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Multinational Programming and Operational
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African States

Fifth Meeting of the Lusaka-based MULPOC Committee of Officials
March 17-22 and Fifth Meeting of Council of Ministers
March 23-25, 1982

Lusaka, Republic of Zambia
17 - 25 March 1982

REPORT ON THE SECOND INTERGOVERNMENTAL MEETING
OF EXPERTS ON THE ESTABLISHMENT OF IRON AND STEEL
INDUSTRY IN EASTERN AND SOUTHERN AFRICAN SUBREGION

(Addis Ababa, 30 November - 4 December 1981)

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A. ORGANISATION AND PARTICIPATION

1. The Second Intergovernmental Meeting of Experts on the Establishment of Iron and Steel Industry in Eastern and Southern African Subregion was organised by the Economic Commission for Africa at Addis Ababa, Ethiopia, from 30 November to 4 December 1981.

Participation

2. Representatives of the following member States participated in the Meeting: Ethiopia, Malawi, Uganda, the United Republic of Tanzania and Zimbabwe. Consultant: Mr. Zerhouni Moustafa.

3. The Meeting unanimously re-elected Mr. Charles O. Okui, Uganda, as Chairman and Mr. Thomas S. Mercer, Zimbabwe, as Rapporteur.

B. AGENDA

4. The following provisional agenda was unanimously adopted:

1. Opening of the meeting

- Opening statement by the Executive Secretary of ECA

2. Election of Officers

3. Adoption of the agenda and organization of work

4. Presentation of the report of the first meeting followed by discussions on matters arising from the first meeting

5. Review of national position papers and presentation of the Algerian experience in the integrated development of iron and steel industry

6. Presentation of outstanding issues

(a) Transportation problems for iron and steel industry raw materials and products;

(b) Framework and rationale for co-operation;

(c) Modalities for co-operation.

7. Recommendations to the Fifth Meeting of the MULPOC Council of Ministers (Lusaka, Zambia 17-25 March 1982)
 - (a) Programme of co-operation in the development of the iron and steel industry in the subregion;
 - (b) Recommendations on terms of reference, modalities, mandate, and composition of the proposed ad hoc Committee on the development of the iron and steel industry in the subregion.
8. Any other business.
9. Adoption of the report and closing of the meeting.

C ACCOUNT OF PROCEEDINGS

Opening statement

5. In his opening statement, Mr. G. Kimani, the Director of the Joint ECA/UNIDO Industry Division, said that the Lagos Plan of Action aims at the establishment of self-reliant and self-sustaining integrated economic and social development which demands the creation of an industrial base at national and multinational levels in order to satisfy the basic needs of the African peoples.
6. He went on to express concern that despite the fact that Africa is endowed with abundant natural raw materials, it still remains the least developed of the regions contributing a mere 1.0 per cent towards world industrial production. He hoped that with the declaration of the Industrial Development Decade for Africa, we, in Africa, should aim at transforming the present industrial structure aiming at greater integration of industry with all the sectors of the economy.
7. He reminded the delegation of some of the problems of iron and steel development in Africa. He referred to the Egyptian experience and went on to illustrate the point that it has taken Egypt some 25 years to develop the iron and steel industry to the present modern form.
8. The Director made reference to the more recent experience in iron and steel development in Nigeria. There are a number of hard lessons to be learnt from the Nigerian experience. The first lesson being that in starting an iron and steel industry, a policy framework is needed first. The second lesson is that without an institutional framework, the steel project never seems to get off the ground. The final lesson is that existing institutions, at the time when a steel project is decided upon, do not possess the necessary pull needed to effect the inter-agency co-ordination required to ensure the successful implementation of an iron and steel project.

9. He concluded by reminding delegates that the meeting was charged with the responsibility of drawing up recommendations to member States of the Eastern and Southern African Subregion concerning new approaches and decision criteria that will be adopted within the subregion in the field of iron and steel development.

Presentation of the report of the first meeting followed by discussions on matters arising from the first meeting (agenda item 4).

