

ECONOMIC COMMISSION FOR AFRICA

Third Regional Conference on the Development
and Utilization of Mineral Resources in Africa

Kampala (Uganda), 13 - 15 June 1988

REPORT

I. OPENING OF THE MEETING

1. The Chairman of the Technical Preparatory Committee for the Second Regional Conference on the Development and Utilization of Mineral Resources in Africa, Mr. Hicuunga E. Kambaila of Zambia, called the meeting to order. He thanked the Government of the Republic of Uganda for having invited the secretariat of the Economic Commission for Africa to convene the Third Regional Conference on the Development and Utilization of Mineral Resources in Kampala. In addition, he expressed the gratitude and appreciation of the participants to the Government and people of the Republic of Uganda for the warm reception and excellent facilities accorded to the meeting. He noted that global economic factors since the Second Regional Conference (1985) had continued to impose growth restrictions to the mineral industries of the African region. He thus proposed that the establishment of a strong regional industrial structure based on the minerals of the region to supply the needs of the African region could be the future solution to the problems of African industries.

2. In his opening address, Hon. Robert K. Kitariko, Minister of Water and Mineral Development of the Republic of Uganda extended a cordial and fraternal welcome to participants to the Preparatory Technical Committee of the Third Regional Conference on the Development and Utilization of Mineral Resources in Africa.

3. He recalled that the central theme of the Lagos Plan of Action adopted by African Heads of State and Government in 1980 was the promotion of a self-reliant and self-sustaining socio-economic development in the African region centered on the use of domestic factor inputs to supply regional needs. He stressed that the African mineral sector must conform to the objectives of the Plan, and that the meeting was expected to review and assess the extent to which the sector had achieved the expectations and aspirations of Africa's Heads of State and Government. In addition, the meeting was expected to identify appropriate policy options and alternative action programmes that would strengthen the contribution of the mineral sector towards the development of the African region. Since the inauguration of the Lagos Plan of Action, the African mining sector which was a major source of foreign exchange earnings, government revenue and employment opportunities for many African countries, had continued to register a negative annual growth. Poor prices for Africa's major export commodities; inadequate foreign exchange in the region to secure inputs; balance of payments deficits; the large import bills for energy; the fall in the flow of aid and foreign investment; high interest rates charged on external loans from financial institutions and the dependence on imports of skills, technology and capital goods and services were some of the adverse factors facing the mineral sector of the continent. Further future prospects for sea-bed mining could aggravate land-based mineral production and prices. The African mineral sector should in future be integrated in the continent's economies in support of industrial and agricultural development. Furthermore, increased technical manpower development at all levels; the expanded development of small and medium-scale mineral development operations requiring small and medium investments and the establishment and strengthening of institutions dealing with mineral resources development should be encouraged.

4. On behalf of the Executive Secretary of the Economic Commission for Africa, Mr. Peter N. Mwanza, Chief, Natural Resources Division, expressed deep gratitude to the people, the National Resistance Movement and Government of the Republic

of Uganda for having generously offered to host the Third Regional Conference on the Development and Utilization of Mineral Resources in Africa. Likewise, he expressed the Commission's appreciation for the warm hospitality and excellent facilities provided by the Government of the Republic of Uganda.

5. In pursuance of the recommendations of the First and Second Conferences, the Third Regional Conference would review progress in the implementation of the recommendations of the two previous conferences; examine national mineral development policies in order to determine how these policies could be improved to enhance co-operation by member States; consider possibilities of establishing African commodity associations concerned with specific minerals or groups of minerals; consider the findings of the regional survey on copper and aluminium fabricating facilities and prospects for intra-African manufacture and trade in copper and aluminium-based products; and review the development of the African mineral sector during the period 1985 to 1987 in order to determine prospects for the period 1988 and beyond. He expressed the hope that the reports prepared by the secretariat and participants together with the exchange of experiences during the deliberations would enable the meeting to define new priorities and identify areas that required concerted efforts on the part of individual countries and at subregional and regional levels; for the dynamic development and utilization of mineral resources in the future.

6. He observed that the African mining sector had experienced growing difficulties in the 1980s which had led to production falls of up to 75 per cent of 22 commodities over the last five years. The situation had further been aggravated by weak world mineral commodity demand, low mineral commodity prices, growing substitution and metal recycling in consuming countries. These stringent conditions were likely to prevail during the 1990s. Consequently, he called upon the meeting to lay the basis for a recovery programme for the African mineral sector along the lines defined in Africa's Priority Programme for Economic Recovery (APPER) and the United Nations Programme of Action for Africa's Economic Recovery and Development (UNPAAERD) in order to avert the further deterioration of the already critical condition of the sector.

7. There was a need for increased industrialization within the region based on Africa's minerals to supply mineral-based products to the economies of member States; the accelerated development of the energy resources of the region; the expansion of manpower development in the areas of high technical skills and managerial capacity; the revitalization and modernization of existing operations and the development of medium- and small-scale mineral deposits requiring modest financial resources. Those were some of the areas that could be given increased emphasis in the African mineral sectors.

II. ELECTION OF OFFICERS

8. The Conference unanimously elected the following officers:

Chairman:	Uganda
First Vice-Chairman:	Algeria
Second Vice-Chairman:	Chad
First Rapporteur:	Côte d'Ivoire
Second Rapporteur:	Nigeria

III. ATTENDANCE

9. The Conference was attended by representatives of twenty African countries: Algeria, Burkina Faso, Burundi, Chad, Côte d'Ivoire, Egypt, Equatorial Guinea, Ethiopia, Guinea, Mauritania, Mozambique, Nigeria, Rwanda, Senegal, Sudan, Tanzania, Uganda, Zaïre, Zambia and Zimbabwe.

10. The following international institutions and observers were also represented: Organization of African Unity (OAU), United Nations Development Programme (UNDP), United Nations Conference on Trade and Development (UNCTAD), United Nations Centre for Transnational Corporations (UNCTNC), United Nations Office for Ocean Affairs and the Law of the Sea (UNOOALOS), United Nations Industrial Development Organization (UNIDO), United Nations Educational, Scientific and Cultural Organization (UNESCO), the Eastern and Southern African Mineral Resources Development Centre (ESAMRDC), the Central African Mineral Resources Development Centre (CAMRDC), Nitro Nobel of Sweden, the Bureau de Recherche Géologique et Minière of France (BRGM), the Commission for the Geological Map of the World (CGMW) and Radiator and Tinning (Pvt.) Ltd. of Zimbabwe.

