ECONOMIC COMMISSION FOR AFRICA

REPORT OF THE WORKING PARTY OF THE WHOLE OF THE STANDING COMMITTEE ON INDUSTRY AND NATURAL RESOURCES

ADDIS ABABA, Ethiopia
12 - 20 December, 1962
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62-4842
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Organization and Attendance

1. The Standing Committee on Industry and Natural Resources was convened to meet on 12 December 1962 in accordance with resolution 43 (IV) of the fourth session of the Commission. Since the number of countries represented was not sufficient to constitute a quorum, it was decided to meet as a Working Party of the Whole of the Standing Committee. The Working Party of the Whole met from 12 to 21 December. A Sub-Working Party on Natural Resources was set up, which met from 13 December to 20 December. The Working Party took note of the great importance of the work of the SCINR and expressed deep regret at the absence of a number of member countries. It strongly recommended to the Commission to invite Member Governments to make every effort to ensure that in future, they will be represented at meetings of the Standing Committee.

2. The meeting was attended by delegates from the following member and associate member countries: Cameroun, Congo (Leopoldville), Ethiopia, France, Federation of Rhodesia and Nyasaland, Ghana, Liberia, Morocco, Niger, Nigeria, Senegal, Somalia, Sudan, Tanganyika and the United Kingdom. Observers from the following countries attended: Czechoslovakia, Federal Republic of Germany, Japan, Netherlands, Sweden, Turkey, USA and USSR. The following Specialized Agencies were represented: ILO, FAO, UNESCO and WHO. Observers from CTCHA and OAIME attended the session. A staff official of the European Economic Community also attended. The list of participants is attached as Annex I (to be included in the final version).

3. Mr. G.E.A. Lardner (Nigeria) was elected Chairman, and Mr. A. Cherkaoui (Morocco) Vice Chairman.

4. The provisional agenda prepared by the secretariat (E/CN.14/INR/2) was adopted subject to amendment. The agenda is attached as Annex II.

5. Delegates from the following countries were appointed as members of the Drafting Committee:

   Morocco
   Cameroun
   Nigeria
   Federation of Rhodesia and Nyasaland
   Sudan
   Mr. A. Zerrad (Chairman)
   Mr. B. Biyong
   Mr. O. Aboyade
   Mr. J.V. Mitchell
   Mr. A.S. Ghandour
6. The meeting was opened on behalf of Endelkatchew Makonnen, Minister of Commerce and Industry, in the Imperial Ethiopian Government by the Assistant Minister, whose statement is reproduced as Annex III (to be included in the final version). Opening statements were also made by Mr. A. F. Ewing, Officer-in-Charge and Director of the Industry, Transport and Natural Resources Division of ECA, Mr. J. A. Mayobre, United Nations Commissioner for Industrial Development, and Mr. I. Iliuschenko, Director of the Steel, Engineering and Housing Division of ECE (see respectively Annexes IV, V and VI).

Natural Resources

7. A report was adopted by the Sub-Working Party on Natural Resources, and was subsequently adopted by the Working Party of the Whole (see Annex VII).

The Present Industrial Situation in Africa - Prospects and Policies for Expansion

8. All delegates gave a full account of the present industrial situation in their countries, their policies and prospects. They explained that their short-term policies were to promote the substitution for imports of consumer goods and the products of light industry by domestic production, largely by the processing of agricultural and other raw materials. In addition, they drew attention to the efforts they were making to process further agricultural raw materials and minerals for export. Most countries drew attention to their enormous natural resources, especially of minerals. They stressed the vital importance of starting to implement now in a longer-term perspective the policy of developing large-scale heavy industry.

9. It was recognized that large-scale industry, and in particular heavy industry, required extensive investment and wide markets, such markets being difficult to obtain in view of the relatively small population of many African countries. Consequently most delegates stressed the importance of economies of scale and thus of an international division of labour and of sub-regional co-operation. A number of delegates stressed the danger of a too rigid approach to sub-regional co-operation, which would tend to perpetuate the
divisions of Africa. It was recognized that the appropriate sub-regions need not necessarily be the same for all industries. Almost all countries gave an account of their national development plans and expressed the need for and the desire to take account of the plans of other countries.

10. There were general comments on the secretariat's report "Industrial Growth in Africa: a Survey and Outlook" (E/CN.14/INR/1 and Corrigendum 1). These comments reflected a unanimous appreciation of the far-reaching perspectives opened up by this document. It was noted with warm approval that the survey represented a great landmark in approaches to problems of and prospects for the industrial transformation of the African economies; that its spirit, philosophy and message symbolized a welcome departure from traditional thinking and conventional analysis; and that it infused new confidence, hope and faith in the efforts of the African peoples to catch up quickly with the material standards of the advanced countries of the world. For these historic contributions, congratulations and tributes were paid for the bold courage and hard work of the secretariat. In the detailed appraisal of the report, it was noted with approval that there was a deliberate concentration on the importance of establishing modern strategic industries and therefore on the consequent need for industrial co-operation between member countries. On the other hand, the limitations of the statistical and factual data on which it had been based were pointed out. Some countries drew attention to errors of fact and to the failure to give sufficient account of industrial development which had already taken place. Additional data were supplied and more promised.

11. Most of the observers present gave an account of what they were doing to provide aid and technical assistance to Africa, and expressed their willingness to do more. Representatives of Specialized Agencies and other inter-governmental organizations also gave an account of the work they were doing in this field. In this connexion, note was taken of the work of the FAO on the primary forest industries in Africa, on pulp and paper and on food processing, and on rural industries, for the processing of agricultural and horticultural products, and by the ILO on small-scale and handicraft industries (see respectively E/CN.14/INR/5, 6, 7, 8 and 9).
12. In the course of the debate, a considerable number of proposals and suggestions were made, designed to draw attention to the difficulties faced by African countries in their industrialization programmes, and the further work which might be undertaken by ECA, the UN Industrial Development Centre, the Specialized Agencies and other countries interested in providing aid and technical assistance to Africa. Among the points made were the following:

(a) It was of urgent importance to draw up and keep up to date on a continuous basis a resources inventory of all African countries. In this connexion assistance should be sought from the UN in developing air-borne and ground-based geological surveys, through the setting up of an African institute or sub-regional institutes.

(b) Proper mapping of raw material and energy sources, transport facilities, population distribution etc. was of vital importance to both the evaluation and development of resources, and in this connexion it was noted that ECA had decided to convene a cartographic conference for African countries in 1963.

(c) Africa had extensive oil resources whose exploration and development would be facilitated by the setting up, with the help of the United Nations, of an Institute for research and development in petroleum.

(d) Technological education and training at all levels was of vital importance, the lack of which was a serious obstacle to industrial development. Furthermore, education and training should be adapted specifically to African conditions. There was a need to develop rapidly technological education in Africa through the establishment of specialized technical facilities in African universities and also by the establishment of separate specialized technological institutes on a sub-regional basis, covering engineers, chemists etc. Assistance was urgently required from the United Nations; including the Special Fund, from UNESCO and the ILO on the training of management, industrial engineers, middle-grade personnel of all kinds and skilled workers. It would be desirable for an
inventory of the existing training institutions and other facilities established by UNESCO at the time of the Conference on the Future of Higher Education in Africa to be communicated as soon as possible to the Member States and to be kept continually up to date. Consideration should be given to revising the present plans for the courses envisaged at the African Institute for Economic Development and Planning to be set up in Dakar, to take into account practical problems in Africa of industrial development as reflected in the discussion at the present meeting.

(e) At present, evaluation of industrial projects was largely in the hands of foreign companies, and efforts should be made to train Africans in this field. This required teams specialized in project evaluation such as agricultural economists, industrial engineers, industrial economists and accountants etc. ECA should be requested to consult other agencies concerned with a view to preparing proposals for the training of African personnel for such teams.

(f) Both fundamental and applied industrial research should be developed in African countries, but owing to the high cost involved, this should be on a co-operative basis, taking full account of existing facilities. The help of the United Nations should be sought in the setting up on a sub-regional basis of institutes for industrial research. Consideration might be given to linking these institutes with the plans of the ILO.

(g) There was considerable scope for harmonization of industrial and commercial legislation, with a view to removing obstacles to industrialization and trade. A study should be made of impediments of this kind, which should cover and make proposals for harmonizing industrial, commercial, monetary and fiscal legislation for consideration by a conference at an appropriate time (see paragraph 23).
(h) Insufficient availability of both domestic and external finance was a major obstacle to industrial development, and the whole problem warranted further investigation in depth by ECA in cooperation with the other UN agencies.

(i) There was general agreement that the prospects to which the secretariat had drawn attention of closing the gap between African countries and the present standards of developed countries through industrialization were not unrealistic. It is imperative to close this gap, through industrialization. It should therefore be impressed on all Member Governments that it is both desirable and practicable to achieve high and sustained growth rates, and that this should be the primary objective of national policy. Further investigation by the ECA secretariat in consultation with Member Governments should be undertaken, with a view to establishing possible regional and sub-regional growth rate targets.

(j) The United Nations Industrial Development Centre was invited to consider the preparation of a pamphlet on the services offered by all the UN family in this field, indicating the procedures of applying for assistance from these agencies. In this respect, note was taken of the statement by the United Nations Commissioner for Industrial Development that plans were in hand for the preparation of such a pamphlet, but that the pamphlet would require the prior endorsement of the General Assembly's Committee on Industrial Development.

