

152

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**MULTINATIONAL PROGRAMMING AND OPERATIONAL CENTRE  
(ECA/MULPOC) FOR EASTERN AND SOUTHERN AFRICA**

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**FOURTH MEETING OF THE INTERGOVERNMENTAL  
COMMITTEE OF EXPERTS (ICE)**

**PRETORIA, REPUBLIC OF SOUTH AFRICA  
24-28 MARCH, 1997**

**REPORT ON THE AD-HOC EXPERT GROUP MEETING ON  
SKILL DEFICIENCIES IN THE MINERAL SECTOR OF  
EASTERN AND SOUTHERN AFRICA**

## **INTRODUCTION**

1. The Ad Hoc Expert Group Meeting on Skill Deficiencies in the Mineral Sector of Eastern and Southern Africa was held in Harare, Zimbabwe, from 3 to 5 September, 1996. It was convened in accordance with the programme of work and priorities of the Lusaka-based MULPOC approved by the Nineteenth Meeting of the ECA Conference of Ministers of Economic Planning and Development. The meeting was called to discuss the findings of the survey undertaken by the Lusaka MULPOC. The survey had identified major weaknesses in the stock of skills and competencies in the mineral sector of the subregion and further assessed the internal capacities in the delivery systems. The meeting was organised in association with the Mining Sector Coordinating Unit of SADC and was co-hosted by the Chamber of Mines of Zimbabwe and the Ministry of Mines of the Republic of Zimbabwe.

## **ATTENDANCE**

2. The meeting was attended by the following member States of the Lusaka-based MULPOC and SADC: Angola, Botswana, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe.

3. The meeting was also attended by representatives from universities, colleges and private sector training institutes for mining skills in the SADC region. In addition, a number of private mining companies operating in the region attended. A full list of participants is attached to the report as Annex I.

## **PROCEEDINGS OF THE MEETING**

### **Opening of the Meeting** (Agenda Item (i))

4. Mr. B.W. Matabela, Public Affairs Advisor at the Chamber of Mines of Zimbabwe, opened the meeting on behalf of the Permanent Secretary of the Ministry of Mines and the Chief Executive of the Chamber of Mines. Mr Matabela welcomed all the participants to Zimbabwe and wished them a most enjoyable stay and a successful meeting. He particularly thanked the Lusaka-based ECA/MULPOC and the SADC Mining Sector for organising the meeting and selecting Zimbabwe as its venue.

5. Mr Matabela recalled that the economies of South Africa and Zimbabwe, as well as those of other countries in the region originated from mining activities. In the case of Zimbabwe this followed the signing of the Rudd Concession in 1888. Over time,

the industry had become a significant foreign exchange earner and a major employer in the subregion. Despite this central role, it was ironical that there were serious skill deficiencies in the industry 100 years after its establishment. The skills "drought" in an industry which was ordinarily unaffected by weather patterns suggested that planning was uncoordinated. In this connection, he expressed the wish that the meeting should identify ways of overcoming the persistent deficiencies in the subregional mineral sector.

6. In conclusion, Mr Matabela wished the participants success in their deliberations and thanked the following companies and organisations for materially supporting the meeting:

Boart Longyear (Zimbabwe)  
Chemplex Corporation  
Kinross Holdings and  
Members of the Chamber of Mines

7. On behalf of the Executive Secretary of UNECA, Mr Samuel A. Ochola, Acting Director of the Lusaka-based ECA/MULPOC, expressed his deepest appreciation to the Chamber of Mines and the Government of the Republic of Zimbabwe for hosting the meeting and for the warm hospitality extended to the delegates. He pointed out that he considered Zimbabwe an appropriate venue for the meeting on account of its high reputation as one of the key mining countries in the subregion. Mr Ochola further thanked SADC as co-organisers of the meeting. He added that in the light of the renewal process embarked on at ECA, he was certain that the meeting would deepen the working relationship between the two organisations so that they could explore the full breadth of their complementarities for the benefit of the member States they both served.

8. Mr Ochola reminded the participants that they were meeting at a time of momentous changes in the history of the African mining industry. Renewed thinking about State participation in mining activities, underpinned by fiscal and legislative reforms, had led to wide-spread de-linking of production from state intervention. This had raised the level of private sector exploration expenditure in Africa, excluding South Africa, from less than US\$100 million in 1993 to US\$300 million in 1995. The re-admission of South Africa into the subregional and global business arena had also led to South African mining corporations, which were major global investors, venturing further north, bringing fresh optimism to the subregional mining industry.