IV. ADOPTION OF AGENDA

11. The following agenda was adopted.

1. Opening of the meeting
2. Election of officers
3. Adoption of the agenda and organization of work
4. Review of progress in the implementation of the recommendations of the two previous regional conferences (1981 and 1985) on the development and utilization of mineral resources in Africa including review of reports on activities in each member State on the basis of developments in their respective mining sectors
5. Review of the report on national mineral development policies in Africa and their effect on intra-African co-operation in mineral resources development and utilization, including country reports reviewing national mineral development policies indicating what aspects of these policies have enhanced or hindered intra-African co-operation in the development and utilization of minerals in the region; and proposing how such policies could be improved to strengthen the desired co-operation by countries in the mineral sector.
6. Review of the report on the possibility of establishing African associations concerned with specific minerals or groups of minerals
7. Review of the reports on the regional survey of copper and aluminium fabricating facilities and prospects for intra-African manufacture and trade in copper and aluminium-based products

8. Review of the reports on the African gemstones and semi-precious stones sectors and their future prospects in the framework of Africa's socio-economic development.
9. Report on the possibility of establishing a special mechanism within the African Development Bank for financing mineral development projects in Africa.
10. Review of the report(s) on the development of the African mineral sector during the period 1985 to 1987 and projected possible prospects to beyond 1990.
11. Any other business.
12. Establishment of the agenda for the ministerial meeting of the Third Regional Conference.
13. Adoption of the report of the Technical Preparatory Committee.
14. Closure of the meeting.

V. PROCEEDINGS OF THE MEETING

Review of progress in the implementation of the recommendations of the First and Second Regional Conferences on the development and utilization of mineral resources in Africa held in Arusha, United Republic of Tanzania, in February 1981 and Lusaka, Republic of Zambia, in March 1985 (agenda item 4)

12. A representative of the ECA secretariat presented document ECA/NRD/TRCDURMA/4 on the above topic in which the implementation by the secretariat of the recommendations of the two previous regional conferences were reviewed. He outlined the difficulties the mining sector was faced with during the reporting period, which related to production falls, low growth, unfavourable marketing conditions, growing world competition, oversupply and over-capacity as well as heavy substitution. In pursuance of the mandate entrusted upon it at the Second Regional Conference, the secretariat had carried out a number of studies and assignments.

13. In the area of utilization of industrial minerals in the region, the secretariat undertook a subregional survey of phosphate raw materials and a regional analysis of chloralkalies, salt, soda ash, caustic soda and aluminium sulphate requirements until the year 2000.

14. In the field of research and information the secretariat examined the impact of sea-bed mining on the future of conventional land-based operations.

15. In the framework of its assistance to countries, economic surveys were conducted in Botswana with a view to assisting the country in identifying areas for generation of employment to promote socio-economic development. A similar study was undertaken in Mozambique to examine the possibility of redeployment of repatriated miners and workers from the Republic of South Africa.

16. Concerning training, the secretariat organized a seminar and study tour of Armenia, in the USSR. In addition, it contributed to the organization of several workshops in mineral exploration and a regional symposium on small-scale gold mining.

17. Regarding support to subregional institutions dealing with mineral development, the secretariat continued to support the activities of the Eastern and Southern African Mineral Resources Development Centre (ESAMRDC) and the Central African Mineral Resources Development Centre (CAMRDC).

18. Policy and decision options at country level with an impact on production and aspects relating to mineral development at large were also reviewed. In conclusion, the representative of ECA stressed that the recovery of Africa's mineral sector should be linked to the recommendations spelt out in Africa's Priority Programme for Economic Recovery (APPER) and the United Nations Programme of Action for Africa's Economic Recovery and Development (UNPAAERD) which emphasize the need for rehabilitation, corrective measures at production level and the necessary structural adjustments so as to optimize the outputs from the mineral sector.

19. In the ensuing discussions delegates asked for more details on the scope of semi-precious stones in Botswana and underlined the need for greater emphasis on industrial raw materials; they also expressed interest in plant hiring schemes following the example of Zimbabwe in this field.

20. Regarding the dissemination of information, the meeting raised concern about the growing need to disseminate information on tradeable mineral products so as to promote intra-African trade.

21. Regarding this particular request, the representative of the ECA secretariat pointed out that this topic was incorporated in the programme budget of ECA for 1990-1991, considering the importance of intra-African trade in the region. In conclusion, the meeting recommended that in order to promote intra-African trade, member States must seek to improve domestic consumption of locally available minerals and mineral raw materials. Furthermore, the meeting recommended improved follow-up mechanisms aimed at achieving a better rate of implementation of the recommendations of the Regional Conference. In this connection, the meeting suggested that subregional economic groupings and multinational institutions should be closely associated with any follow-up action in this respect.

22. The representative of Algeria briefed the meeting of the constraints and problems affecting Algeria's performance arising from conditions inherited from the pre-independence era when mining used techniques that favoured selective mining concentrating on high grade ore and neglecting the less rich areas. Algeria had now taken full control of its mining sector and was engaged in a large-scale modernization programme of old mines, prospection and development of identified deposits so as to meet the requirements of the various branches of national industry: iron and steel, metallurgy and chemicals, glass making, oil etc.. Algeria was now exploiting iron, phosphate, zinc, mercury, salt, kadin and barytum.

23. The representative of Burkina Faso briefed the meeting on the country's steps to promote and control gold mining within the legal framework governing the allocation of permits and through improved control carried out by the national geological survey. This improved follow-up and monitoring activities in the mineral sector. With regard to the purchase and sale of gold, the delegate indicated that all related transactions were carried out through the Burkinabe Precious Metals Marketing Counter (CMP). Concerning mineral evaluation, he mentioned the work undertaken on the Perkoa lead, zinc and silver deposit where reserves were estimated at 4.5 million tons, assaying 17.43 per cent of zinc.

24. In the discussions that followed, the representative indicated that gold production at the Povra mine stood at 2000 kg. per annum. Concerning additional gold produced by small operators, statistics were available but the delegate did not have the exact figures. With regard to safety conditions for small-scale miners, the Government was assisting by providing medical assistance and extension personnel.

25. The representative of Chad gave an account of the country's mining strategy under the provision of a new mining legislation. In that particular framework priority was given to the establishment of a cement plant with a capacity of 50,000 tons per year as well as a mini-oil refinery in Ndjamena. The Geological Department was being strengthened to meet the need for gold and diamond prospecting.

26. The representative of Côte d'Ivoire informed the meeting that the implementation of mining development projects was the responsibility of SODEMI, a State-controlled mining organization which was involved in diamond mining, assistance to co-operative mineral evaluation and project development.

27. He also indicated that legal provisions authorized individuals to participate in mining. He further added that the country considered maximization of revenue from mining operations as a priority and placed emphasis on the training of specialists in the mineral sector.

28. In the discussion that followed, the delegate of Côte d'Ivoire provided detailed explanations of ways and means to control production and elaborated on government levies with respect to the exploration/exploitation permits and production tax. Regarding the level of professional competence and of the constituent members of co-operatives involved in small-scale mining in Côte d'Ivoire, the meeting was informed that the co-operative were formed by villagers who subsequently received training from SODEMI.

29. The representative of Equatorial Guinea briefed the meeting on exploration carried out since 1981 jointly with a Spanish concern involving geochemistry, the use of satellite imagery and aeromagnetics. The results showed interesting occurrences of iron bearing itabberites yet to be evaluated, alluvial colombo-tantalite with potential reserves of the order of 2100 tons, gold, chrome-nickel and bauxite. The meeting was informed that the Government had the necessary provisions in the national mining legislation to attract investors. However, the country was experiencing reticence on the part of interested parties to commit themselves towards developing the country's mineral resources. The representative reiterated Equatorial Guinea's full commitment towards the objectives and recommendations of the First and Second Regional Conferences.