(k) The harmonization of national accounts systems in Africa was essential; efforts already made by ECA were noted and should continue.

(l) The lack of adequate and comparable industrial statistics was a retarding factor in formulating and analyzing industrial policies and efforts should be made by the Member Governments and the ECA secretariat to improve the availability and quality of such statistics.
It was desirable that ECA should now concentrate its main efforts on detailed investigations of the feasibility of establishing strategic modern industries to supply regional and sub-regional markets, to be followed by expert meetings of interested countries, in particular energy, iron and steel, non-ferrous metals, mechanical and electrical engineering, chemicals and fertilizers, oil refining, key building materials and textiles.

ECA should also concentrate its efforts, through investigations in depth, on helping Governments to promote sub-regional co-operation of the UN Industrial Development Centre and the Specialized Agencies concerned. Appropriate sub-regional groupings should be flexible and their composition would be likely to differ from industry to industry. Sub-regional co-operation should be envisaged throughout as a step towards all-African co-operation in the promotion of industrialization.

Development of Strategic Industries

13. The Working Party discussed the need for a general approach to the development of strategic industries in Africa on regional or sub-regional levels on the basis of the secretariat's study "Industrial Growth in Africa" (E/CN.14/WR/1 Chapter 4). The Working Party noted with satisfaction the studies made by the secretariat on the following industries: iron and steel, non-ferrous metals (with particular reference to the production and further processing of metals), the engineering industries, chemicals and fertilizers and textiles. It was generally agreed that further studies in depth should be carried out by the secretariat with the aid of experts, to be subsequently examined by meetings of experts. The Working Party also attached high importance to the rapid development of industries providing energy and basic building materials, and it was noted that the secretariat had plans for studies of these industries which, in the first instance, would be brought before other ECA bodies. The Working Party stressed the need for Member Governments to give the Executive Secretary the fullest co-operation in carrying out further studies recommended in the work programme including, where necessary, the release of experts for short-term assignments to the secretariat.
14. The Working Party noted that the section on iron and steel in the secretariat's study was of a preliminary character, largely confined to prospects in West Africa. It was widely felt, however, that it was urgent to prepare a much more comprehensive study covering the whole of Africa, taking into account the existing location of industry and the development plans of governments. It was considered that the time perspective of the secretariat's preliminary study was too short and that the prospective volume and pattern of demand, together with the plants required to meet it, should be examined over a twenty year period. Although it was generally recognized that the economies of scale played an important part in the iron and steel industry and that it was undesirable to set up a large number of small-scale plants, there was some criticism of the secretariat's suggestion that only one plant should be set up in West Africa. One reason for this was that it took some years to build up a large-scale iron and steel plant and therefore if a twenty year period were considered, more plants would be likely to be needed coming into production at different periods of time. It was also felt that there was much scope for division of labour between African countries according to the stage of production. Thus some countries might specialize on the production of pig iron or ferro-alloys, including production for export. There were also considerable possibilities of division of labour in the rolling of different finished steel products. There was a feeling that the secretariat's tentative estimates of future demand were on the low side, since the development of iron and steel production tended to generate its own demand in a dynamic sequence. It was pointed out, for example, that past estimates of the growth of steel demand in developing countries has generally been on the low side; and there were also the indirect benefits of setting up iron and steel production to be taken into account.

15. Many delegates pointed out that the development of iron and steel production on a regional or sub-regional basis in Africa would give rise to difficult commercial problems involving legal, customs, fiscal and monetary considerations. The ultimate objective should be the creation of an African common market in iron and steel. It was decided that the Standing Committee
on Trade should be requested to begin an examination, as early as appropriate of the problems which would have to be solved before this could be brought about.

16. A staff official from the European Economic Community stated that among the difficult commercial, legal, customs, fiscal and monetary problems referred to in paragraph 15, account should also be taken of the ample supplies available from established producers in other parts of the world, and of the existence of the Association between several African countries and the EEC. Having said this, the staff official from the EEC declared that the Community would neither oppose the study nor the carrying out of projects for the development of strategic modern industries in Africa. In addition, he stated that there was nothing in the Treaty of Rome which constituted an obstacle to the creation of an African Common Market, and that this Treaty expressly provided in Article 133, paragraph 3 that "the countries and territories may levy customs duties which correspond to the needs of their development and to the requirements of their industrialization or which, being of a fiscal nature, have the object of contributing to their budgets". Still more important measures were to be adopted in the new Association, and the representatives of the associated and European states of the Community present at the meeting would be able to clarify and confirm this point.

17. The Working Party requested the Executive Secretary to seek official confirmation from the EEC on the statements of policy outlined by the staff official of the Community, specifically in regard to (a) the assurance that the EEC would in no way, directly or indirectly, seek to impede the progress of the studies proposed; (b) in no way seek to impede the speeding up of those strategic industries which were being considered; and (c) affirm that the Treaty of Rome in no way prevented the formation of an African Common Market, including both associated and non-associated countries. The reply should be circulated by the Executive Secretary before the fifth session.

18. The feeling of the delegates on non-ferrous metals was that much the same approach should be adopted as in iron and steel, in that the suggestions
to be put forward for the iron and steel industry be accepted also in principle for the production of non-ferrous metals. The Working Party considered that a regional study of non-ferrous metals would be beneficial in outlining the directions of future industrial expansion.

19. An important point arising from the discussion on engineering industries was the problem of uniform standards. It was suggested that the metric system be studied, with a view to its adoption by all African countries at an early stage. Some countries, however, felt that any change-over would have to be a gradual process. It was suggested that standards institutes should be associated with the proposed African sub-regional institutes for industrial research. The deliberate sub-regional approach to the development of machinery industries adopted by the secretariat was generally accepted. It was felt that within the sectors of the engineering industry, priority should be given to agricultural machinery, construction equipment and transport equipment.

20. In the discussion of the secretariat's preliminary study of chemicals and fertilizers, there was again general agreement that an intensive study should be carried out in this field, with the aid of experts. The priority given by the secretariat to the examination of problems in West Africa was considered appropriate, although in further studies the whole of Africa should be taken into account as far as possible. Priority should be given to basic chemicals required for a wide range of industry, fertilizers and agricultural chemicals, tanning materials and dye stuffs and petro-chemicals. Consideration should also be given to the development of secondary industries based on the foregoing chemical products. The problem of the growth of demand for fertilizers was discussed, and stress was laid on the need for developing soil surveys, which would establish the particular kinds of fertilizer required. The representative of the FAO indicated broad agreement with this approach, and gave some account of the work they were doing. Attention was also drawn by delegations to the high price of imported fertilizers. Particular emphasis was given to the need for training of technologists and skilled personnel for the chemical industry.
21. The discussion on textiles was based on ECA's preliminary study, and the following points were made. The vast scope for import substitution was noted, and it was felt that there might be some scope for regional cooperation, particularly in the case of high-quality fabrics, where national markets might be insufficient. The scope for regional cooperation also existed in the manufacture of synthetic fibres, where economies of scale are important. Further studies, it was considered, should cover technical and economic factors hampering the growth of the textile industries, and the possibilities of regional cooperation referred to earlier. These studies should be presented to a meeting of experts to be convened by ECA at a suitable date.

22. The Working Party agreed on general terms of reference for the studies of five strategic industries, to be examined wherever possible on a subregional basis and discussed at appropriate times by meetings of experts, whose task would be to prepare recommendations on programmes of action for examination by the Standing Committee. In the case of iron and steel, it was recognized that a multiplication of small-size iron and steel industries was undesirable, although it might be necessary for various countries to develop and specialize in different branches of industry, e.g. pig iron or ferro-alloys at one end of the scale, and the rolling of finished steel products at the other. The study should be carried out in depth and range on the development of the iron and steel industry in Africa over a twenty-year period. It should cover such aspects of the subject as consumption and plans affecting consumption trends, sources of energy and steel-making raw materials, alternative locations, alternative sizes of plants and the corresponding number of plants desirable, alternative techniques of production, relative costs under alternative hypotheses, transport co-ordination and trade policies. The study of non-ferrous metals should be along similar lines. In the case of engineering, there should be careful and detailed studies of the scope for the manufacture of production equipment, especially agricultural machinery and implements, including ploughs, cultivators, shovels, picks, hatches and hand pumps; civil engineering tools, metal doors, frames and similar parts; metal structures, both from sheets and sections, such as bridges, electric line towers, oil storage tanks,
parts of factory buildings, roofings, conveyors and cranes, simple equip-
ment for mining and quarrying, plug handling equipment and boilers; rotat-
ing pumps and hydraulic equipment, mobile compressor units and pneumatic
drills; ship repair facilities; and transport equipment. These studies
should cover all appropriate processes of production. The study should
examine problems involved in harmonizing systems of weights and measures
in Africa, and make recommendations, taking into account the increasing
trend towards the adoption of the metric system. Recommendations should
be made for the setting up of standards institutes, perhaps associated with
the proposed sub-regional institutes of industrial research, with a view
to establishing common design standards, measurements and quality of material.
The study on chemicals and fertilizers should cover the region as a whole,
with special reference in the first instance to the West African sub-region.
Priority should be given to the chemical products listed in paragraph 20,
and the co-operation of FAO should be sought on studies on soil surveys
linked with suitable types of fertilizer for agricultural expansion. It
should also include an examination of the supply conditions, marketing and
pricing policies for fertilizers imported into the region, as well as dom-
estic pricing policies. The study of textiles should be along the lines
indicated in paragraph 21.