10. The report of the first meeting was presented by the Chairman followed by a brief report on visits to Mozambique, Zambia, Mauritius and Tanzania as requested at the first meeting. As a result of the visits, country reports and/or additional information from Mauritius, Tanzania, Zambia and Mozambique were received. The report was adopted without amendment.

Review of National Position Papers and Presentation of the Algerian Experience on the Integrated Development of the Iron and Steel Industry (agenda item 5)

(a) The Algerian Experience in the Integrated Development of the Steel Industry

11. In introducing the paper on the African experience in the integrated development of the iron and steel industry in Algeria, Mr. Zerhouni Moustafa, Consultant, said that the starting up of a steel industry in Algeria was based largely on macro-economic consideration. Those considerations led the industry not only to begin exploitation of Algerian iron ore, which had hitherto been exported, but, most importantly, to acknowledge the strategic role of that basic industry and its resultant effects on the entire economy. Thus, the criterion of national needs for steel products had very little to do with the decisions that were taken.

12. Algeria began its steel industry with the production of flats (400,000 tons per year), which made possible the downstream development of an important processing sector.

13. The second period was aimed at meeting the needs of the hydrocarbons industry (100,000 tons per year of spiral welded tubes; 40,000 tons per year of seamless tubes).

14. The last period involved the installation of units for the production of bars (600,000 tons per year) for which demand had considerably outstripped supply.

15. Future projects based on the direct reduction process should provide additional coverage of needs for the entire range of long products with the exception of rails and heavy sections.

16. At the outset, Algeria assigned most of its pre-investment conceptual studies to foreign engineering companies into which a small number of trained Algerians had been integrated.

17. As the situation subsequently evolved, a definite distinction became apparent between needs for specialized engineering for implementation (construction site management) and needs for conceptual studies with which experienced steel producers were associated.

18. Negotiations with suppliers and contractors were generally carried out on the basis of solicitation of bids. It became increasingly clear that the thorough preparation of a project concept and a detailed elaboration of the technical specifications for tenders were only minimal guarantees of successful negotiations.

19. Responsibility for project implementation was given entirely to engineering firms between 1964 and 1968. Subsequently, project management, known as project strategy (implementation strategy, preparation and negotiation of contracts, control of budgets, costs and deadlines) was reserved for all-African teams.

20. The starting up of the first facilities was, in general, difficult to carry out because of the inexperience of the production staff and the stretching to the limit within a very short time of maintenance and repair facilities. Measures were therefore taken to strengthen considerably their repair capacities (maintenance workshops, increased safety stocks, stricter management of spare parts) and the way in which equipment was used (operational programming, standardized procedures, etc).

21. Real production often fell short of planned production; nevertheless, the average annual per worker yield at the El Hadjar steel plant rose from 38 tons per year in 1976 to 76.2 tons per year in 1979.

22. Between 1966 and 1978, 15,000 workers were trained for the steel industry, with only 2,800 of them trained abroad. Training was nonetheless carried out on a quasi-permanent basis because of a considerable turnover in the number of technical personnel.