30. The representative of Ethiopia gave a detailed account of the activities undertaken in pursuance of the recommendations of the Second Regional Conference in a wide range of areas. He pointed out that in the framework of the country's Ten-Year Plan, Ethiopia had earmarked \$US700 million for activities in mineral resources development. These included geological mapping, inventory and development of industrial minerals, the commissioning in 1989 of a gold mine with a production target of 3000 kilogrammes of gold per year, geothermal, oil and gas exploration and the exploitation of industrial and chemical raw materials. In the field of building up national and multinational capability, Ethiopia was a founding member of ESAMRDC and since 1982 had established two institutions namely, the Ethiopian Institute of Geological Survey (EIGS) and the Ethiopian Mineral Resources Corporation (EMRDC). The country was establishing a mining technical school and was incorporating a mining engineering programme at the University of Addis Ababa. UNDP and donor countries were providing technical assistance in the field of post-graduate training. In conclusion the representative stated that an ore dressing laboratory was being established with the assistance of Italy.

31. The participants raised questions about the state of knowledge on phosphate resources, economic utilization of geothermal potential identified in the country and the methods used to undertake the geological mapping. The delegate replied that phosphates occurrences were at an early stage of investigation, that an experimental generator with a 3 MW capacity was to be installed to exploit the geothermal resources whose overall potential was estimated at 30MW and that mapping was carried out at 1:250000 scale using satellite imagery, aerial photography, structural analysis and ground control.

32. The representative of Guinea gave a brief account of the country's activities aimed at diversifying the exploitation precious metals, diamonds and building materials as well as improving rural socio-economic development through small-scale gold mining. With respect to iron ore, the delegate informed the meeting on progress regarding the development of Mt. Nimba deposits in collaboration with Liberia, making use of the infrastructure available in Liberia. He also mentioned Guinea's reprocessing operations on diamond-bearing tailings aimed at recovering gold. In the field of marketing, the Department of Natural Resources within the Ministry of Mines had set up a mineral marketing directorate to monitor trade in bauxite, gold and diamonds.

33. Following queries by the participants, the representative of Guinea explained that small-scale gold mining was authorized in areas not suitable for mechanized mining and that permits were allocated by drawing of lots. With respect to technical and financial support to small-scale projects, requests to international organizations such as UNDP and bilateral agencies had been made. However, the Government did not provide financial assistance to current operations and the Central Bank had a monopoly for the purchasing of gold produced by small operators.

34. The representative of Mauritania informed the meeting of the country's mineral endowment which encompasses 300 occurrences of mineral substances and mineral raw materials requiring detailed investigations in order to appraise their economic interest. The country's mineral policy was, in view of the shortage

financial and human resources to ease legislation so as to create incentives for investors and give them considerable advantages both in the mining legislation and the investment code. The Government had granted eleven permits for the exploration of oil, iron, copper, gypsum, sulphur, phosphates and uranium. Exploitation had begun for iron and gypsum but iron production was stagnant since 1984 (approximately 9 million tons); however, gypsum production had increased considerably from 5000 to 20,000 tons even if the performance was well below the nominal capacity of the mine. Besides those minerals already covered by prospection permits, great emphasis was also laid on small-scale and semi-industrial exploitation in support of agriculture which was a priority for the Sahelian country. The advantages of that type of exploitation were the simple technology involved and the low financial resources required.

35. The representative of Mozambique informed the meeting of the early history of mineral exploration and development after independence. Steps were taken to promote exploration of marbles, graphite, bauxite, coal, gold, pegmatite minerals, bentonite and other industrial minerals, beach sand minerals and hydrocarbons. Local production and joint venture schemes were under consideration for the production of gold, niobium-tantalum, and titanium-bearing beach sands. Mozambique was involved in geological mapping at 1:250 000 and 1:500 000 scales and was benefitting from bilateral and multilateral assistance. In the area of production, he mentioned the exploitation of bauxite by a Zimbabwean company on the common border with Zimbabwe as well as the exploitation of coal, marble, bentonite, copper and semi-precious stones carried out by mining parastatal companies.

36. The representative of Nigeria informed the meeting that a lot was taking place in the mineral industry in Nigeria. More emphasis was being placed on industrial minerals in order to satisfy local needs, thus effecting import substitution. The country was going through a structural adjustment programme which was also very favourable to the mineral industry. The restructuring had encouraged the local sourcing of all industrial raw materials including minerals. They had also led to increased private sector investment in the minerals sector.

37. The representative of Nigeria further stated that the subregional grouping should begin to constitute themselves into specific units to be used for implementing ECA policy recommendations. Those units should meet more often and review the implementation of ECA recommendations for their specific regions and provide feedback to ECA.

38. The representative of Senegal reviewed progress in the mineral sector of his country since 1976 and mentioned the existence of a National Mining strategy supplemented by a geological and mineral development programme. In this framework, emphasis was put on the development of natural resources and in particular the MATAN phosphate deposits with reserves of 40 million tons, part of which were earmarked for local application; construction materials and ornamental stones; the extension of ongoing projects for gold, iron and peat. All those actions were part of a general cartographic programme. The mineral development strategy had been drawn up taking into account some basic parameters: strengthening the structures of the laboratory units and revision of the mining laws. With regard to intra-African co-operation the representative of Senegal made reference to the exemplary relations between Senegal and Nigeria in phosphate processing and the efforts of the CEAO to promote joint projects in areas such as the joint manufacturing of glass.

39. The representative of Tanzania gave a detailed account of the country's policies, structural adjustment, rationalization efforts and incentive programmes aimed at improving mining development and increasing output from existing mines. He pointed out that these measures had revived interest in exploration and development activities by international and foreign companies in particular with respect to coal, gold and uranium. Regarding the small-scale mining sector, substantial increases in production had been recorded and efforts were made to supply operations with mining implements.

40. In the ensuing discussions, delegates wondered whether the foreign exchange retention scheme operated by Tanzania related only to gold. The meeting was informed that the scheme applied to all minerals and that operations were allowed to open external accounts with the Central Bank for the purchase of imported inputs.

41. According to the information provided by the Ugandan delegation, the country's mineral development strategy was being revised to increase domestic consumption in addition to export-oriented production. Under the provisions of the new Mining Act, gold had received growing consideration. Along the same lines, the Ugandan Government was establishing a commission charged with the procurement and provision of equipment, setting up of internal markets and soliciting funds from external institutions for research and development. In view of the country's shortage of qualified manpower, Uganda had sought assistance from UNDP to establish training facilities for technicians at Kilembe mines and to incorporate mining and metallurgical options at Makerere University. Uganda had considered the possibility of manufacturing spare parts using existing facilities. In the field of research and development, programmes on clay were being implemented in collaboration with ESAMRDC whereas industrial materials as substitutes for imported primary products were regarded as feasible. In this regard, a committee for monitoring imported materials which were available in the country had been formed.

42. In the debate that followed, the delegate informed the meeting of plans to rehabilitate tin and tungsten mines with the assistance of the European Economic Community (EEC). With regard to downstream integrated industries, there were prospects for tin smelting, producing tin plate and similar metallurgical processing of wolfram ore into tungsten products for domestic and subregional consumption.