23. The Working Party of the Whole discussed investment codes and other
legislation measures for the encouragement of industrial development. The
secretariat's proposals in document E/CN.14/INR/4 that existing legislation
of the various countries be studied and that steps be taken to facilitate
their harmonization were the main points of the debate. The need to assem-
ble information on existing legislation throughout the region was widely
recognized. Doubts were expressed, however, as to the effect which such
legislation measures have on investment. Many delegates felt that this
was only marginal although some thought that it may be of considerable
significance. There were several other factors influencing investment —
the size of markets, the existing pool of skilled manpower, the type and
extent of resources, etc. Investors may have got into the habit of asking
for various legislative incentives, but it was far from certain that their
decision to invest or not to invest was affected significantly by such
measures.
24. The Working Party of the Whole endorsed the proposal that the secretariat should study these legislative provisions and see to what extent they affect the course and magnitude of investment. But it was widely felt that it was premature to go into the suggestion of a common approach that countries might adopt.

25. Chapter III of E/CN.14/INF.1 on industrial planning in Africa was taken up next. A number of delegates made brief statements on planning experience in their respective countries. A number of specific questions were raised. What planning problems are confronted in a mixed economy; what have been the defects of industrial planning in Africa; how is the harmonization of existing plans to be brought about, and how are such related questions as incentive goods and industrial finance to be treated.

26. The main conclusion was that the study was of a preliminary and general nature and that further work in depth was needed. It was suggested that studies should be undertaken on the methods and problems of industrial planning in Africa. It was also suggested that ECA provide expert assistance to governments in the field of industrial planning with the main object of bringing about some degree of co-ordination of national plans.

27. The discussion on the study of individual investment problems and the possible establishment at a later stage of a manual of investment projects proposed in the ECA paper E/CN.14/INF.13 showed the usefulness of this project, although it was agreed that the priority given to the project would depend on the work programme for ECA. The difficulties of following a single evaluation procedure when different financing agencies insisted on varying approaches were presented in the course of the discussion. Clarification was obtained from the secretariat on the extent of coverage envisaged in the study of investment decisions in the private sector and also whether it was desired to cover aspects other than industrial investment.

Research, Training and Dissemination of Information

28. The discussion was based on notes prepared by UNESCO and the ILO (E/CN.14/INF.11 and 12) which was further amplified in the course of discussion by the representatives from UNESCO and the ILO. It was noted that
UNESCO proposed to hold a conference in 1964, in co-operation with ECA, on scientific research and the training of scientific and technical personnel in the field covering the study, conservation and utilization of natural resources. The UNESCO representative stated that since the programme of the conference had not yet been finalized, it might be possible to expand it to cover the wider problem of personnel vital to industrial development in Africa.

29. The problem of suitable courses and training schools in Africa was discussed. It was generally agreed that training for common standards of performance should be attempted by both state and private institutions. The distinction between scholarship and apprenticeship training was made by the representative of the ILO, who recommended that training between these two levels was necessary in some countries. He also suggested, and was supported by the representative of UNESCO, that training should be under the control of one body, comprising both the state and the private sector, with assistance, where appropriate, from international agencies working in this field.

30. A number of delegates gave examples of inadequate utilization of training facilities in their countries, and suggested that the waste of resources implied in this state of affairs be remedied by the adoption of a regional or sub-regional basis for the utilization of these facilities. In any case, it was felt that such an approach was useful in the beginning. Arising from this, it was generally accepted that there was a need for a census of existing training and research facilities in Africa, and in this connexion, it was noted that UNESCO would be issuing an inventory of institutes of higher learning and science in Africa in the near future.

31. It was agreed that the Executive Secretary should be requested to invite appropriate organizations to undertake studies of the present position, needs and prospects of development of training and of industrial research in the African region including a census of existing facilities, the possible need for sub-regional institutions to complement national institutions. The priority of training at all levels was recognized.
The role of the United Nations Industrial Development Centre and the Specialized Agencies in the Field of Industrialization

32. The United Nations Industrial Development Centre was created, following a decision taken by the General Assembly. The Commissioner for Industrial Development explained the growing role of the United Nations including the regional commissions and Specialized Agencies and the efforts being made to promote greater co-ordination in the whole programme. The regional commissions had an increasingly important part to play in accordance with the General Assembly decisions on decentralization of economic and social activities. The United Nations Industrial Development Centre would act as a support to the Economic Commission for Africa in its work on industrialization and would give assistance and advice, when problems were raised by Governments individually and collectively, the solution of which was beyond the resources of ECA. Governments with specific problems should address themselves in the first instance to ECA who would be in constant touch with the Industrial Development Centre.

33. Representatives of FAO, the ILO and UNESCO introduced their papers on their activities covering research training, technical assistance and advisory services (see E/CN.14/INR/5,6,7,8,9,11 and 12). The Chairman thanked the representatives of the Specialized Agencies for the valuable papers they have presented and urged delegates to bring them to the attention of their Governments. The Working Party took note with satisfaction of the growing efforts being made to co-ordinate the activities of the United Nations family in their work on industrial development.

34. The Working Party took note of a report on United Nations Technical Assistance and Special Fund projects in the field of industrialization (E/CN.14/INR/10) and of a report by the United Nations Industrial Development Centre prepared pursuant to Commission's resolution 55(IV) on the dissemination of technical information as a means of economic and social development in Africa. It was suggested that electric power, electronics and atomic energy should be added to topics covered in the latter report. It was also felt that appropriate institutes in sub-regions of Africa should be put into a position where they could assist on the dissemination of Technical Assistance information.
An African Common Market

35. On the proposal of the delegate from Morocco, the Working Party discussed the need for the acceleration of studies designed to prepare the ground for the eventual creation of an African Common Market, and unanimously adopted the following recommendation:

The Working Party of the Whole of the Standing Committee on Industry and Natural Resources

Considering that most of the reports and surveys, both technical and economic, on the industrialization of Africa clearly show the need for coordinated large-scale industrialization;

Believing that Africa can constitute an effective large economic unit with potentials at least equal to if not greater than those in America, Europe and elsewhere;

Considering that most of the delegations have shown a desire for, and an interest in, the creation of an African economic unit;

Bearing in mind the studies already undertaken by certain African states with the view to creating an African Common Market as well as the work being done by the secretariat of ECA for the Standing Committee on Trade.

Recommends strongly to ECA that the Executive Secretary be requested to accelerate basic studies on the problems and measures required to establish an African Common Market in a regional and a sub-regional setting and to this end seek the co-operation of Specialized Agencies and other international bodies concerned.

Programme of Work in Industry

36. The Working Party examined its programme of work. In the course of the discussion, the delegate from Niger pointed out that whereas studies on the harmonization of commercial and industrial legislation were likely to be useful, such harmonization had to be preceded by co-ordination of development plans. The Working Party adopted its programme of work (see Annex VIII).
37. The Working Party took note of a statement by the Officer-in-Charge, who drew the attention of the Working Party to the financial implications of the programme put forward in both industry and natural resources. The work programme, when adopted by the Commission, would be carried out by the secretariat on the basis of staff resources allocated to the Industry, Transport and Natural Resources Division, consultant funds and funds allocated under the 1963–1964 United Nations Regional Technical Assistance Programme. Assistance would be sought, wherever appropriate, from the United Nations Industrial Development Centre and from other international agencies. However, it seemed certain that the programme proposed would exceed the total financial resources available, and depending on the decisions of the fifth session concerning the volume of work to be carried out in these fields in 1963–1964, it might prove necessary to draw the attention of the Commission to the specific financial implications of certain projects. The Working Party considered that the programme of work adopted was of vital importance in view of the considerable economic distance between Africa and the industrially developed countries. It was therefore recommended to the Commission that an attempt should be made to carry out the whole programme and an appeal made for the allocation of additional funds and resources.

Date of Next Meeting

38. The Working Party decided that the Standing Committee on Industry and Natural Resources should meet at Niamey, Niger, in November 1963.
ANNEX I

LIST OF PARTICIPANTS

Chairman
Mr. G.E.A. LARDNER (Nigeria)

Vice Chairman
Mr. A. CHEHRAOUI (Morocco)

Member Countries

CAMEROON
Mr. B. BIYONG
Chef du Service de la Statistique
Yaoundé

Mr. P. MVUMBI
Directeur adjoint
Département des Mines
Leopoldville

Mr. S. VERTER
Technical Adviser
UNOC
Leopoldville

CONGO (Leopoldville)

Ato TEKLE HAIMANOT GEBREMARIAM
Director-General
Ministry of Commerce and Industry
Addis Ababa

Ato TARIKU ABERRA
Deputy Director-General
Ministry of Commerce and Industry
Addis Ababa

Ato GABRE-MICHAEL PAULOS
Economist
Ministry of Commerce and Industry
Addis Ababa

Ato IZADDIN ALI
Mining Engineer
Ministry of Mines
Addis Ababa

Ato MEMRAHUT GEBRE-KIDAN
Civil Engineer
Water Resources Department
Addis Ababa

ETHIOPIA

Ato TEKLE HAIMANOT GEBREMARIAM
Director-General
Ministry of Commerce and Industry
Addis Ababa

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Mr. B. NOMVETE
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ANNEX II

AGENDA

1. Opening addresses
2. Election of officers
3. Adoption of the agenda
4. Mineral resources
5. Hydrology
6. The present industrial situation in Africa; prospects and policies for expansion
7. Industrial planning in Africa
8. Research, training, and the dissemination of information in Africa
9. The role of ECA and other international organizations in promoting industrialization in Africa
10. The work programme of ECA in the field of industry and natural resources
11. Any other business
12. Date and place of next meeting
13. Adoption of the report to the fifth session of ECA
ANNEX III

ADDRESS BY H.E. LIJ ENDALKATCHEW MAKKONNEN
MINISTER OF COMMERCE AND INDUSTRY OF
THE IMPERIAL ETHIOPIAN GOVERNMENT

It gives me great pleasure to welcome you all to Addis Ababa and to
the first meeting of the Standing Committee on Industry and Natural Re¬
sources. I hope that your stay here will be pleasant and your delibera¬
tions fruitful.