9. Mr Ochola noted, however, that it would not be possible to maximise the benefits of these positive developments due to a dearth of competitive skills in the sector. The study undertaken by the ECA/MULPOC had revealed that all countries in the subregion had numerical deficiencies to some degree. He further noted that the skill and competency base in most countries was weak while many of the member States had no facilities for developing mining skills. From a positive viewpoint, Mr Ochola noted that the available human resources development facilities were numerically sufficient to meet the needs of the subregion. Furthermore, there were sufficient world-class mining companies in the subregion to act as role models and focal points for spreading best mining practices. Mr Ochola added that there was also a noticeable will to share the available facilities.

10. Given the above factors, Mr Ochola suggested that the principles of networking in effective partnerships should form a major feature of the solutions to the observed skill deficiencies. In this connection, Mr Ochola outlined the major task of the meeting as the formulation of a framework which would lead to a harmonised understanding and perception of skills and competencies. This should lead to their liberal mobility in the subregion. Although this task was onerous, he was persuaded that the rich blend of intellectual resources present at the meeting would measure up to the task. Finally, Mr Ochola thanked the private mining sector in Zimbabwe for the crucial role they had played in organising the meeting. This augured well for a productive meeting since the private sector was both the major user and developer of mining skills.

**Election of Officers** (Agenda Item (ii))

11. The meeting elected the following officers to the Bureau:-

Chairman	:	Mr S. N'cube, Zimbabwe
Vice-Chairman	:	Mr. R.S.M. Mshali, Malawi
Rapporteurs	:	Dr. Rad Handfield-Jones, South Africa Prof. E. Alaphia Wright, Zimbabwe

12. Mr N'cube thanked the delegates for electing him and the other members to the Bureau and assured the meeting that they would do their best to fulfil the objectives of the meeting.

Adoption of the Provisional Agenda and Draft Programme of Work  
(Agenda Item (iii))

13. The meeting adopted the following Agenda:

- i) Opening of the Meeting
  - (a) Statement by the Chamber of Mines of Zimbabwe
  - (b) Statement by the Acting Director of the Lusaka-based ECA/MULPOC
- ii) Election of Officers
  - (a) Chairman
  - (b) Vice-Chairman
  - (c) Rapporteurs (two)
- iii) Adoption of the Provisional Agenda and Draft Programme of Work
- iv) Report on Assessment of Skill Deficiencies in the Mining Industries of Eastern and Southern Africa (ECA/MULPOC/LUS/21)
- v) Report from SADC Mining Sector
- vi) Reports from Delegates:-
  - (a) Country reports
  - (b) Company Reports
  - (c) Reports from Tertiary Education and Training Institutes
  - (d) Reports from Chambers of Mines and Associations
- vii) Recommendations of the Meeting: Towards a Unified Strategy for Human Resources Development in the SADC Region
- viii) Any Other Business
- ix) Vote of Thanks
- x) Closure of the Meeting

14. The meeting agreed to work from 08.30-12.30 hours in the morning and from 14.00-16.30 hours in the afternoon. The

proceedings of the meeting were held in the plenary sessions. The recommendations were generated in group sessions and finalised through a general discussion in the plenary session.

**Report on Assessment of Skill Deficiencies in the Mining Industries of Eastern and Southern Africa** (Agenda Item iv)

15. A member of the Lusaka MULPOC presented the survey report ECA/MULPOC/LUS/21 on skill deficiencies in the mining industries of eastern and southern Africa. The report outlined the socio-economic importance of the subregional mining industry in the SADC region against the backdrop that it accounted for 60% of foreign exchange earnings and 10% of the GDP; employed 5% of total wage earners, was a major consumer of utilities and responsible for the development of much of the economic and social infrastructure. Despite this prominence, the business constraints of the industry were not fully understood, particularly as exemplified by its limited access to globally competitive skills and competencies. This diminished the industry's productivity and performance in the international mineral commodity markets. At Government level, skills for performing administrative functions, such as monitoring mine safety and the environment, implementing legislation and generally understanding the technical and business side of mining operations, were mostly weak especially in countries undergoing privatisation or with an emerging mining industry. The level of specialised skills for the small scale mining sector, and in areas such as research and development, mine planning and design, geostatistics and mineral reserve estimation, mineral economics and mineral process design, were mostly absent in many of the countries.

16. The representative indicated that South Africa, together with the other mining countries of Botswana, Namibia, Zambia and Zimbabwe accounted for 99% of the available skilled manpower in the SADC region while the skilled manpower base in non-mining countries like Malawi, Mozambique and Tanzania was not only small but showed weakness in technical practice. All countries in the region showed numerical deficiencies in various categories of skilled manpower, while some countries had high levels of expatriate manpower to compensate for the deficiencies.