43. The representative of Zaire underlined that the country had a long mining history, almost one hundred years old, and that there was a constant need for rehabilitation of mining and processing plants. The country had no plans to increase copper production owing to the current depressed market conditions. Regarding gold, there was a similar need for the renovation of existing installations of mechanized mines, whereas in the framework of the liberalization scheme adopted a few years back, small-scale mining was of growing importance. Government control over such operations was adequately taken care of.

44. In the ensuing discussions, the delegate pointed out that under the liberalization policy there was no restriction in the granting of gold and diamond exploitation rights as long as the legal requirements were fulfilled. In respect of uranium production, the delegate of Zaire informed the meeting that it had ceased exploitation in 1958 as a result of depressed prices.

45. The representative of Zambia pointed out that the contribution of mining to the GDP had declined from 42 to 13 per cent in recent years but continued to be of great significance to the national economy. The declining copper production had now been arrested and there were further developments in the exploitation of gemstones and industrial minerals. To the question of the purity of copper refined in Zambia, the delegate informed the meeting that Zambia produced an electrolytic copper of 99.85 per cent purity.

46. The representative of Zimbabwe indicated that the Zimbabwe Mining Development Corporation was spearheading mineral exploration in the country through its wholly owned subsidiary, the Mining Promotion Corporation. The Chamber of Mines at its annual meeting had recently adopted the theme of exploration as a basis for future sustenance of the mining industry in Zimbabwe. The Government was actively promoting small-scale mining and joint-venture participation in strategic mining activities. Under the provisions of the revised Mines and Mineral Act, an attempt was being made to reduce speculation on mineral resources and ensuring the use of optimum processing technologies. The meeting was also informed of various initiatives by the Zimbabwe Government in the form of loan schemes and plant hire facilities to small-scale miners and co-operatives.

47. In the field of training, Zimbabwe had established a mining engineering department at the University of Zimbabwe and was further strengthening training facilities at artisan level. With regard to research and development the Government had established a physical metallurgy laboratory aimed at the substitution of imported metals. The meeting was also informed that Zimbabwe had started production of tungsten carbide, had commissioned a gold refinery and was assessing the possibility of producing refractories.

48. In the ensuing discussions, the representative explained that the country had introduced a gold stabilization scheme which guaranteed a minimum price, irrespective of world price fluctuations. He further mentioned the existence of a roasting plant capable of processing refractory gold minerals in addition to utilizing other technological processes. He also stated that 90 per cent of Zimbabwe's gold production was obtained by large-scale exploitation while the remaining 10 per cent was accounted for by co-operatives and small-scale mines numbering 30,000 and between 5,000 and 10,000 respectively.

49. The Director-General of the Eastern and Southern African Mineral Resources Development Centre (ESAMRDC) presented a historical review of the establishment of the Centre and a detailed account of its achievements and problems since it became operational in 1980. He further informed the meeting on the difficulties encountered with respect to member States' support and the responses from international organizations as well as bilateral donors. In the course of the last two years, fundamental changes arising from a revival of interest on the part of member States had made it possible to increase staff recruitment and to strengthen its capacity for project implementation during 1988. The programme implied the construction of a documentation unit and laboratories in the fields of rock mechanics, mineral processing and extraction metallurgy and industrial minerals. Those new facilities would considerably broaden the range of services to the member States in response to their growing need for specialized technological assistance in the field of mineral development. Notwithstanding the above limitations, the Centre had nevertheless carried out a wide range of projects some

of which had brought to a close of implementation. The other areas in which the Centre had had an impact included the training of as many as 243 experts in the subregion as well as the development of fertilizer raw materials and industrial minerals. In conclusion, the Director-General emphasized the lack of information on the development of minerals in the subregion and hoped that this would be redressed once the Centre's infrastructure was operational.

50. The presentation by the Director-General was followed by a lengthy discussion in which delegates wondered whether the Centre had widely publicized itself, was involved in research and development and had carried out its activities with its own resources. In answer to those questions, the Director-General said that the Centre had publicized its activities through newsletters both at the regional and subregional levels. It had also executed programmes in which expertise was available, utilizing both budgetary and extrabudgetary resources. The delegate from Ethiopia endorsed the importance of the activities performed by the Centre which were largely limited by low membership and appealed to the Conference to seek ways and means of increasing participation and support from the non-member countries. He added that in spite of earlier promises by some countries in the subregion to join the Centre, these had failed to honour their promise. The meeting recalled that the Centre arose out of the recommendation of the Lagos Plan of Action and strongly recommended that countries who were not members of the Centre should join it regardless of whether they were self-sufficient or not in the field of mineral resources development.

51. The meeting further recommended that the Centre should attempt to make greater use of available facilities in the subregion.

52. The Director-General of the Central African Mineral Resources Development Centre (CAMRDC) in Brazzaville, informed the meeting that the objectives, role and work programmes of CAMRDC were similar to those of ESAMRDC. He further stressed the difficulties encountered with respect to financial support although membership standing at eight out of a total of ten countries was a clear sign of the political commitment of the member States to the Centre. With regard to external assistance, the Centre had received no support so far. This had delayed any capital development programme and had further limited the activities of the Centre. Nevertheless, since its conception, the Centre had organized seminars and workshops on mineral resources classification, geochemical exploration and remote sensing applied to mineral investigation. In addition, the Centre had organized in conjunction with the ECA secretariat a regional symposium on small-scale gold mining which was attended by 10 French-speaking countries of the Western and Central African subregions. The meeting was also informed that the Centre had undertaken an inventory of infrastructure available in the subregion in mineral resources development. Subregional development could benefit from the liberalization of mining activities in selected minerals and could bring a satisfactory answer to rural migration. The Director-General of CAMRDC felt encouraged by the proposal of Gabon, a founder member of the Centre, to establish a special fund to support the mining industry.

53. In the discussion that followed, the meeting recommended that the dissemination of information on activities performed by the Centre could make a meaningful contribution to the development of minerals in the member States within the limits of the necessary confidentiality.

Review of national mineral development policies in Africa and
their effects on intra-African co-operation in mineral resources
development and utilization (agenda item 5)

54. The ECA secretariat introduced document ECA/NRD/TRCDUMRA/5 on "National mineral development policies and their effects on intra-African co-operation in the development and utilization of mineral resources". The paper defined a national mineral development policy as the sum total of the laws, regulations, agreements, and customs that affect the exploration, production, utilization, conservation of, and commerce in mineral commodities.

55. There were examples of mineral development policies and practices of some countries and considering the pertaining mineral development trends in the African region, the maximum impact that could result from mineral development in Africa would be realized where regional upstream and downstream industries based on mineral production existed, and spending patterns by the African countries were based on goods and services produced in the regional economy. It was emphasized that in the African context, such a situation would most probably be realized where a number of countries through the existing subregional economic groupings and intra-subregional arrangements intensified co-operation in the development and utilization of mineral resources through the use of complementary resources, the pooling of scarce investment funds, and the creation of large markets for mineral-based products.