23. The experiences accumulated over the last 12 years now made it possible to utilize Algerian know-how and to formalize more concretely problems relating to the transfer of technology. To that end, a new Direction de la Recherche Appliquee (Office of Applied Research) was established in 1980.
24. Following the presentation of the Algerian experience in the integrated development of iron and steel industry, delegates sought information on the profitability aspect of the operation. In response, the Algerian consultant stated that the basic motivation of his Government was not to achieve a financially profitable operation, but the motivation was of a macro-economic nature. It was expected that the magnitude of the iron and steel phenomenon would entail secondary effects on the national economy as a whole.
25. Further, delegates inquired about the quantity of iron and steel exported by Algeria and the impact of iron and steel production on other sectors of the economy, particularly agriculture. In response, the consultant stated that Algeria's exports of iron and steel were nil as export was not part of the strategy of the industry. As regards impact, he noted that the manufacture of pipes for hydrocarbons in which Algeria is now practically self-sufficient was the major area in which the effect of the iron and steel industry was most apparent.
26. The remaining part of the discussion was centred around the following: choice of technology, whether labour or capital intensive; procurement of machinery and equipment; feasibility studies; mobilization of finance; production of rolled flat and long products; recruitment of skilled manpower and training; and any mistakes made in the initial stage of establishing the iron and steel complex.
27. Concerning choice of technology the consultant stated that the iron and steel industry is not that amenable to labour - intensity. Further, he mentioned that choice of technology as well as procurement of machinery and equipment was done with the assistance of well known producers as process engineering consultants who have no ties or links with foreign manufacturers of iron and steel machinery and equipment.
28. As regards feasibility studies for the iron and steel complex, Algeria established contact with engineering consultants or well-known iron and steel producers. These consultants or producers assisted on such matters as choice of technology and technical specifications.
29. In respect of mobilization of finance for the iron and steel complex, the consultant stated that in spite of high investment costs the Government provided the required funds since the investments was also meant to benefit other sectors as well. Therefore most Government finance was obtained from suppliers as well as loans from the Euro-market. Other sources of finance were obtained through bilateral arrangement at Government level.

30. As for the type of rolled products, Algeria started with flat-rolled products manufacturing contrary to merchant products as is usually the case in other developing countries. Flat-rolling was found to offer more opportunities in the downstream processing of steel than the long products manufacturing.

31. Concerning recruitment of skilled manpower and training, the consultant stated that these were given due consideration and were accepted as part of the process of industrialization. Initially, Algeria relied on external assistance for training. It now has its own training centres established and operated by SNS.

32. According to the consultant, one of the main mistakes made was to have concentrated most of the steel making activities in one place, i.e. production of flat and long products as well as tube-making. Other problems include: lack of maintenance, in particular preventive maintenance, lack of housing and social infrastructures which resulted in a high turn-over of workers.

(b) Review of National Position Papers

33. In introducing his country position paper, the representative of Zimbabwe recalled that a detailed paper had been submitted to the First Meeting and highlighted the steel and iron raw materials available from local sources (iron ore, corundum, chrome ore, coal, limestone and bauxite) as well as the main imported materials (ferroalloys, furnace mortars, electrode paste, fluorspar, feldspar, manganese, aluminium). He went on to indicate the existing training institutions as well as the transport facilities which consist mainly of well developed rail infrastructure having access to sea ports.

34. Following the presentation, a question was asked on whether there were plans to expand the Zimbabwe existing steel mill. In reply the Zimbabwe delegate indicated that such plans had been considered and that negotiations were in progress with consultants from Luxemburg Steel Industry to undertake an assessment of the Redcliff Steel Plant with a view to making recommendations for improvements. However, he emphasized that the main strain on the implementation of the proposed expansion was the scarcity of foreign exchange. In this connexion, he indicated that the estimated cost of the planned essential improvements was in excess of US\$150 million. The Zimbabwe delegate added that the cash flow problem was made even more difficult by the low prices currently being received on the world market for steel export. In addition the local market demand for such items as window sections now exceeded the capacity of the light mill to meet. In this connexion he mentioned that ZISCOSTEEL was producing about 800,000 tons per year of which 70 per cent were exported to markets outside Africa at prices mainly below costs of production.