In adopting Resolution 43 (IV) during its last Session, the Economic Com¬
mission for Africa placed great hope and expectation in the work of your Committee.

Your Agenda contains topics which are of paramount importance to our
Continent.

No country in this Continent of ours can achieve a high degree of
industrialization without a proper inventory of its natural resources,
and in fact it is this very belief that compelled the Commission to establish
this Committee.

Many African States have accepted rapid process of industrialization as the assured way to accelerated economic development and that the short¬
est and most effective way to attain this objective is the way of develop¬
ment planning.

However, in order to prepare industrial plans, it is obvious that one
must have an accurate assessment of one's resources.

On the other hand, the assessment of a country's resources is too big
a task for any of our countries to undertake individually.

Firstly, the costs of a survey of natural resources are enormous; secondly, the African countries do not possess the necessary experts to
carry out the needed surveys, and, finally, if we do proceed individually
we will be repeating each other's mistakes whilst at the same time incurring
enormous and wasteful expenditure.
Moreover, in an age when some of the highly advanced countries are co-ordinating their economic policies and co-operating in undertaking major economic ventures, it would be both harmful and unwise for African countries not to follow policies which can unify and strengthen their collective economic effort.

It is this unity and strength that can speed up their economic progress as well as that of the Continent as a whole.

The Standing Committee on Trade, which met here from September 12th to 20th of this year, has emphasized the importance of co-ordinated industrial development as the only means of creating the necessary basis for intensified inter-African trade. It is, therefore, the task of your Committee to examine the positive steps leading to this goal and to recommend the best ways and means of economic co-operation and co-ordination among our respective countries in this important field.

Economic development today demands the co-ordinated effort of every section of a community. Governments everywhere are trying to direct economic activity and to manage the so-called forces of the market.

We share the conviction of other developing countries that economic forces can be managed by careful and realistic planning and by the development of skills and professions which are vital factors in the implementation and final success of any development plan.

We in Ethiopia first adopted economic planning in 1957. By 1961 we completed our First Five-Year Plan and, based on this experience we have just entered our second Five-Year Plan period. We are confident that the useful experience we acquired during our First Five-Year Plan can contribute to the greater success of the Second Five-Year Plan.

One final thing needs to be emphasized and this has to do with the co-ordination of the activities of the Commission's various Committees.

These Committees meet at different times and places, and I would urge that your work be closely co-ordinated with that of the other committees in order to avoid waste and duplication.

Once again I wish you success in your work and best of luck to one and all of you.
I would like to offer you a warm welcome to this meeting in the name of the Executive Secretary, Mr. Robert Gardiner. Once again, I have to speak on his behalf, but you all know of the tremendous responsibilities he is carrying in Leopoldville at the present time. It is no exaggeration to say that the successful outcome of his mission is of vital importance, not only for Africa but for the whole of the United Nations. I would like to welcome not only the representatives of Governments, but also of the United Nations Specialized Agencies and other inter-governmental organizations.

May I also, at this point, extend on behalf of the Economic Commission for Africa and this meeting, our sincere thanks to His Excellency The Minister of Commerce and Industry of The Imperial Ethiopian Government, for his encouraging words of welcome.

We are fortunate in having with us today Mr. Mayobre, the United Nations Commissioner for Industrial Development, who will be speaking to you shortly. I would also like to welcome Mr. Iliuschenko, the Director of the Steel, Engineering and Housing Division of the Economic Commission for Europe. Their participation is evidence of the growing integration of the United Nations' effort in the field of industrial development.

The Standing Committee on Industry and Natural Resources was established by a resolution adopted by the Economic Commission for Africa at its fourth session in February this year. The Committee has been given wide terms of reference, and it was clear at the fourth session that the Commission attached very high priority to its work on industrial development and natural resources, a field which for various reasons had hitherto been neglected. Subsequently, we have made marked progress in
building up the resources of your secretariat working in this field, and expect to make still further progress in the next few months. It is therefore a matter of regret that it seems unlikely that the Standing Committee will be able to meet as a committee, owing to the absence of a quorum. I realize that the smaller countries in particular have difficulties in sending delegates and experts to the growing number of meetings called for by the Commission's decisions. It would seem necessary, therefore, for the Commission at its fifth session to examine carefully this problem both the number and frequency of meetings, and a possible modification of the rules of procedure with regard to the establishment of a quorum. Having said this, experience in other regional commissions suggests that the standing committee device is a useful one, provided meetings are not held at too frequent intervals. In the Economic Commission for Europe and the Economic Commission for Asia and the Far East in particular, standing committees provide a forum for policy discussion at a high level in their own fields, a means of establishing and controlling the whole programme of work and a method for ensuring regular contact between government officials and experts. The element of continuity of membership in the standing committees in other regional commissions is not the least important feature of their work. The resolution at the fourth session requested that the Standing Committee should meet twice a year. The Executive Secretary suggested that the necessity of convening two plenary sessions a year would make it difficult for the Secretariat to carry out effectively the substantial programme of work called for and for governments to participate also in the smaller meetings of experts and seminars. Quite apart from these considerations, however, it would seem on other, and especially financial, grounds impracticable to envisage more than one meeting a year.

I have dwelt at some length on the problem of standing committees. For the present meeting I suggest that you constitute yourselves as a working party of the whole Standing Committee. The rules of procedure with regard to a quorum are then not applicable. Furthermore, I imagine it will not be your intention to vote resolutions, but rather to agree
a report for submission, through the Executive Secretary, to the fifth session of the Commission.

The work of the ECA on industrial development and in certain fields of natural resources is growing. Furthermore, the Division of the secretariat which is servicing your operations is not working alone. ECA's activities in related fields, in development planning, agriculture, transport and trade, for example, are all increasing. The Commissioner for Industrial Development will tell you of the growing activities of the whole United Nations family, the Industrial Development Centre at Headquarters, the four Regional Commissions and the Specialized Agencies. Increasingly, it is hoped to work more closely with organizations outside the UN family and with other countries who are giving aid and advice to Africa. The essential purpose of this meeting, and indeed the main document we have prepared for it, "Industrial growth in Africa" is to survey and take stock of the recent trends in industrialization and the present state of industry in African countries, to recognize the enormous and concrete possibilities of industrial development in Africa in the next decade, and to agree on the lines of a detailed programme of work by the ECA, properly dovetailed with the main activities of others working in this field. The survey we have prepared is of modest pretentions despite its bulk. It will be evident that it was prepared under pressure. But we have no desire to contribute to the world's literature. If the document acts as a stimulus and starting point for the work of ECA's Standing Committee on Industry and Natural Resources, it will have served its purpose.

The central theme running through our survey, and one which has been stressed in the recent tour of some African countries which the Commissioner for Industrial Development and I have just made, is the vital need for sub-regional co-operation in varying combinations in order to provide wide enough markets for the establishment of modern industries, and to avoid the waste of investment resources inevitable if each country, in particular the smaller countries, attempt to develop the whole range of industry.
Clearly, the immediate step towards industrialization in most African countries is the substitution for imports of consumer goods and the products of light industry of domestic production largely by the processing of agricultural raw materials. In addition, there is immense scope for the further processing of agricultural raw materials and minerals for export. Much of this is necessarily a national problem in which the UN family is playing its part, e.g. through the activities of the FAO and the ILO, and through the UN Technical Assistance Programme. In its programme of work, the ECA should co-operate in these fields, but we believe that our main task is to help in the establishment of large scale modern industry, with the sights set well ahead. Inevitably, this means co-operation between African countries and particularly sub-regional co-operation. A substantial part of our survey is devoted to preliminary studies of possibilities in a number of major industrial fields, iron and steel, non-ferrous metals, engineering, chemicals and fertilizers. The same principles apply to oil refining and the industries which can be developed as by-products, and to certain building materials. We have also devoted some discussion to textiles, where economic production is possible at varying scales of output, but where the possibilities of import substitution and ultimately of exports are great.