17. The major developments likely to influence the quantum of skilled manpower in the region were reviewed. These included the increased private sector-based exploration activities and the privatisation of the state-owned mining operations in the subregion. These were expected to result in higher demand for mining skills. On the basis of current employment levels and trends

in the sector, five-year extrapolations of the demand distribution for skilled manpower in the region were presented. The major feature of the distribution was the strong and diversified demand for mining skills, particularly in South Africa, and the other mining countries.

18. The representative also reviewed the available academic and industry skills development facilities in the subregion. These were concentrated in only three countries, namely South Africa, Zambia and Zimbabwe. Comparison to the demand distribution revealed that the facilities were under-training especially at the degree level. The academic facilities were generally underfunded thus diminishing the quality of education they offered. Industry played a key role in supporting the delivery of skills and competencies especially in South Africa while countries with weak in-company training schemes exhibited poor technical and management practices. Opportunities for developing the specialised skills in small scale mining and in planning and design areas were very limited.

19. The survey recommended the following agenda for redressing the observed deficiencies in skilled manpower:-

- a) addressing the numerical insufficiency by expanding in-takes at existing institutions with the possible introduction of quota systems for students from the subregion;
- b) strengthening the academic institutions through innovative methods of providing funding;
- c) strengthening the role of industry in the delivery of education and training at various levels;
- d) unification of skills and competencies through some SADC-wide integrative framework. This was a precursor to the free mobility of mining skills in the subregion.
- e) strengthening of Government administrative departments to better interface with the private sector, a role in which the UN family could assist
- f) providing training for the small scale mining sector in various critical areas as well as increasing the availability of specialised training, of a modular form, to enable attendance by the widest cross-section of practising technical people.

20. The meeting commended the Secretariat for the excellent and informative survey. It, however, observed that comparative data from mining industries in the developed economies, such as Canada, would have enhanced the usefulness of the estimates of the number of skilled manpower per 1,000 industry workers. This would be a useful yardstick given the global nature of mining operations. In similar vein, the meeting expressed concern at the generally low ratio of the number of technicians per professional job as revealed by the demand estimates. For mining, this was 0.63 technicians per mining engineer. In contrast, the ratio of output from training institutes was 1.82 per mining engineer. It was noted that a world average for the progression engineer to technologist to technician to artisan to assistant/helper was about 1:2:5:10:30. The meeting observed that this discrepancy was partly due to the fact that the demand estimates for technician level skills were suppressed by in-company trained skills which had the same career paths as technicians.

21. The meeting further observed that entry qualifications to tertiary institutions of learning, coupled with the overriding wish to train nationals for the domestic industry, constituted obstacles to the sharing of facilities. The meeting agreed that the problem of 'O' entry was a matter of interpretation of the different school systems in the member States but did not constitute an insurmountable obstacle. In the wider context, it was established that provisions for variations in the high school exit points were available in some countries. The nexus-pre-technician's course at Wits Technikon and the Bridging schemes offered by Wits and Pretoria Universities in South Africa, were cited as examples. Other possible solutions included the use of qualifying examinations to gauge the level of academic knowledge of applicants from different backgrounds.

22. In further discussions, the meeting observed that other fundamental skills, such as safety management, had not been given as much prominence by the study report. Whereas the ratio of safety inspectors in developed economies like Germany were 1:750 industry workers, the ratio was as high as 1:10,000 workers in the subregion. The meeting recognised, however, that the detailed inclusion of all skill categories was not possible within the mandate of the survey. The high turn-over rates of mining skills among young graduates, probably due to unfulfilled expectations, was also a matter of concern. This was observed to be worse for graduates from academic institutions than those from in-company training schemes. In this connection, the meeting agreed that the practice of industry attachment, prior to academic learning, helped reduce early separation from the industry.



23. In conclusion to the presentation, the meeting suggested that any further contributions on the report be sent to the Lusaka-based MULPOC for inclusion in the final revision.

Report from SADC Mining Sector (Agenda Item (v))

24. The representative from SADC reported to the meeting that the potential of the regional mining industry was large and had yet to be fully exploited. This was due to a number of constraints which included: poor information flow on available mineral resources; insufficient support by Governments in the region; the lack of integration of the mining industries in the region; and most importantly, deficiencies in skilled human resources. To address some of these constraints, the SADC Mining Sector had developed projects in various fields of mining. The projects, which were in geology, mining, marketing, mineral processing, environment and human resources development had, however, not made much progress until 1994 when sub-committees were formed to support their implementation on the basis of the region's internal resources.