35. The Ethiopian representative presented the national position paper for his country. He described the structure and noted the importance of the iron and steel industry in Ethiopia and briefed the meeting on the structure of imports of related products. He also mentioned the availability of local raw materials and energy and the planned development of iron and steel industry. The Ethiopian delegate went on to indicate the manpower training facilities which existed in his country as well as the possible areas of co-operation in the iron and steel industry in the Eastern and Southern African Subregion.
36. In the discussion which took place, and in reply to a question on the sources of imported iron and steel raw materials used in Ethiopia, the delegate from this country indicated that most of such raw materials were from Europe and Japan. To the question as to what percentage of local needs for agricultural machinery was met from imports, the Ethiopia representative replied that all modern items were imported and that only a few items were manufactured locally which were mainly hand tools.
37. In summarizing the position paper on development of iron and steel industry in Kenya, the Secretariat drew the attention of the meeting to the national project based on blast furnace and oxygen converter technological route using charcoal. The project involves the setting-up of an integrated plant for flat products at Mombasa. An interim report was prepared in 1980 and on that basis a full feasibility study has been commissioned and the report of the study is expected to be ready by January 1982. The paper also outlined areas of co-operation and collaboration in raw materials, energy and marketing of finished products.
38. In summarizing the position of Mozambique and Zambia, the Secretariat pointed out that the Mozambique government is of the opinion that opportunities for co-operation do already exist in bilateral and multilateral mechanisms such as country-to-country agreements, the PTA and SADEC. Co-operation in raw materials and intermediate and finished products was regarded as feasible.
39. In the discussions with officials in Zambia, it was concluded that co-operation should be based on practical and mutually beneficial mechanisms such as co-operation in the exchange of raw materials, intermediate and finished products. A start should be as modest and as practical as possible and within limits of markets of the subregion.
40. The Uganda representative introduced the national position paper. He highlighted the main problems facing Uganda's steel complex and described the iron and steel industry in his country which consisted of one scrap based steel complex in Jinja, with around 20 per cent capacity utilization. He noted that steel scrap and limestone were locally available but a lot of other raw materials for steel making (ferroalloys, fluxes, electrodes, refractories, etc) were imported. He indicated that there were two training institutions in the country which offered general training in technology, but no institution specializing in iron and steel technology existed.

41. In reply to questions asked during the ensuing discussion, the Uganda representative provided further information. In this connection, he indicated that wire-drawing facilities existed but the capacity was inadequate and imports were needed to supplement local production. He also mentioned that proven reserves of hematites in the Muko region alone were estimated to be at least 30 million tons with 60 to 68 per cent iron content, and that exploration was continuing. He confirmed that conduit tubes also were being manufactured in Uganda.

42. The Tanzanian representative gave a summary of the national position paper for his country. He drew attention of the meeting to the availability of basic raw materials and a series of studies already done to prove their technical viability. He emphasized that one of the main constraints which Tanzania had to overcome to establish iron and steel industry is finance, as infrastructure is one of the expensive component in the investment. He indicated that while there were no primary steel production facilities secondary production facilities existed based on a scrap and electric furnace with continuous casting and a rolling mill.

43. As regards training facilities, he indicated that there were three main places, one being the engineering faculty of the University of Dar-es-Salaam, the other two are Technical colleges at Dar-es-Salaam and Arusha.

44. The Tanzanian representative pointed out that training of local manpower, joint research and development, trading of finished products, and start up of joint transport systems could be the major areas of co-operation among the member States within the subregion.

Presentation of outstanding issues

(a) Transportation problems for iron and steel industry raw materials and products (agenda item 6 (a))

45. The representative of the ECA Transport Division presented an information paper on Transport Links for Integrated Development of the Iron and Steel Industry in the Lusaka MULPOC (Document number INR/IE.5/2,WP/5). In describing the existing and planned subregional transport infrastructure from a general perspective, he referred to the four modes of transport (roads, railways, inland water and shipping) which, under specific circumstances, can be suitable for the subregional transportation of raw materials and finished products of the iron and steel industry.

46. He briefly analysed the existing facilities in each of these modes and gave indications on the proposed transport projects and activities within the framework of the United Nations Transport and Communications Decade Programme. He concluded by saying that only a detailed transport feasibility study would provide definite answers to the transport aspect of the proposed integrated iron and steel industry of the subregion.

47. Following this presentation, discussion was concentrated on the following issues: carrying capacity of railways, types of railway track, standardization of railway system and weight limitation and movements of wagons, port handling capacities; and collection of comprehensive data concerning existing transport facilities within Africa.

48. The delegates felt that there was an urgent need to carry out a detailed study on the existing and planned transport facilities in the subregion since the subject of transportation is of crucial importance to the integrated development of the iron and steel industry in the subregion.