56. Accordingly, appropriate national mineral development policies and practices in the African region would be those that supported multi-country collaboration in such areas as research and development and the exchange of information in mineral-related activities; encouraged the development and growth of multi-country mineral-based upstream and downstream activities and spending patterns based on goods and services produced within the co-operating countries; promoted and strengthened multi-country efforts in the training of key disciplines for mineral-related fields; emphasized the mobilization of investment funds from the co-operating African countries and other sources to support national and African multi-national mineral-related projects intended to supply their economies; encouraged periodic consultations among representatives of governments, industry and labour at multi-country levels to determine how best mineral-related activities could be enhanced in the region and facilitated the growth of African multi-national enterprises to develop resources.

57. For appropriate national mineral development policies to succeed, their implementation depended on other supportive national development policies and practices. In particular, policies and practices regarding the distribution and location of upstream and downstream industries based on mineral resources; pricing and payment arrangements in respect of intra-African trade in mineral raw materials, semi-manufactures and final mineral-based products; standardization and quality control in respect of mineral products traded among member States; the improvement of transport links among member States to facilitate intra-African trade in mineral products; the removal of tariff and non-tariff barriers by member States on mineral products and services available in the region; and other aspects which might be identified by member States.

58. It was therefore, suggested that in the review of mineral development policies, consideration be given to the aforementioned policy and operational aspects in order to develop national policies that encouraged and sustained co-operative arrangements by member States in the development and utilization of their mineral resources.

59. With regard to intra-African co-operation, the meeting was informed of a range of initiatives, attempts and effective projects which met the major concern of strengthening links between countries at regional and subregional level in a wide spectrum of areas with respect to safeguarding life and property in mining operations. Zambia emphasized that it was important to maintain safety standards and that quality control of mine outputs could improve intra-African trade.

60. The representative of Zambia also drew the attention of the participants to co-operative arrangements with the United Republic of Tanzania with regard to personal training so as to alleviate the shortage of processing engineers and many engineers in general.

61. The representative of UNCTAD pointed out that a conducive intra-African trade context would imply a balanced situation between demand and supply so as to avert extremes which were not favourable for stable market process and could lead to unfair bargaining between producers and consumers.

62. The representative of Zimbabwe underlined that subregional policies could at times be in conflict with country policies. Similarly a situation could arise where official and private policies within the country were in conflict.

63. The representative of Mozambique informed the meeting that a new Mining Law Regulations came into force in 1986 and that recently a Mining Fund had been created mainly to support small-scale mining activities. He also cited an example of intra-African co-operation in the field of exchange and sharing of geological and mining information between Mozambican and Tanzanian institutions. Memoranda of understanding, had also been signed covering other areas of mineral and hydrocarbon exploration. 64.

64. The representative of Tanzania suggested that intra-African co-operation could be enhanced by developing regional technology for small-scale mining. Similarly, in the field of manufacturing of equipment for small-scale mining, the Ugandan delegation underlined the need for such a project and suggested that the Nigeria-based African Regional Centre for Design, Engineering and Manufacturing (ARCEDEM) be involved in the manufacturing of such equipment. The Zambian representative brought to the attention of the participants the co-operation programme with Tanzania in respect of training manpower to overcome the shortage of ore dressing and mining engineers in the latter country.

65. The representative of Nigeria explained that the mineral sector of the Nigerian economy was undergoing a review with regard to policies. The highlights of what was likely to come would include provisions leading to the encouragement of local production of minerals; the processing of minerals as far downstream as possible; the introduction of incentives towards backward integration to ensure downstream utilization of the country's minerals. ECA could perhaps draw-up standard guidelines to enable member States to evolve policies that would be similar in format but different in context. It appeared that there was a strong need for close interaction between member States. The advantage of such an interaction was that for instance, small-scale mining equipment for gold could be developed that would be suitable for many countries with little or no need for adaptation.

66. The representative of Rwanda informed the meeting that a tin smelter plant existed in Rwanda. However, due to the persistent slump in tin prices and the subsequent closure of industrial mines in Rwanda, production of cassiterite is not sufficient to feed the smelter profitably. Therefore, in the framework of intra-African co-operation and trade, the Conference should recommend that African cassiterite producers, in particular Rwanda's neighbours examine the possibility of having their production smelted at the Kigali smelter. This arrangement would be in the interest of all concerned. It would enable the Rwanda smelter operate profitably and the other countries would avoid huge transport costs for unprocessed ore over long distances and heavy investments for the construction of their own smelters.

67. The representative of Zimbabwe briefed the meeting on specific areas where the country was pursuing co-operation efforts with neighbouring countries, namely Botswana in respect of toll refining of copper and nickel matte, the procurement of coal from Mozambique and the provision of roasting facilities for the processing of metal concentrates.

68. Finally, the meeting noted that a number of countries had revised their mineral acts and legislation to promote intra-African trade of locally produced mineral commodities as well as increase local consumption. A similar strategy was being evolved with respect to industrial and chemical minerals particularly phosphate resources.

Review of the report on the possibility of establishing of African Associations
concerned with specific minerals or groups of minerals (agenda item 6)

69. A representative of the secretariat introduced the paper on this item, mentioning that on many occasions and in several international forums, African producers and exporters of mineral raw materials, had expressed their desire to form associations so as to better defend their interests. Such a desire was legitimate and called for a positive reaction from the ECA secretariat which in the light of existing associations and agreements on non-energy minerals attempting to control world prices of minerals such as copper, bauxite and tin, suggested that the establishment of any cartel be avoided. However, particular attention should be paid by the association to the pricing aspects. Likewise any association should concentrate on matters such as the structure of companies exploiting minerals mining policies; mechanisms for maximizing income from minerals and monitoring profit transfers by transnational corporations from consumer countries; the role of national corporations in the producer countries in mineral production, control and the socio-political environment; the international market, etc. so as to provide member States with adequate information on the development of their mineral resources.

70. In the discussions that followed, participants agreed on the idea of establishing an association but found its implementation premature. The participants recommended that the existing centres be strengthened to enable them to carry out studies on the contribution of minerals to the socio-economic progress of the African region.

Review of reports on the regional survey of copper and aluminium fabricating facilities and prospects for intra-African manufacture and trade in copper and aluminium-based products (agenda item 7)

71. Representatives of the ECA secretariat introduced documents ECA/NRD/TRCDUMRA/7 and ECA/NRD/TRCDUMRA/7/ESAS concerning preliminary survey of copper and aluminium fabricating facilities and marketing prospects for copper and aluminium-based products in Africa. The countries covered by the preliminary survey included Cameroon, Egypt, Ghana, Guinea, Kenya, Morocco, Tanzania, Uganda, Zambia and Zimbabwe. The surveys were considered preliminary because not all the information sought from the countries surveyed was provided to enable the development of a comprehensive multi-country collaborative strategy for the region's manufacture and intra-regional trade in copper and aluminium-based products.