The last chapter of our survey, sketches out the possible lines of our work programme in the next two or three years. Further reflection suggests that a greater concentration of the programme and the establishment of priorities and phasing is essential. We believe that an immediate task should be studies in depth of the scope for sub-regional co-operation in industrial development in certain parts of West Africa, certain parts of North Africa and East Africa. This is not because we are concerned to encourage the isolation of sub-regional groupings from their neighbours. Quite the contrary. The encouragement of co-operation between countries in Africa in the process of industrial development must be a step by step process, and there would appear to be certain areas where we should start. We have in mind the establishment of teams from the ECA secretariat, the Industrial Development Centre at UN Headquarters and the interested
Specialized Agencies, who would visit the countries concerned and prepare reports with concrete suggestions concerning industrial development, on the basis of a division of labour between countries, stemming of course from the countries' own development plans. We would hope to work closely with other experts working in the countries concerned, in the first instance those provided by the UN Technical Assistance programme, but also with many others. We believe that subsequently the ECA, within the framework of the trend towards decentralization of UN activities in this field, but always working in close co-operation with the Industrial Development Centre and the Specialized Agencies, can do much in the way of practical follow-up of suggestions made, and thus assist Governments in the realization of their projects.

Parallel with this activity, we also have in mind much more detailed studies of certain industries to be followed by meetings of experts from the countries concerned. Examples are the proposed studies of iron and steel development in West Africa, and the development of chemical and fertilizer industries in West Africa. We would hope these plans could be carried through in 1963. In 1964, similar studies followed by experts' meetings could be carried out on a wider geographical basis in the relevant fields of engineering, including metal manufactures, mechanical and electrical engineering and transport equipment; in the production of non-ferrous metals in the countries with the ore resources; in textiles and in certain building materials. Plans are in hand for a study of the financing of industry, under the auspices of the Industrial Development Centre, and we expect to contribute so far as Africa is concerned. We are planning, in conjunction with the Industrial Development Centre and in cooperation with the Specialized Agencies concerned, a seminar on industrial estates. Most of the other suggestions made in Chapter 6 of our survey might be given, at this stage, lower priority or carried out by others, e.g. the study of problems of transfer of technology, industrial research and the dissemination of information which might be left in the first instance in the hands of the Industrial Development Centre.
I have said little about natural resources, where our work is at an earlier stage. One project of major importance is the seminar being planned by FAO (1964-65) on Pulp and Paper, in which we shall be co-operating fully. We have put forward suggestions, but in this as in other fields we hope that this meeting will establish clearly the views of Governments as to the role of the ECA.

I hope and believe that although the formal status of this meeting may not be what the Commission intended, the presence of so many high officials and distinguished experts will make possible a fruitful meeting, and a real start in what will become one of the major activities of the ECA.
ANNEX V

ADDRESS BY J.A. MAYOBE,
UN COMMISSIONER FOR INDUSTRIAL DEVELOPMENT

The vital role of industrialization in creating new employment opportunities and raising the levels of income and standards of consumption in developing countries has received increased recognition in recent years. That this should be so after a relatively sustained period of ever increasing development efforts, both at the national and international levels, is in itself significant and, indeed, indicates that industrialization is now being accorded by almost universal consensus the central stage in the process of development of the economically less advanced countries, in very much the same way as it had occupied it in the course of the development of the highly industrialized countries. But present day conditions differ in one very important respect: the ever increasing speed of technological progress in the advanced countries has tended to create a widening gap between those countries which have already been able to achieve significant accumulations of capital, knowledge and technical know-how and those countries which are still striving hard to free themselves from the basic disabilities characteristic of the initial stages of development.

The danger of a permanent and even increasing disequilibrium between rich and poor countries has been recognized earlier and its broad implications have been clarified to a large extent in the last ten years or so. It has become an accepted fact that the great gap in incomes and general well-being dividing the developed and under-developed countries is broadly paralleled by a similar disparity in the structure of their economies: the advanced countries have diversified and are predominantly industrial economies while in the less developed countries production is largely limited to a few basic commodities in the fields of agriculture or natural resources. It is therefore not surprising that recently a large measure of agreement has emerged, and indeed found expression in the Economic and Social Council and other United Nations bodies, on what the goal for under-developed countries should be, namely, the creation of industrial economies with a similar degree of diversification as those which exist in the advanced countries.
While the broad objectives have come to enjoy wide consensus there is much less agreement on the best way of achieving them, partly because a number of the problems involved have not yet been thoroughly explored and partly because different approaches are sometimes possible and even necessary in line with the particular circumstances of each country and region. When considering action it is, therefore, necessary to keep in mind the dangers of oversimplification in respect of both the broad policy lines and the specific measures to be adopted. For one thing, the need to compress within a very short period of time the industrial evolution of the last 150 years is a formidable task for any country. For another, industrialization is by far a very complex process requiring the existence of a set of adequate conditions to make possible the necessary structural changes and the sustained efforts that have to be carried on over a number of years. Furthermore, even if it is to play the major role in the process of development, industrialization cannot be considered as an isolated activity but has to be viewed within the framework of a general policy for economic development.

Throughout the years a considerable part of the efforts of the United Nations and the specialized agencies have been devoted to the clarification of the basic problems of economic development. One of the results of these efforts has been to show that industrial development could not be viewed simply in terms of the individual plant nor could it be based on common sense alone or on a purely pragmatic approach. The concept of industrialization evolved more and more as a conscious and organized process to be considered within the wider context of a well-articulated policy. As such it has to be based on stricter and more systematic methods capable of providing adequate insights into the nature of this process.

One of the first problems to arise is the choice of industrialization policies on which will depend such fundamental issues as the basic investment criteria, the methods for determining the most favourable combination of factors of production, the size of plants and their location, the relation of industrial programmes to the projected development of other sectors of the economy and their integration in overall development plans. The
gradual devising of a set of instruments and techniques for industrial development programming has greatly benefited from the various studies and research activities carried out and in the increasing experience gained through the provision of expert advice under the United Nations programme of Technical Assistance. As the knowledge in this field is being built up and subjected to systematic analysis, there is increasing certainty in its application to the various problems of industrial programming and related training requirements. The vast experience in industrial programming accumulated by the ECLA advisory groups while assisting various governments in setting up their planning machinery will be reviewed at the Latin American Seminar on Industrial Programming to be held early next year in Sao Paulo, Brazil. In the ECAFE region the second meeting of experts on programming techniques was devoted almost entirely to the problems of industrial programming and their report attempts to combine theoretical and practical elements from the experience in various countries of that area. It is specifically concerned with the inter-relation of analytical techniques, economic structure and the empirical information required for industrial planning.

A second and very important problem is the transfer of technology and the adaptation of modern processes of industrial production to the requirements of the developing areas. This has been in the past mostly a by-product of the direct investment of productive capital from the advanced areas of the world. It has now become more of an autonomous process intimately connected with the country's own industrialization policies and in which the United Nations family technical assistance programmes have been playing an increasingly active role. The range of problems dealt with is no less vast than the variety of technological fields. They vary widely from such projects as the improvement of certain types of steel products in Brazil to a comprehensive programme of materials substitution in India; advice on the establishment of a phosphate fertilizer industry in Chile or the design of a phased programme for the expansion of pulp and paper production in Thailand.
A very important element in the adaptation of technology to local requirements as well as the devising of technical processes for the optimum industrial use of local raw materials, has been the establishment of institutes of industrial and technological research. Assistance has been given to governments in the establishment of such institutes in a number of areas particularly where the present level of industrialization required ready availability of technological services to deal with the multitude of problems of industrial production and organization that arise at the local level. In fact, technological institutes have been providing useful services not only to existing and new industries but are also serving as an excellent training ground for new technologists to make up the cadres required by the developing countries for their industrialization efforts. At the same time they are the budding centres of pure research in science and technology which has been up to now largely concentrated in the more advanced countries, but will have to play an increasingly important role if the under-developed areas are to bring to full utilization their resources.

Another very important activity lies in the field of pre-investment and feasibility studies. A large part of the work of the Secretariat is in one way or another connected with elucidating the problems and establishing the techniques to diagnose in the shortest possible time the industrial feasibilities existing in a given area. Recently, there has been an increasing demand on the part of governments for the services of industrial survey teams to evaluate the immediate potential for establishing new industries or expanding existing activities. Thus, a team of experts carried out a broad survey of industrial possibilities in Singapore while a second team studied the feasibility of establishing an iron and steel industry. Both teams made specific recommendations which have already been carried out in some cases, or are in the process of being implemented in others. A similar mission has just started an industrial survey of Burma. In other countries the work is being initiated by individual experts whose function it is to evaluate broadly existing resources in the context of specific requirements for setting up medium and small-scale industries in a variety of fields.
In fact, one of the projects that has been included in the 1963 Programme of Technical Assistance provides for experts who would be available to African countries to survey their resources and the availability of other factors required for the establishment of new manufacturing industries.

In the newly developing areas, one of the most important problems is the need for trained personnel at all levels. While there is hardly a project in the technical assistance field where training is not involved one way or the other, either directly by the provision of fellowships for training abroad, or indirectly by capacitating counterpart or other local personnel who work with the experts, the highest priority has always been attached by the United Nations and the specialized agencies concerned to specific training programmes for technical personnel and management. An outstanding aspect is the establishment of training institutions and programmes in the regions and countries themselves, thereby providing a permanent institutional element for the continuous increase of the cadres of technical personnel.

International action is particularly significant where a regional or inter-regional approach is required. In technical seminars and study groups, government officials and industrial specialists are given the opportunity to exchange experience and discuss common problems at the regional level. These gatherings have frequently resulted in practical action taken either by the governments or at the regional level that led to the opening up of new possibilities for further industrial development. This was the case of the recent seminar on the development of basic chemical industries in the ECAFE region which made recommendations on the production and utilization of five basic chemicals that play a key role in many of the region's developing industries. Recommendations were also made on policy matters such as protective tariffs and other governmental measures designed to help newly established industries for the production of these chemicals.