(b) Framework and rationale for co-operation (agenda item 6 (b))

49. In introducing documents INR/I&S/2/WP/4 and INR/I&S/2/WP.4/Corr. & Add.1, the secretariat summarised the framework and rationale for co-operation. The meeting considered the documents paragraph by paragraph making corrections and amendments to the basic statistical figures. The meeting then considered the alternatives presented in the documents concerning options for co-operation.

50. In the discussions that followed, it was agreed that the proposed programme of co-operation in the development of the iron and steel industry in the Eastern and Southern African subregion should cover processes from pig iron production to the production of re-rolled products.

51. In discussing the short-term options strong emphasis was placed on the need to rehabilitate, modernize, expand and diversify existing facilities for steel making and re-rolling with a view to serving the needs of national markets for merchant products. In this connection, the Secretariat highlighted the concept of backward integration and mentioned that with this approach re-rolling mills for long and flat products would be constructed ahead of iron and steel making units either on decided-upon sites for future integrated plants or on non-integrated re-rolling mill sites. A 5-10 year time interval would be allowed for the plans for iron and steel development between the commissioning of re-rolling mills and the construction of iron and steel making units.

52. With regard to the short-term option, the meeting suggested that member States should co-operate with the ECA Secretariat in compiling data on subregional requirements for iron and steel products that ZISCOSTEEL (Zimbabwe) would need to use in planning the implementation of its role in the short-term option.

53. Discussions concerning the long-term option centred around:

- (i) the need for capacity adjustments in national projects;
- (ii) co-operation concerning production programmes and product-mix;
- (iii) co-operation involving the exchange of raw materials (iron ores, pellets and sponge iron), energy and reducing agents (coal and coke).

54. It was agreed that the option involving exchange of raw materials and intermediates (pellets, sponge iron, pig iron and billets) and energy and the production of modified product-mix in national projects would provide a flexible arrangement and would meet the over-all requirements of the subregion. To this end, it was agreed that in the detailed negotiations that were going to follow in future, attention should be given to technological routes to be adopted, range of products to be planned for, types of mills to be installed and, or expanded, standardization of products as well as common understanding between the governments of the subregion on the above issues.

(c) Suggested modalities for co-operation in the implementation of multinational projects (agenda item 6 (c))

55. The representative of the ECA Secretariat introduced item 6(c) and presented different modalities for co-operation that could be considered. These were related to each or a combination of the following: exchange of raw materials and purchasing output of the host country plant/company; investing as minority and/or majority share holders and purchasing outputs of the multinational plant/company managed by the host country, or by all member States concerned or as a branch of the African multinational corporation. The representative then emphasized the need for the establishment of an African subregional metallurgical corporation. He described the advantage of such an autonomous holding company, which could cover all aspects of business venture, especially in planning promoting and implementing the iron and steel projects in the subregion.

56. In his conclusion, the representative of the ECA Secretariat drew attention of the participants to the fact that the proposed African sub-regional metallurgical corporation would co-ordinate activities related to iron and steel development in the subregion, and mobilize and channel resources with a view to achieving the planned objectives and goals in the long-term option of the subregional iron and steel development programme.

57. In the discussion that followed, the participants exchanged views on the merits of the five alternative modalities for co-operation and finally concluded that the corporation would serve member States individually and collectively through (a) the acquisition of technology and know-how; (b) procurement of capital goods, raw material and management services; (c) production; (d) marketing and distribution; (e) research and development; (f) training and utilization of manpower. In view of these advantages that the corporation would provide member States, the meeting agreed and endorsed the idea of the establishment of an African Subregional Metallurgical Corporation.

58. It was also suggested that in determining the products to be manufactured based on local raw materials attention should be paid to the need to import inputs from other countries of the subregion so as to substitute inputs supplied from outside the region. In this connection it was agreed that co-operation arrangements should be worked out among the member States with regard to the specific role of ZISCOSTEEL (Zimbabwe) in the implementation of short-term option.