72. The main observations and recommendations of the preliminary surveys summarized below.

(a) With the exception of the eastern and southern African subregion (PTA/SADCC) there was primary aluminium production in all the other African subregional economic groupings. However, none of the African countries producing primary aluminium had an integrated aluminium industry (bauxite mining, alumina production, primary aluminium production and aluminium fabrication). Moreover, even where a country produced primary aluminium, most of the aluminium-fabricating facilities in the African region were underutilized because of shortages of foreign exchange to import aluminium metal because of or long-term sales contracts by African primary aluminium producers to fabricators outside the African region.

(b) Transport problems in respect of mineral raw materials, metals and mineral-based products were reported to be constraints faced by non-ferrous metals fabricators in the region. These constraints led to the low utilization of existing fabricators and a low volume of inter-country trade in metals and metal products.

(c) Tariffs on imported non-ferrous semi-manufactures which allowed local consumers to import their requirements instead of procuring them from local fabricators were reported to constitute a constraint to the development and growth of some non-ferrous metal fabricators in some countries. Higher import tariffs on semi-manufactures and lower import tariffs on primary metals would encourage local fabricators to import primary metals and promote the procurement by local consumers from local fabricators. Similarly, tariff barriers at the subregional level were contributing to low capacity utilization of existing fabricators as well as constraining increased inter-country trade in mineral raw materials and mineral products in Africa. The earlier these barriers were removed, the better for the non-ferrous metals industry.

(d) For national fabricators who imported their primary metals in hard currency, it might prove difficult for them to continue to operate where they could not retain, in hard currency, proceeds from sales of their products to other countries. It was possible that, where transportation would allow, some countries in the region without similar fabricating facilities could reach an agreement with existing national fabricators, whereby the countries could provide the existing national fabricators with some primary metals to be converted into products for consumption in the co-operating countries. This arrangement would improve capacity utilization of existing national fabricators, enhance regional industrial co-operation, and expand inter-country trade in non-ferrous fabricated products in the region.

(e) The procurement of fabricated metal products from overseas by projects supported by donors was reported to be limiting the growth and expansion of local aluminium and copper fabricators. Consultations among industry, government and consumers could establish how best the industry could improve its performance to satisfy domestic demand, and in some cases possibly supply the regional market. Donors could be encouraged to supply primary metals to local fabricators so that they could manufacture the products required by the projects.

(f) The sale of primary non-ferrous metals within the region at LME prices without a negotiated discount based on the transportation costs of metals to Western Europe could constitute a major problem in the procurement of raw materials by African non-ferrous metals fabricators. The practice made the products uncompetitive pricewise and discouraged private investment. Were this problem to be solved, the region's fabricators and foundries could use their existing capacities more effectively than at present, and increase the share of their markets within and outside the region.

(g) Regular consultations organized at subregional and regional levels by ECA and subregional economic groupings for representatives of non-ferrous primary metal producers, interested governments, non-ferrous fabricators and consumers of final products could lead to the increased production and consumption of non-ferrous metal products in the African region. Such consultations could, for example, lead to: the production of primary aluminium in eastern and southern Africa which had abundant energy using either bauxite or alumina from west Africa; the supply of primary aluminium to eastern and southern Africa from central and west Africa; the procurement of primary copper and semi-manufactures by west African countries from central, eastern and southern African countries; the improvement of capacity utilization of existing national non-ferrous fabricating facilities; specialization of product manufacturing by fabricators; exchange of information among relevant firms and countries; and the expansion of intra-African trade in mineral raw materials, semi-manufactures and finished products.

73. The Technical Preparatory Committee took note of the preliminary reports on the survey of copper and aluminium fabricating facilities and marketing prospects for copper and aluminium-based products in Africa. The Committee decided to recommend, for the consideration of Ministers, (a) regular consultations as proposed under paragraph 79 above, and (b) the undertaking of a detailed survey by the ECA secretariat in collaboration with the existing subregional economic groupings, relevant international organizations including UNCTAD and relevant non-ferrous metals fabricators. The detailed survey would be considered by the Fourth Regional Conference on the Development and Utilization of Mineral Resources in Africa.

74.. In the discussion that followed some delegates informed the meeting that it would be unfair for copper producers to give transport discounts because the LME price did not take into account such costs and that the producers incurred many other costs besides those directly related to production. Other delegates noted, however, that the lack of transport discounts to fabricators decreased their competitiveness.

Review of the reports on the African gemstones and semi-precious stones sectors and their future prospects in the framework of Africa's socio-economic development (agenda item 8)

75. This item was not considered, owing to the fact no document from the secretariat or from member States was made available to the meeting.

Possibility of establishing special mechanisms for financing mineral development projects (agenda item 9)

76.. A representative of the ECA secretariat introduced the paper on this theme, reporting that in accordance with the recommendation of the Second Regional Conference on Mineral Resources Development and Utilization in Africa, the ECA held discussions with the ADB in 1985 to investigate how the present structures of the ADB could be used to provide assistance to the mining sector. The document on the discussions with the Bank underlined that the creation of a new institution or special mechanism for financing mining products was untimely because of the economic crisis in African countries and their inability to contribute to any new multinational institutions. The document also stressed that ADB was not operating under any statutory constraints that prevented it from intervening in the mining sector. The report on the discussions further highlighted that mining projects within the Bank were considered under the overall umbrella of the Industry Division and that there was no ceiling on the amount of resources that could be allocated to the mining sector, although the Bank had certain guidelines concerning the total allocation of resources to the industrial sector as a whole. Nevertheless, the ADB in the future, would be prepared to modify its structure to give prominence to the mining sector when the volume of its lending activity justified such sectoral demarcation. In conclusion, the ADB requested the ECA to inform the African States through the regional conference that the Bank, EIB and the World Bank were able to finance mining projects and that project proposals should be submitted to these institutions for consideration in the future.

77. Reacting to the report of the secretariat, participants noted that the Bank had been involved in the mineral sector since 1984 and since then its operations had increased steadily. In the light of the experience of one member States with ADB it appeared that while the Bank had funds that could be channeled to projects in the mining sector, the terms were stringent and made their utilization difficult.

78. The meeting felt that ADB's capacity to appraise projects in the mining sector was inadequate due to the relatively small place assigned to mining in the structure of the Bank and suggested that the ECA and OAU should negotiate with the Bank the establishment of a mining unit within its structure.

79. Looking back at ADB's lending record for the mining sector, the meeting considered that there was a clear bias in favour of large and specific mineral activities including rehabilitation projects and expressed the opinion that the Bank could extend its support to small mining projects which required little investments and did not require detailed appraisals.

80. In conclusion, the meeting indicated that there was a need for a special mechanism within the Bank for financing mining projects, and that since the contacts of ECA/OAU with ADB were made nearly three years ago, there was a need for another round of discussions on this matter between the ECA/OAU and ADB, and that other avenues should also be explored, including contacts with other financial institutions such as BADEA and the EIB.

Review of the report on the development of the African
mineral sector during the period 1985 to 1987 and projected possible prospects
to beyond 1990 (agenda item 10)

81. A representative of the ECA secretariat presented a paper on the above subject giving a sectoral analysis of mineral output over the last five years covering 35 commodities produced in the region. The document underlined the constraints and adverse world conditions which had contributed to production falls, reduced competitiveness and low performance. The representative of the ECA secretariat drew the attention of participants to the low prospects for the establishment of new iron ore mines, as well as integrated bauxite, alumina and aluminium schemes on account of mega-projects under way in Latin America where cheap energy is in available incomparable amounts. Commendable efforts had been made by a growing number of countries to restore gold production to its former heights and cited the outstanding performance in diamond production recent years which had been further enhanced by substantial price rises.