25. The representative added that the programme specific to human resources development (HRD) had the broad objectives of identifying the needs in human resources in the regional mining sector and facilitating their development through institutional cooperation to achieve efficient and rational utilisation of existing facilities. He said that the SADC HRD projects were:-

- a) Facilitating the training of Gemologists, a training institute for the purpose had been identified in South Africa;
- b) Mining Sector Human Resources Development, the project would collect information on the available facilities and future needs;
- c) Development of SADC Mining Technical Courses, the project would design technical courses in mining subjects;
- d) Strengthening of Regional Mining Sector Educational Units, this would enable the expansion of intake of students to meet the future needs of the mining sector;
- e) Recognition of Mining Industry Qualifications, the project would define current practice in national qualifications frameworks and identify the main components of a SADC qualification framework.

26. The SADC representative indicated that the HRD programme was not progressing as swiftly as desired due to lack of human and financial resources, poor communications with some member States, and delays by some members in submitting information when requested. He stressed that the onus of implementing projects was on industry and all member States. Finally, the representative paid tribute to ECA for the report which provided valuable information, particularly for project (ii).

27. In the ensuing discussions, the meeting recommended that continuous stock of the relevance of SADC activities to the member States, and industry in particular, should be a major aspect of its work programmes. In this respect, the working groups were encouraged to involve the private sector in their activities. A member of the ECA/MULPOC expressed confidence in the current SADC work programme and added that its delivery depended on meetings such as the one which was being held and which would help to re-sharpen the programme's focus and identify modalities of action. The meeting noted with satisfaction that there was complementarity between the SADC and ECA/MULPOC work programmes.

28. Concern was expressed with the funding problems, the lack of programmes for small scale miners and the shortage of expertise for implementing some of the SADC programmes. The meeting resolved that these concerns be fully reflected in the recommendations. In respect of small scale mining, the meeting heard that German assistance had strengthened the implementation of the SADC small scale mining programmes while the ECA/MULPOC had conducted a workshop on granite mining and development strategies at which small scale mining had been extensively discussed.

#### Report of the Delegation (Agenda Item (vi))

##### Country Reports

##### Angola

29. A Government representative from the Ministry of Geology and Mines requested that the survey undertaken by the Lusaka MULPOC had not covered Angola, one of the significant mining countries of the subregion. However, the profile of mining skills was similar to that in some of the countries included in the survey, notably Mozambique. He added that a major problem facing the country was the weak technical practice and management structure, aggravated by the lack of competence definition. As a direct result, the emergent private companies preferred to use expatriate manpower, which was

increasing in number with each new mine venture. In addition, Government lacked skilled manpower to administer and regulate the Mining Act for the emerging industry. Other problems which had contributed to the low levels of skills in the country included funding constraints and the long term conflict which had limited field visits.

30. The delegate underscored Angola's appreciation of the regional efforts to extend the cross-country training arrangements due to the weaknesses he had cited. He concluded by stressing that it was imperative to develop a realistic skills development strategy which achieved tangible results based on the region's weaknesses and strengths.

#### Malawi

31. A delegate from the Geological Survey Department, in the Ministry of Energy and Mining told the meeting that skill deficiencies existed at all levels of the Survey with about 50% of the professional and technicians' posts filled. Efforts had been made to fill the vacancies but this was frustrated by departures for greener pastures. The recruitment of locally trained graduates and diplomates from the University of Malawi had been the main-stay of the human resources build-up programme in the department. Internal training, through donor funding, had also helped improve the skills of technicians. The skill deficiencies similarly extended to the Department of Mines. The small-scale miners association, primarily comprising gemstone miners, also required expertise in exploration activities, mining techniques, processing/grading, gemology and marketing. To overcome the widespread deficiencies, it was important for Government, the private sector and the University to mutually address the problem. In conclusion, the delegate explained that the Survey and the Mines Department had now drawn up 5-year training programmes (1996-2001) to address their specific skill deficiencies.

#### Namibia

31. The delegate from the Ministry of Mines and Energy reported that his country had historically experienced a poor and disintegrated educational system for many years. Since independence in 1990, Government's major effort had been the integration of various ethnic based educational systems into a National Education System, and the introduction of science subjects and english as the medium of instruction. In addition, Government had established the National Qualifications Authority System (NQAS)

to evaluate and accredit national qualifications. The delegate further reported that the Ministry of Mines and Energy had made human resources development a priority and allocated a limited number of scholarship for study in mineral-related disciplines. The Ministry had also made it clear to all major mining companies that a human resources development programme for Namibians was required of them. These efforts were, however, hampered by the lack of skilled manpower training facilities in mining disciplines at both technician and professional levels. All skilled manpower in mining disciplines had obtained their qualifications from outside Namibia. This was likely to continue for the foreseeable future. In line with this, Namibia was a strong proponent of subregional cooperation and integration.