On the regional level some other approaches have also been adopted in those cases which, while of concern to many countries, do not necessarily
involve the simultaneous interest of large groupings of countries. Thus, in a survey of the production of industrial equipment in various Latin American countries, ECLA was able to bring together the co-operation of governmental and non-governmental agencies in several of the countries which have already established capacity for the production of basic equipment. Because of the closeness to the working level on which these projects have been carried out, results of the survey could be immediately translated into practical action and lead to the formulation of re-equipment and reorganization programmes.

If I have gone to some length in quoting several examples of the activities that have been undertaken by the United Nations and the specialized agencies to assist governments in their industrialization efforts, it was not my purpose to overtax your patience. It was, on the one hand, an attempt to illustrate through a few concrete examples, the large diversity involved, although I am quite certain that the attempt fell by far too short from representing fully the whole range of present activities and future possibilities. Furthermore, there is in most cases a close inter-relation between these various activities adding considerably to the complexity of the whole picture which one can attempt to convey only by reference.

On the other hand, incomplete as this picture may have to be, I hope that it may serve to convey a general idea of the ferment of activities under international auspices which not only provide direct support where they are carried out but add very significantly to our knowledge of the complexities of industrial development through the daily accumulation of new experience from the four corners of the earth.

In the face of the variety of tasks in the industrial field which the United Nations family is now being called on to assist member governments, the need to co-ordinate the international activities in this field has come to be increasingly felt in recent years. One of the basic functions of the Centre for Industrial Development, as envisaged by the Committee for Industrial Development, is precisely that of providing a focal
point for the exchange of information not only in respect of given data but also concerning programmes and activities as well as new experiences and approaches to problems that have a bearing on the industrialization process. While co-ordinating international action in this field it will also serve as the central point for the collection and analysis of technological data and to make available information on new scientific advances of particular importance to the developing countries.

While the Centre assumes general functions of co-ordination and guidance in respect to the overall effort, larger emphasis is increasingly being placed on the direct role of the regional commissions, who by their nature and functions are more intimately aware of the circumstances prevailing in their own geographical areas, and are thus able to provide a more perceptive approach to specific problems whose setting falls largely within the geographic boundaries of their action. The Centre would undertake those activities which can effectively be discharged only by a central organ but which would help to advance solutions for problems arising in the regions. What is perhaps most significant, however, is the continuing give and take between our regional and Headquarters establishments. The Centre should receive a continuous stimulation from the regions because of their close contact with the realities with which we are concerned. While showing utmost sensitivity towards the developments in the regions, the Centre should at the same time also be able to feed back to them the experience not only of the more advanced countries but also that of the other regions. Thus, the aim is a reciprocal exchange of views and ideas reflecting new developments, whether concerned with the direction of new achievements or the orientation of new searches.

I would like now to refer more specifically to some of the problems of industrial development in Africa. In recent weeks the Officer-in-Charge of the Economic Commission for Africa and I have visited several countries in West and East Africa. We have been in touch with government officials responsible for carrying out the policies for industrial development, with entrepreneurs and factory administrators. These contacts, though short,
have enlarged our vision of some of the problems which the countries are facing in trying to develop an industrial society. I expect that in the near future these relations will be systematized in order to bring about a closer relationship with African economies and an understanding of their problems.

It is, in my opinion, necessary to mention some important aspects which we were able to appreciate in the course of our trip. These are, as you will readily understand, general observations which are subject to deeper analysis. But I submit them to you as possible subjects for discussion at the present meeting.

First of all, it is clear that the level of industrialization in Africa is in most cases lower than in other under-developed areas of the world. Of all the countries of this Continent, only one - South Africa - has a per capita income above $250 and only six - South Africa, Morocco, Algeria, Tunisia and the Federation of Rhodesia and Nyasaland - have a per capita income above $125. There is a close relationship between the level of per capita income and the proportion of the industrial production in the gross national product. In the highly-industrialized countries these proportions amount to an average of 49 per cent. In the under-developed countries where the per capita income is above $125, the participation of industry in the gross national production rises from 25 to 28 per cent. In the less-developed areas or countries that have a per capita income of less than $125, the proportion rises to 19 per cent. Most countries of Africa are in this last category, and thus the promotion and development of industry is one of the many factors in any policy directed at improving the levels of income and the standards of living of the population.

In recent years there has been an important rate of growth of industrial development in many African countries. The estimate of 7.4 per cent of annual growth rate increase, presented in the Survey prepared by the Economic Commission for Africa for this meeting, compares favourably with the growth rate in other areas of the world. But we have to take
into account the original basis on which these comparisons are based, which is very low, and that the substantial growth rate in recent years does not imply that a self-sustaining process of industrial growth has yet started in most African countries.

The second aspect to which I would like to refer — and perhaps the most important one in my opinion — is the need for close co-ordination between the different countries in Africa in order to establish sound economic and industrial development. There are many new States where possibilities for industrialization are limited by the size of the population, by the amount of financial and human resources, and by many other factors. Even in countries which have an abundance of natural resources and large populations, the establishment of certain basic industries has to take into consideration markets for exports due to the minimum size of units required for economic production.

It is evident that broad economic units — or at least broad economic co-operation — is required in order to make possible the establishment of industries on a sound economic basis and with benefits that can reach large sectors of the population. It seems to me that one of the greatest contributions of the Economic Commission for Africa, and especially of this Committee, should be the carrying on of analyses and the putting forward of suggestions that could serve as basic references for co-ordinated action in industrial development in several sub-regions of Africa.

I come from Latin America. We have been independent for 150 years and all Spanish America has been divided since the beginning of our liberation into many units that developed their economies in isolation from each other. The fact that we are an under-developed continent is due — in a large measure — to this economic disintegration. Now, when more than a century has passed, the Latin American republics are trying to overcome this fact. The five Republics of Central America are already working for the integration of their economies and have already established a common market and a programme of concerted industrialization. In a more broad area, most countries of Latin America have created the Latin American Free Trade Area in order to be able to develop heavy industries on a more sound
basis. I expect that the experience of my continent will be of use to the leaders of Africa who have been so successful in liberating their countries.

A third appreciation that we were able to make is the wide field in which the United Nations and the Specialized Agencies can assist the countries of Africa in promoting and implementing industrialization. In the matter of programming and planning, in feasibility surveys, in the evaluation of concrete industrial projects, in assisting the countries to train managers, technicians and skilled workers; in the evaluation of natural resources and in the elaboration of policies intended to stimulate industrial development - in all of these the varied activities of the United Nations could serve the countries of Africa. I pledge here our support in these fields to those countries who consider this assistance necessary for their development. In these activities the Centre for Industrial Development, the Regional Commission and the Specialized Agencies will together put all their efforts and their available resources at the disposal of the countries of this continent. The Economic Commission for Africa and this Committee are particularly in a privileged position to undertake this responsibility, and I consider that this is the focal point where we must co-ordinate and make an organized effort to ensure the best use being made of the resources which international organizations can mobilize in this field. Thus, I only express a plain fact when I refer to the significance I attach to this opportunity of making contact with you and in participating in your deliberations. Such opportunities for exchanging ideas, of hearing about your problems and your achievements are an indispensable guide for the formulation of our work programme and in the creation of effective instruments for serving the newly independent African States in their efforts towards self-sustained economic growth.
ANNEX VI

ADDRESS BY I.A. ILUSCHENKO, DIRECTOR
STEEL, ENGINEERING AND HOUSING DIVISION
ECONOMIC COMMISSION FOR EUROPE

I would like to express the gratitude of the secretariat of the Economic Commission for Europe for the kind invitation extended to us by the secretariat of the Economic Commission for Africa to take part in your very important and very interesting meeting. This will, I am sure, facilitate our future co-operation in the field of industrial development of the African continent. It will also help us to a better understanding of your problems and enable us to make our maximum possible contribution to the over-all effort in your very important and difficult task.

It gives me great pleasure to make a short statement in which I intend to outline, briefly, our activities in the field of industry. But before proceeding to the subject of my statement, may I say a few words about the preceding deliberations of your meeting? I have participated in a number of international conferences dealing in one way or another with various problems of industrial development and I must confess that I have found your meeting one of the most interesting and useful. Your deliberations on very important and difficult problems and the results you have arrived at are very impressive and very encouraging. Although this is not, unfortunately, a full body session of the Standing Committee on Industry and Natural Resources as it should have been, the active participation of the Member Governments present and the very interesting statements and constructive suggestions as to the future work of the Committee are, in themselves, good proof of the vital role which this Committee has to play in the economic development of the African continent, and of its importance in the industrialization of the African continent. I would also like to pay tribute to the very able chairmanship and to the skill in conducting this meeting which, I must say, is not at all an easy task to perform under the circumstances. Finally, I wish to associate myself with those who have already highly praised the efforts
of the secretariat of your Commission in preparing and submitting to the meeting for discussion a substantial — and it would probably not be an exaggeration to say — a unique report on the industrial growth of African countries. I am sure that this report would be useful not only to the African countries but also to the many others connected or dealing with the question of industrialization.