82. In respect to the mineral fuel sector, the representative of the ECA secretariat emphasized the need to develop coal production beyond the current annual output level of 6 million tons to reduce imports which were expected to rise to between 18 and 20 million tons by the year 1995, in order to meet the requirements for steel production, power generation, chemical industries and domestic consumption.

83. The oversupply situation was an inevitable consequence of over-investment and member States should react to this situation by improving the national mineral economy, undertaking rehabilitation programmes, increasing performance and developing a secondary recovery sector introducing heap and bacterial leaching to retreat old mine dumps, tailings and low grade primary deposits of copper, gold and uranium.

84. Regarding future developments in new areas until the end of the decade, the prospect of developing the minor metal sector and producing industrial minerals such as mica, graphite, beryllium, lithium and others whose modest capital investment would fall within the scope of national resources available, was presented as a possibility to generate employment, income and supply domestic industries.

85. The industrial mineral sector which figured high among the priorities of member States would only be satisfactorily developed if the industry could meet the high quality standards that were expected in many areas of utilization of industrial minerals.

86. Emphasis should be placed on evaluating and exploiting local chemical raw materials feeding domestic industries such as pulp and paper, alumina and glass production, textiles, soap and detergents, PVC and water purification so as to reduce reliance on imported materials. Similarly, the participants acknowledged the need to develop fertilizer raw materials so as to set up processing units utilizing acid phosphates.

87. The rate of utilization of smelting, refining and processing capacity which was on the increase as far as copper and base metals were concerned was largely inadequate in respect of processing phosphate rock into chemical fertilizers. The mining sector was important in the provision of employment and stood at 1.2 million and possibly between 500,000 and 750,000 people were involved in informal illicit operations. That, gave a disproportionate dimension to unofficial mining activities relative to rational operations and it was suggested that the Conference should consider the matter and find solutions to the problem since it was prejudicial to governments' efforts to control the development of mineral resources.

Any other business (agenda item 11)

(Statements by member States, international organizations and observers)

88. A number of delegates from Uganda presented reports outlining various scientific and technical work carried out in relation to mineral development in Uganda. These reports are summarized below.

Alkali stabilization of lateritic soils from Uganda -a potential construction and ceramic material

89. Three lateritic soils from central Uganda were stabilized with sodium hydroxide in varying concentrations and the moulded and cured specimens made from the soils subjected to various tests to evaluate their response to the stabilization products.

90. The results showed that the soils gave similar trends in response irrespective of parent rock with 10 per cent to 12 per cent sodium hydroxide yielding the highest strength which was about 20 times greater in compression compared to the unstabilized material. Addition of sand to one of the soils at 10 per cent NaOH led to improved strength, density and water absorption with an optimum sand content at 125 per cent sand. The strength was remarkably higher, even for NaOH concentration as low as 2 per cent.

91. It was concluded that lateritic soil could be stabilized successfully with sodium hydroxide and sand to give a strong and durable construction material.

92. In the discussion that followed the delegate from Zimbabwe wondered what energy savings could be expected compared to traditional methods of making construction materials. The author replied that these had not been quantified in the study.

Alternative Cements Based on Lime-Pozzolanas in Uganda

93. In Uganda, lime was currently produced at Kaku river in Kisoro sub-district, Hima, Muhokya and Dura in Kasese district as well as at Tororo. Volcanic ash occurred in Kisoro area, and in Bunyaruguru - Fort Portal volcanic fields.

94. Studies carried out so far had not indicated any conclusive optimum mixing ratios for the production of pozzolime cements. The results had largely been affected by the poor quality of the lime produced in the country.

95. There was, however, an indication that if good quality lime (65 per cent CaO) was used with volcanic ash (pozzolana) and quarry dust in the ratio 1:1:4 respectively, a strength of 1.8 MPa of the blocks could be attained after 39 days of curing.

96. In response to questions from the delegates of Nigeria and Chad, the author explained that the moulded bodies had been fired in a laboratory electric furnace and that in some cases cement had been added. At 10 per cent cement content the results had indicated that the mechanical strength was comparable to the values obtained for the lime-pozzolana mixture.

Occurrence, Production and the Economic Status of Tin (cassiterite) in Uganda

97. Cassiterite occurrences in Uganda were of hydrothermal, pegmatite, eluvial and detrital type. Tin production had started in 1927 with an average daily production of 315 kilogrammes rising to the record production peak of 1575 kilogrammes in 1936. The period of 1939 to 1960 was marked by a general decline mainly attributed to shortage of labour as a result of the Second World War and the depletion of the easily worked occurrences. The economic status of tin was evaluated on the basis of other minerals produced in and exported from Uganda and was found to have generally declined with time. The increasing world tin prices starting with the 60's coincided with low production capacity in Uganda. However in that tin economic boom, Uganda collected more than 50 per cent of its total tin revenue for the period 1927-1977 in only 14 years. The paper proposed the evaluation of the tin occurrences in order to assess their economic viability for tin-based industries in the country.

98. A member of the ECA secretariat asked whether any rare earth minerals had been encountered in the pegmatites. The author answered that chemical analyses on the materials had not been performed. However, future work would keep in mind the possible availability of such minerals in the experimental materials.

Kinoni Radiometric Anomaly; Progress of Geochemical Exploration

99. A radiometric anomaly had been found at Kinoni Hill, Masaka District. Anomalous radiometric values were closely associated with anomalous magnetic values. Geological mapping had identified five rock types namely a granite gneiss, schists, quartzites, laterites and pegmatites. Geochemical investigation had found no sulphide mineralisation of Copper and lead. Anomalous values occurred for Zn sulphide mineralisation which was thought to be insignificant.

100. A delegate from ESAMRDC asked what was the extent of the Zn anomaly in relation to that of Pb. The author pointed out that no Pb anomaly had been found and that of Zn was small.

The Uganda Gold Potential, Development and Constraints

101. Gold in Uganda was first discovered in 1931. It reached peak production of about 23000 troy ounces in 1938.

102. Three major modes of gold occurrence were observed, namely gravels and as a solid solution in sulphides of basemetals mainly pyriteferrous.

103. A number of constraints in the development of a gold mining industry in Uganda were cited. These included shortcomings in the mining policy with regards to the prospector and the buyer lack of mining know-how on the miner, political upheavals in the 1970s, and a limited pool of mining entrepreneurs.