59. The meeting however, recognizing that the creation of the corporation will of necessity, take time, agreed that an Eastern and Southern African Steel Development Committee should be established to carry out some of the preparatory and promotional activities that need to be undertaken in the interim period. In this connection, it was noted that this committee would replace the ad-hoc committee whose establishment was recommended during the first meeting.

D. RECOMMENDATIONS TO THE FIFTH MEETING OF THE LUSAKA MULPOC COUNCIL OF MINISTERS

Areas of co-operation

(a) Short-term option

60. The basic premise for the short-term option is the adoption of backward integration strategy for the implementation of planned national projects in the subregion and for the purpose of serving national markets for merchant products. To this end:

- (i) It is recommended that those member States within the sub-region with existing facilities for steel making and re-rolling, currently operating below capacity or having insufficient capacities, should immediately embark on programmes of rehabilitation, modernisation, expansion and diversification of existing facilities;
- (ii) Where re-rolling mills are non-existent, it is recommended that these be constructed ahead of iron and steel making units on the proposed complexes;
- (iii) For the successful implementation of these proposals, it is highly essential that all member States investigate fully the creation of local industries based on the utilization of iron and steel available from own steel plants and elsewhere within the subregion, with a view to manufacturing on an import substitution basis iron and steel products;
- (iv) In the light of the above, it is further recommended that arrangements be made for the spare pig iron, billet and rolling capacities existing at ZISCOSTEEL in Zimbabwe to be utilized by other member States in the subregion to maximise their steel-making and rolling mill capacities.

(b) Long-term option

61. In order to enable member States desirous of a speedy implementation of iron and steel projects to do so without waiting until all local inputs have been discovered, developed and made ready for use in the production of crude steel:

- (i) It is recommended that member States should start consultations leading to negotiations on collaboration in the exploitation, supply and exchange of energy, raw materials and intermediates such as pellets, sponge iron and pig iron for the iron and steel industry, with the view to producing modified product-mix of steel products in the national projects to meet the requirements of the subregion.
- (ii) It is further recommended that the production of specialized inputs for iron and steel making such as refractories, fluxes, ferroalloys and electrodes be the subject matter for consultations and negotiations.

62. The above arrangement will provide opportunities for optimum utilization of resources, maximum exploitation of comparative advantages and fulfilling the collective self-reliant, self-sustaining integrated and accelerated industrialization objectives as advocated in the Lagos Plan of Action.

Modalities for co-operation

63. In view of the need to ensure effective consultation and co-ordination of policies and decisions concerning the implementation of the long-term option for iron and steel development within the subregion, it is recommended that:

(a) At national level member States with iron and steel development plans endeavour to establish at country level an institution to promote and develop the iron and steel industry in the country and to liaise with other member States in matters concerning iron and steel development;

(b) At subregional level it is recommended that an institutional mechanism be established in the form of an African subregion metallurgical corporation (which should be wholly owned by member States participating in the arrangement) operating either as an African Transnational Corporation or holding company with instruments and authority to undertake operation and co-ordination of investment concerned with project programmes of the long-term option. In addition to planning and implementing projects, it should co-ordinate activities of its companies and mobilize and channel resources with a view to achieving over-all efficiency in:

- (i) The acquisition of technology and know-how;
- (ii) Procurement of capital goods; raw materials and management services;
- (iii) Production;
- (iv) Marketing and distribution;
- (v) Research and development;
- (vi) Training and utilization of manpower.

Follow-up activities

(a) At the national level

64. The primary responsibility for planning, promoting and implementing the development of the iron and steel industry rests with the member States of the subregion, individually and collectively. In view of the complexity, limited national market and huge financial, skilled manpower and infrastructural requirements of the iron and steel industry, which are generally beyond the capabilities and capacities of individual countries, there is an urgent need for co-operation among member States. In order to facilitate such co-operation it is recommended that member States should undertake, among other things, the following activities at the national level:

- (i) establishment of a national institutional mechanism such as a national metallurgical corporation or its equivalent, where applicable, to serve as a focal point for the planning, promotion, implementation and operation of metallurgical projects and plants and to ensure co-operation among member States;
- (ii) undertaking detailed market survey including the identification of inputs that can be provided by ZISCOSTEEL in Zimbabwe, in the interim period pending the establishment of additional steel capacities in the subregion;
- (iii) reappraisal and/or ascertaining the adequacy of existing information on mineral deposits and sources of energy for the development of the iron and steel industry as well as reviewing existing policies in regard to Government role therein;
- (iv) planning manpower development and organizing training for a core of people responsible for the formulation, promotion and implementation of iron and steel projects;
- (v) investigating possibilities for joint venture arrangements within as well as outside the subregion; and
- (vi) exploring possibilities for obtaining funds for undertaking pre-investment studies and activities.

(b) At the subregional level by the Eastern and Southern African Steel Development Committee

65. In view of the relatively long time needed to fulfil the preconditions required to establish the proposed national and multinational institutional mechanisms, the recommended Eastern and Southern African Steel Development Committee should be established as an interim mechanism. Its functions should include:-

- (i) co-ordination of national activities related to the development of the iron and steel industry in the subregion:
 - (1) assisting member States to work out co-operative arrangements among themselves (long-term option), in particular between Zimbabwe and other member States in regard to the use of inputs from ZISCOSTEEL (short-term option);
 - (2) collecting and disseminating up-to-date information on iron and steel technology and related investment and manpower requirements from different sources for different capacities related to the subregion;
 - (3) investigating possibilities for joint venture arrangements and promoting such possibilities within as well as outside the subregion; and
 - (4) exploring possibilities for obtaining funds for undertaking preinvestment studies and activities.
- (ii) identification and promotion of the establishment and/or strengthening of existing institutions, such as:
 - (1) a subregional metallurgical corporation to perform the functions suggested under modalities for co-operation;
 - (2) subregional metallurgical research, development and training institutions; and
 - (3) mechanisms for joint raw material prospection, exploration and exploitation.
- (iii) recommendations on the committee.

66. The following recommendations relate to some aspects of the formation of the proposed committee.

- (1) Membership is open to all member States of the subregion;
 - (2) Each member State will nominate a designated official representative to serve as a member as well as a focal point at the national level;
 - (3) The designated representative may be represented and/or accompanied by relevant specialists/experts;
 - (4) Criteria for selecting the designated representative should include that he/she:
 - be directly responsible for the planning, development and/or operation of iron and steel or metallurgical projects and industries;
 - have relevant knowledge and experiences in the metallurgical industries;
 - be responsible for industrial development, in countries without metallurgical industries.
 - (iv) the quorum will be constituted by six countries;
 - (v) member States will meet the cost of travel and subsistence of their representatives.
- (c) By ECA

67. ECA will continue to provide assistance and support to the promotion and development of the iron and steel industry in the subregion by:

- (i) organizing the first meeting of the proposed Eastern and Southern African Steel Development Committee;
- (ii) giving technical support to the proposed Committee;
- (iii) preparing detailed study on existing and planned transportation network with special emphasis on railway system in the subregion.
- (d) By the bureau of the first and second Intergovernmental Meeting of Experts on the Establishment of Iron and Steel Industry in Eastern and Southern Africa.

68. In order to facilitate follow-up and the transition from the current to the proposed committee it is recommended that:

- (i) the Chairman of the meeting will present the reports of the two meetings to the Fifth Meeting of the Lusaka MULPOC Council of Ministers (Lusaka, Zambia, 17-25 March 1982);
- (ii) the Chairman and Rapporteur of the two meetings will assist ECA in organizing and servicing the first meeting of the Eastern and Southern African Steel Development Committee.

E. ADOPTION OF THE REPORT AND CLOSING OF THE MEETING

69. The draft report of the Second Intergovernmental Meeting of Experts on the Establishment of Iron and Steel Industry in Eastern and Southern African Subregion was adopted with the necessary amendments. Following his closing remarks the Chairman declared the meeting closed at 11.20 on Friday, 4 December 1981.