Mr. Chairman, Distinguished Delegates, in view of the great pressure of time, I will not go to any length to put special emphasis on the importance of setting up and expanding various industries for economic development as this has already been properly dealt with by the Commissioner for Industrial Development, Jose Antonio Marcherre. It is probably important, especially having in mind today's very positive debate on the subject of the establishing and developing of a steel industry in the African countries, that I should underline one point which, to my mind, should be stressed here, i.e. the necessity of establishing and expanding of industries such as steel, metal-work, and engineering, in particular, without which it would be practically impossible to bring about any substantial economic development in a particular country or a group of countries.

The work of ECE in the field of industry is primarily concerned with the iron and steel industry, mechanical and electrical engineering, the building industry, building materials, coal, gas and the production of electricity as well as productivity of labour in general and in individual industries, automation and agricultural machinery. This work is essentially geared to the promotion of intra-European co-operation and the exchange of economic, technical and scientific experiences and information. Various proposals to undertake in the ECE work in the industrial fields other than the above-mentioned have not so far met with the approval of the Western countries. In spite of this limitation, the work of the Commission in the field of industrial development represents a significant contribution to the promotion of intra-European co-operation and to the UN Industrial Work Programme. In accordance with the ECE resolution on co-operation with less developed countries, the Steel and Housing Committees — which are being served by my Division — have made, and continue to make, increasing efforts to include in their work programmes projects, the implementation
of which would be of interest not only to members of the ECE but also to the countries of other regions.

Thought has been given to the way in which the present activities of ECE could further contribute to the expanded industrial development programme of the United Nations and to the benefit of less-developed countries of Asia, Latin America and Africa.

The activities of my Division in iron and steel are concerned primarily with steel statistics, the analysis of the European steel market, the study of long-term trends in the world steel market, the economic and technological factors influencing the principal steel consuming sectors and studies on technological development in the steel industry and their economic aspects. A dominant factor of these activities is the promotion of inter-European co-operation, contacts and exchanges of experiences, but, as I have already mentioned, considerable thought has been given to extending these activities in such a way that we would be in a position to provide assistance to the less-developed countries in this particular field.

The Steel Committee and our Working Party on Steel Statistics have developed, over the years, a body of statistical standards and publications which have come to be recognized as authoritative sources of European steel statistics. With the development of the steel industry in countries outside Europe the question arises whether the coverage of our statistical bulletin should not be extended to other steel-producing countries, not members of the ECE. In view of the changed situation which has resulted from the development of the steel industry in other parts of the world, consideration might be given to a way of ensuring a wider statistical coverage in this field. The Steel Committee holds, each year, a discussion on the development of the steel market. The review covers the European countries as well as the United States and, more recently, Japan as well; moreover, data on world production of iron and steel and world apparent crude steel consumption by individual countries are also included. Delegates to the Steel Committee of ECE attach considerable importance to this
yearly review. It is believed that with some additional efforts the review could, without much difficulty, be transformed into a world market review with a considerably greater audience than at present. The other regional economic commissions might, therefore, wish to give consideration to the possibility of extending this co-operation to their regions. The statistics of these countries could be treated in a separate chapter, if desired. The substance of this chapter could be provided by the other regional commissions or prepared by the ECE Division with the help of other commissions in obtaining the appropriate information.

Besides the regular publication mentioned above, we have several studies which have been completed and published during the past several years, such as "Long-term Trends and Problems of the European Steel Industry", which provides projects of the steel demand in Europe and in the other regions until 1972/1975 and still remains a classic in this field, "The European Steel Industry and the Wide Strip Mill", "The European Pipe and Tube Industry", "Railways and Steel", "Recent Developments and Trends in Iron and Steel Technology", "Recent Advances in Steel Technology and Market Development", "Draft General Condition of Sale for the Export and Import of Steel Products"; and a quite recent one – which is probably one of the most important – a study on "Comparison of Steel Making Processes" which was prepared with the assistance of a number of top experts in the European steel industry. This study has been widely recognized as one of the most important, and unique of its kind, and will be available to all who wish to get it immediately after its publication at the beginning of 1963. This study is going to be one of the main background documents for the seminar of steel experts of the less-developed countries which is scheduled to take place in 1963. We also have several very important studies on our long-term programmes, such as "The Use of Steel in Construction" which will be published in 1963; "Competitive Use of Steel in Comparison with Other Materials" on which we will make a start in 1963; "The Economic Aspects of Iron Ore Preparation" which we intend to complete by the beginning of 1964; "The Economic and Engineering Aspects of Continuous Casting"
which we will be able to start at a later date. In addition to the foregoing, we have several projects under consideration in the field of the steel industry and I think that here I should at least mention two of them. One is a study on the world market for iron ore and, secondly, European steel exports and steel demand in non-European countries, which have been proposed by several European countries and the secretariat of the Economic Commission for Africa. As a result of discussions with Mr. Ewing and Mr. Mayobre during this session, we arrived at an agreement that these two projects should be joint projects undertaken by ECE, ECA and the other regional economic commissions. We believe that these studies, with the assistance and proper contributions of the other regional economic commissions, will be of great value to the developed as well as to the less-developed countries.

The present work of the Division of ECE on engineering industries has, up to now, been limited to a study on production and export of capital goods in the field of mechanical and electrical engineering, which will be published early next year and may be available to Members of the Economic Commission for Africa. As has been recognized, this study might be very useful for African countries as a guidance to the possibilities of receiving various equipment from European countries for industrialization purposes. And, again, at the suggestion of your Commission's secretariat, we have worked out, together with the Commissioner for Industrial Development, Mr. Mayobre, a programme for the continuation of work in this very important field. We expect that your Commission's secretariat would be in a position to make a useful contribution as to the production and demand for engineering products in African countries and we, on our side, will do our best to work out and present the export possibilities from European countries. If we manage to get the same contribution from ECAFE and ECLA, then it should be possible to make this study of a wide nature and as a most useful contribution to the general problem of the United Nations on industrialization.

We have also discussed during the last few days in some detail the suggestion of your secretariat to undertake in ECE a joint study in the
field of chemical industry. Although this is one of the most important branches of industry for the economic development we, in ECE, again due to the objection of some Western countries, could not make up to now any study in this field.

We believe nevertheless that in the very near future we will be able to undertake, with the assistance of the Industrial Development Centre of the United Nations, and the assistance and contribution of your Commission as well as of the other regional economic commissions of the United Nations, some economic aspects of the chemical industry. I am sure that such a study could be a very useful contribution to the industrial development of less-developed countries.

As has been mentioned above, we are also doing some work in the field of productivity, automation and agricultural machinery, and intend to develop these activities a little further and hope that we will be able, in the near future, to have some co-operation in this very important field from your Commission's secretariat as well.
The Sub-Working Party on Natural Resources met from 13 to 19 December 1962. The following countries were represented: Ethiopia, Federation of Rhodesia and Nyasaland, Ghana, Liberia, Morocco, Niger, Nigeria, Senegal, and Sudan. The following specialized agencies were also represented: FAO, UNESCO and WHO. An observer from CCTA attended the meeting.

Mr. A.M. Massaquoi, representative of Liberia, was elected Chairman.

The Sub-Working Party, after consideration of the suggestions of the secretariat, and after the exchange of views of the member delegations represented at this meeting, agreed to transmit concrete proposals on natural resources to the Working Party of the Whole for inclusion in their report of the UNECA. Except when otherwise stated it is recommended that ECA should take the action proposed.

These proposals are presented under five headings:

A. Organization of Mineral Resources Unit.
B. Information and Documentation.
C. Training.
D. Discovery and development.
E. External and Mutual Aid.

A. Organization of Mineral Resources Unit

1. To establish a mineral resources unit with appropriate staff at ECA headquarters.

2. To collect information required as follows:
   (a) Bibliography of publications on mineral resources in Africa.
   (b) To establish a library of publications of the Geological Surveys in Africa, and related organizations.
   (c) To build up a system of card indexes, maps and other information on mineral occurrences, investigations and production in Africa.
3. To create a pool of geologists and other specialist staff, with appropriate equipment, if practicable, at Headquarters.

4. To establish relations with local geological surveys, mining departments and mining companies with which governments associated, and other related organizations with a view to discovering what technical aid could be given, taking into consideration technical activities in this field, and to make available to governments, on request, geologists and other specialists from the proposed pool, and where necessary, provide equipment and subsidiary staff to carry out special projects.

5. To establish close working relations with major regional organizations in the field of mineral resources in Africa such as the Association of African Geological Surveys, the Overseas Geological Surveys, the British Commonwealth Geological Liaison Office, CCTA, and with the universities.

B. Information and Documentation

6. To urge geological surveys in Africa to achieve an early publication of important maps and records, and to examine what assistance could be given to them to achieve this end.

7. To consider the issuing of a newsletter dealing with current matters of general interest in relation to mineral industries in Africa and later to publish a journal of scientific and technical papers on regional and sub-regional problems in Africa.

8. To urge upon governments the immediate and long-term needs of geological surveys and the importance of long-term systematic mineral investigation and early publication of relative records.

9. To stimulate public interest through appropriate institutions in geological survey activities and mineral possibilities and encourage the public to submit specimens of rocks and minerals for examination.
C. Training

10. To recommend the training of additional geologists, assistant geologists, and related scientists in association with universities, UNESCO and other specialized agencies, and to encourage students to study geology and/or related subjects.

11. To arrange technical conferences of regional or sub-regional interests through existing organizations where possible.

12. It is recommended that ECA should recommend as a matter of high priority the establishment of departments of geology and mining in existing African universities.