The Role of the Central Laboratories of the Geological Survey and Mines Department of Uganda in Mineral Exploration and Other Services

104. The paper outlined the role played by the central laboratories of the Geological Survey and Mines Department in assisting geologists, mineral prospectors, small scale miners, government departments/agencies and other parastatal bodies in their various spheres of work related to:

- (a) Mineral exploration,
- (b) Feasibility studies in quantification of ore deposits,
- (c) Quality control of industrial raw materials and products.
- (d) Identification of the rock/mineral species,
- (e) Grading of mineral ores,
- (f) Complete assays of industrial raw materials (e.g. sand, limestone, iron ore etc.),
- (g) Ore separation and sizing and
- (h) Analysis of sediments and borehole sludges,

105. Current problems faced by the laboratories were catagorized as follows:

- (a) lack of adequately trained manpower e.g. Petrologists, geochemists, etc.
- (b) Lack of up-to-date equipment as the existing ones were either obsolete or lacked accessories. Ways and means of rectifying the situation were suggested including further training of the staff and procurement of new equipment.

106. In conclusion to the Ugandan presentations the Conference noted the excellent work that Ugandan Scientists were carrying out and advised that they should also aim at identifying projects for which immediate production was possible and those that could contribute to increased knowledge of the reserves and more investment in the mineral sector.

107. The representative of the Commission for the Geological Map of the World and General Co-ordinator for the 1:500.000 scale international ore deposits map of Africa, first recalled the objectives and structure of the Commission and informed the participants that the project related to the establishment of the map was presented to the First Regional Conference on Mineral Resources Development and Utilization in Africa, in Arusha in 1981. He reminded the meeting of the working methods of the Commission and mentioned progress in the implementation of the project as well as the difficulties encountered in the course of the establishment of the map and which remain to be resolved.

108. In the ensuing discussions, questions were raised on the composition of the Commission, the deadline for the completion of the maps, the modalities of co-operation between the Commission and African countries with respect to the establishment of the map, and the use of information on marine mineral resources and information acquired through satellites.

Contributions from international organizations and observers

109. In his statement, the representative of the United Nations Conference on Trade and Development (UNCTAD) provided some highlights on the activities currently undertaken by UNCTAD in the field of minerals and metals, particularly in areas relevant to the discussion of the meeting. The UNCTAD secretariat had initiated a wide-range of research projects on the role of the mineral sector in the development process of developing countries. The research work would be undertaken at the level of individual developing countries with its focus directed mainly on the interactions and feedback effects that arose between economic activity in the mineral sector and activities with the rest of the economy. The identification of areas of multilateral or regional actions and forms of support which the international community could provide at the country level was the main objective.

110. With regard to ongoing UNCTAD activities on specific minerals and metals, the meeting was informed that a United Nations Conference on Copper would take place under UNCTAD auspices in late June 1988. A similar conference on the subject would also take place later in the year. Further, UNCTAD continued to provide substantive servicing for the Committee on Tungsten and for the Intergovernmental Group of Experts on Iron-Ore. Following the results achieved at UNCTAD VII, consultations were taking place on a number of commodities including bauxite, manganese and phosphates, and efforts continued to reach the objectives on diversification as well as processing, marketing and distribution.

111. Another project which was developed in co-operation with the ECA would aim at assisting in the development, improvement (including re-orientation if necessary), and implementation of commodity programmes and policies. The project also would take into account the needs for enhancing the skills of African personnel and for improving the institutional capacity to process and utilize economic and technical information. UNCTAD would be extremely interested in obtaining views about the areas in which individual African countries might be interested to participate in the technical co-operation programme offered by the project.

112. The representative of the United Nations Office for Ocean Affairs and the Law of the Sea underlined the concerns of African mining States with respect to the impact of future sea-bed production on their export earnings. The United Nations Convention on the Law of the Sea, a comprehensive treaty covering all aspects of marine affairs, adopted in 1982, included a part containing provisions specifying the regime for the international Area of the sea-bed and ocean floor beyond national jurisdiction, and its resources. Given the fact that the Area and its resources were designated common heritage of mankind, one of the major themes in the formulation of the Convention's provisions was to strike a balance between the development of sea-bed minerals, the benefit of which would be shared by developing countries, among others, and the protection of developing land-based producers who may suffer adverse effects from future sea-bed production. The Convention, therefore, included a number of provisions intended to provide protection to developing land-based producer States, e.g., the production limitation formula, promotion of commodity agreements, deterrence to unfair economic practices in sea-bed mining. A Special Commission of the Preparatory Commission for the International Sea-Bed Authority and for the International Tribunal for the Law of the Sea, had been studying the problems that might be encountered by such States as a result of future sea-bed production, so as to recommend appropriate remedial measures. The Special Commission had accomplished a substantial amount of work during the past nine sessions. The meeting was informed that serious deliberations were being undertaken at present with regard to remedial measures, including economic adjustment measures or compensatory measures that could be adopted by the International Sea-Bed Authority.

113. The representative of the United Nations Centre for Transnational Corporations (UNCTNC) outlined the Centre's technical assistance programme which responded to many requests for advice in specific mineral investment projects covering both legal and financial aspects. There were special areas in which the ECA secretariat's work could be supplemented by that of UNCTNC. Such areas could include case studies of gold mining covering legal aspects and physical dimensions, with examples from developing countries such as Papua New Guinea. Not much contribution by the UNCTNC was envisaged in the general areas of small-scale mining since transnational corporation did not, as a general rule, participate in such operations.

114. The representative of the United Nations Educational, Scientific and Cultural Organization (UNESCO) pointed out that the role of UNESCO consisted in supporting the training of manpower (geologists, mining engineers etc.) through courses in mining geology funded by external sources by way of geological field studies in the precambrian formations, and offering fellowships for the participation in workshops and seminars in the field of earth sciences.

115. The representative of Radiator and Tinning (Pvt) Ltd. from Bulawayo, Zimbabwe, informed the meeting that copper and non-ferrous manufacturing plants, rolling mills and presses were only operating at 20 to 25 per cent of their capacity due to the lack of zinc for the manufacture of brass, strips and rods. He underlined the shortage of spare parts for the continuous operation of plants. Private concerns in Zimbabwe were striving to promote intra-African trade of basic minerals/metals feeding metal manufacturing industries through PTA's clearing house facilities. More efficient mechanisms at that level could improve the performance of metal industries in the subregion. He pointed out that there was a need for foreign exchange relaxation for the purchase of metals within the PTA area so as to increase production and exports of finished products to neighbouring countries and worldwide.

116. In the discussions that followed, the representative of Radiator and Tinning (Pvt) Ltd. explained that competitiveness was hindered by licensing problems rather than by the cost of raw materials. Regarding consumption growth of copper, aluminium and metal alloys, he pointed out that the building sector's dynamism and the improved prosperity of the people provided opportunities for increased domestic consumption in the region. In the field of manufacturing technologies, the inclination to set up advanced production technologies was considered to entail limited employment opportunities and the need for outside skills for maintenance and operations.

Agenda for the ministerial meeting of the Third Regional
Conference was adopted (agenda item 12)

117. The following provisional agenda was adopted:

1. Opening of the meeting
2. Election of officers
3. Adoption of agenda and organization of work
4. Statements of delegations
5. Consideration of the report of the Technical Preparatory meeting and recommendations
6. Any other business
7. Adoption of the report and recommendations of the Third Regional Conference on the Development and Utilization of Mineral Resources in Africa
8. Date and venue of the next Regional Conference
9. Closure of the Conference.