200 |





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