13. The sub-working party on natural resources considered the importance of specialized training in the interpretation of aerial surveys and agreed that the establishment of a regional training centre in Africa should be taken up by the ECA in consultation with UNESCO and other appropriate bodies.

D. Discovery and Development of Resources

14. To assist in the creation of new geological services where needed and expand existing geological services where required.

15. To promote assistance in mineral development in promising areas.

16. To recommend further investigation on the economic possibilities of mineral resources, the beneficiation of ores where necessary, the creation of new industrial enterprises and the expansion of existing ones, and the export of minerals; and to provide mineral economists to advise on problems of operating costs, utilization, marketing and prices.

17. To provide industrial engineers who should be available for consultation in the use and application of industrial minerals especially to support small industries as for light weight aggregate for building construction, glass-making, ceramics, etc.

18. To promote economic mineral prospecting, investigation, and production by large-scale enterprises, to recommend the enactment of simplified
mining legislation, and to promote individual or small scale mineral prospecting and provide assistance and advice for this purpose.

E. External and Mutual Aid

19. To promote mutual co-operation and collaboration on special projects.

20. To initiate action for establishing a centre for the determination of the ages of rocks and minerals by radio-active and other methods.

21. To initiate action for the establishment of a regional training centre of photogrammetry and related studies as well as airborne geophysical prospecting methods with a view to assisting member countries in their problems of interpretation and mapping.

22. To promote collaboration between geological survey departments and universities in geological mapping and in specialist problems.

23. To initiate action for establishing a Petroleum and Natural Gas Development Institute, for training in the technical and development aspects of the petroleum and natural gas industries.

24. In making recommendations for the creation of new training centres, governments should take into account those already existing, and should also address the Special Fund separately and jointly with regard to sub-regional or regional projects.

25. The sub-working party, informed of Resolution 2211 adopted by the General Conference of UNESCO on the organization of research and training of personnel in Africa (in so far as it concerns the study, conservation and utilization of natural resources), notes with satisfaction the UNESCO initiative which complements usefully the programmes drawn up by the Conference of African States concerning the development of education in Africa held in Addis Ababa in 1961, and that concerning the future of higher education in Africa held in Tananarive in 1962.

In view of Res. 34(III) adopted by ECA in the course of its third session concerning natural resources, the sub-working party recommends
that ECA should participate by all means at its disposal, particularly in respect of financial aid, in the organization of that Conference and to maintain close contact with UNESCO on this matter.

The following recommendations are made for development in the field of hydrology, and ground-water resources.

A. Organization of a Water Resources Unit

26. A hydrological unit should be organized to study a number of small river basins in Africa, to furnish information which can be related to data from larger river basins in Africa. The work of Professor Rodier in this field is noted, and it is desirable that information from this source should be made available when ready.

27. Propose that the hydrological unit in collaboration with WHO arrange seminars for the dissemination of information on health aspects in regard to ground and other water resources required for human consumption.

B. Information and Documentation

28. The water resources unit should compile a bibliography on hydrological literature relating to Africa, and establish a card index system on the subject. It should come into contact with UNESCO which has already established, at the request of ECA, a bibliography, and co-operate with that organization in order that this bibliography should constantly be kept up to date.

29. To compile and disseminate information on all aspects of underground water situation in Africa, in collaboration with activities of the United Nations specialized agencies and other organizations in this field.

30. Promote sub-regional meetings for discussion of common ground-water problems, common forms of records and the production of sub-regional information, such as hydrogeological maps and analyses of bore-hole results in relation to rock formations, rainfall, etc.

31. Circulate a newsletter on ground-water proposals, activities and results. This newsletter should be published in 1963, and ways and means of publishing a Journal of Hydrology as soon as possible should be explored.
32. The sub-working party notes the availability of the proposed new Journal of Hydrology to be published in Holland which could be used for the publication of hydrological matters in Africa, until the proposed journal for Africa is established.

C. Training

33. Recommend that seminars on schemes for the storage of water be held as required, to consider the many problems connected with the storage and utilization of water and to call on the activities of FAO and WHO to assist in the organization and financing of such meetings.

34. To urge the formation of a training programme for intermediate grade and subordinate staff at the sub-regional level.

35. To promote through UNESCO, if possible, the establishment of hydrology departments in African universities for the training of hydrologists and hydrological engineers.

36. To recommend the organization of special study tours, for administrators, engineers, and geologists, to enable them to inspect activities in other countries that present problems in water supply comparable with their own, so that they may acquire the experience which will enable them to resolve such problems in their own countries.

37. Arrangements should be made to give geologists, engineers and related workers of one country, in which hydrological works are proposed, experience on works of a similar nature already established in other countries.

38. The hydrological unit should organize symposia on subjects of regional and sub-regional interest, and make information available on similar symposia and technical conferences organized inside and outside the continent of Africa by UNESCO and other specialized agencies. Special note should be taken, of the symposia arranged in 1963 by UNESCO in North Africa and Cambodia and by ECAFE in Thailand.
D. Investigation and Development Resources

39. To carry out under the auspices of specialized international agencies, as required, investigation on the national development of important waterways. This proposal is made with the objective of developing, in particular, a means of inter sub-regional transport; to develop hydroelectric power; and to facilitate the location of other industries.

40. To study possibilities of improving the water resources of countries in dire need of water.

E. Mutual and External Aid

41. Note the importance of the question of conservancy and the activity of FAO in this matter, with special reference to the extent to which rivers in tropical and other regions have developed seasonal characters as a result of land use.

42. To consider, with related agencies, financial and technical assistance for the assessment of hydrological data for special projects.
ANNEX VIII
PROGRAMME OF WORK IN INDUSTRY

Group 1 - Continuing Projects

(a) The continuing build up of an inventory of African industries, including energy, on which work has already started.

(b) The collection for eventual publication of statistical data on output, imports and exports and also consumption of industrial products, including raw materials, intermediate goods and final products. The improvement of both the coverage and quality of industrial statistics. Reference should be made in this connexion to the industrial censuses planned on a world-wide scale in 1963. Reference should also be made to the recommendations of ECA's recent Seminar on African Industrial Statistics (Report of the Seminar on Industrial Statistics, document E/ON.14/173).

(c) Studies of the problems of the formulation of industrial investment decisions, which should include:

(i) investigation of the experience of industries established in the last few years from the point of view of operation productivity and economic efficiency;

(ii) research into the initiative which led to the establishment of such industries as well as methods employed in reaching investment decisions;

(iii) the economic and other pre-conditions of industrial development with particular reference to specific obstacles to industrialization in particular areas;

(iv) further examination of the possibility of preparing, with the aid of African and other experts, a manual of investment projects covering both economic and technical aspects.
(d) Studies of industrial planning and programming, in co-operation with the United Nations Industrial Development Centre and the African Institute for Economic Development and Planning, to be followed by a seminar on problems and techniques of industrial planning and programming to be held as early as possible.

(e) Preparation, in co-operation with other departments of the United Nations and the Specialized Agencies concerned, for the setting up of institutes for industrial research in Africa on a sub-regional basis, covering both fundamental and applied research.

(f) Preparation, in co-operation with other departments of the United Nations and Specialized Agencies concerned, for the development of technological education, through the setting up of specialized faculties in African universities and through separate specialized technological institutes or universities; for the training of management personnel, industrial engineers, middle-grade personnel and skilled workers, in the first instance through an inventory of existing institutions; and for the training of specialists in project evaluation such as agricultural economists, industrial engineers, industrial designers, industrial economists and accountants.

(g) Assistance to individual governments at their request in solving problems of industrial development, in co-operation with the United Nations Industrial Development Centre, including assistance to governments in the formulation of Technical Assistance and Special Fund projects, briefing and assisting Technical Assistance experts and evaluating their reports.

(h) Assistance to governments in promoting sub-regional co-operation in the development of industries on the basis of international specialization and in the harmonization, where appropriate, of industrial development plans through studies and field investigations.
(a) Intensive studies of the following industries, covering the prospective trend of demand, trade possibilities within Africa and overseas and prospects of developing African production in individual countries, where appropriate on a sub-regional or regional basis, to be followed by meetings of experts:

(i) iron and steel;
(ii) non-ferrous metals including further processing;
(iii) engineering industries;
(iv) chemicals, especially basic chemicals required for a wide range of industry, fertilizers and agricultural chemicals, tanning materials, dye stuffs and petro-chemicals, and including also prospects for the development of secondary industries based on the foregoing chemical products;
(v) textiles, both from the point of view of far-reaching prospects of import substitution at the national level and with particular reference to removing obstacles to the growth of production;
(vi) industries providing energy, in the first instance through a conference on electric power development, to be held in the Autumn of 1963.

(b) Study of the problems of financing industry in Africa, including analysis of self-financing methods, the channelling of private savings to industry through the development of capital markets, internal financing of the sale of capital goods, international financing through international agencies and other channels, and the provision of credit for the export of manufactures, in co-operation with the United Nations Industrial Development Centre, the African Development Bank when set up, other international financing agencies and private banks.
(c) Study of the impediments to industrialization represented by existing industrial, commercial, monetary and fiscal legislation, with a view to formulating proposals for the harmonization of such legislation, to be considered by a conference at an appropriate time.

(d) Preparation for a seminar on industrial estates, to be held in 1964, in co-operation with the United Nations Industrial Development Centre and the Specialized Agencies concerned.