#### South Africa

32. A staff member of the Council for Geoscience, under the Department of Minerals and Energy, told the meeting that its principal business was to generate and disseminate geo-scientific knowledge. He added that the Council continued to play a strong role in encouraging co-operative programmes in the SADC region. The Council's Director was the Chairman of the SADC Geology Subcommittee. The Council had also participated in continuing regional commodity studies on selected minerals. Other regional cooperative efforts had included preparation of the International Mineral Deposits Map of Africa under the Commission for Geological Map of the World (CGMW). Under the project, representatives from each country participated in data verification and the preparation of computerised data bases. The Council was also involved in several bilateral projects such as the maps prepared for Angola and Mozambique. The delegate concluded by inviting more co-operative funded projects to take advantage of the skills and technical facilities of the Council. He observed that although the Council had lost some highly experienced staff to industry, the capability still remained high.

33. Another delegate from the Department of Minerals and Energy told the meeting that South Africa had the third worst safety record in the world with 22 deaths per 1,000 workers. This had led to the introduction of a three year certificate course for mine inspectors which would supply about 50 Mining Inspectors to the industry by 1999. The course would improve the ratio of inspectors to employee and therefore reduce the death/injury rate.

Zambia

34. The delegate from Zambia reported that since 1993 Government had re-focused its objectives in the minerals industry to: encourage the private sector as the principle producer and exporter of minerals; promote the development of small scale mining, especially the gemstone mining sector; foster the exploration and development of industrial minerals and the ferrous industry; reduce the dangers of mining activities to the environment and maintain safety; and promote local processing and the adding of value to mineral products. He added that the Mines and Mineral Act had been accordingly amended to provide investor assurance to mineral rights and other fiscal incentives conducive to private sector investment.

35. He explained that training of nationals was expected from the mining companies investing in the mineral sector. The sector had about 1,300 technical degree holders and 5,200 technicians and technologists and that there were vacancies at both levels. Expatriates were involved, particularly in exploration activities but this was not regarded as a problem due to the potential long term benefits. There was considerable demand for mining skills in the gemstone mining industry where there were less than 10 technicians involved in the operations.

36. With respect to skills development facilities, the delegate pointed out that there were two universities which offered training in mining disciplines. Artisan output from the Department of Technical Education and Vocational Training was limited and supplied the traditional range of artisan skills. The representative proposed that Government, academic institutes and industry needed to work as a team although it appeared that industry was at times an unwilling partner. Supplemental training in the field of management was also perceived as necessary. He viewed the low morale and poor performance of the industry in Zambia to as an indicator of skill deficiencies and lack of resources.

37. In conclusion, he stated that an expansion of the range of courses available at the tertiary and artisan levels, coupled with a concomitant increase in financial support for academic learning would augur well for the country. Finally, he underscored the importance of free movement of skills between SADC countries, on the same principle as the European Communities, as a measure that would enhance cooperation and integration in the subregion.

## Company Reports

### Anglo American Corporation, Organisational Training & Development (PVT) Ltd, Zimbabwe

38. A Consultant with the company outlined that Anglo American had experienced a vacuum in middle management resulting from the migration of skills in these areas after independence and that lower level skilled manpower was promoted to fill the void. Training schemes were initiated to fill the identified shortages and these ranged from postgraduate development programmes to semi-skilled worker improvement. The multi-purpose approach adopted included graduate learners for hands-on experience, scholarships, learner miner contracts such as those for the blasting licence, apprenticeships, industrial attachments and short courses. The delegate added that the short courses were tailor-made for clients and included finance and senior management, and basic supervisory skills. The company also run retirement counselling schemes. Although there was no laid down policy for affirmative action, this was practised and 70% of general managers and professional staff were indigenous Zimbabweans. The company had its own Evaluation Committee on degrees and other qualifications.

### BCL (Bamangwato Concessions Ltd), Botswana

39. The company representative reported that training was driven by localisation needs and had a budget of about Pula 6 million per year. Good progress had been made and the current proportion of expatriates was about 3.5% of the total workforce. The law of the land recognised that localisation should not be done at the expense of productivity and efficiency.

40. The representative further outlined that on-site training included safety and first aid, operator training, and supervisory training from machine man and crew boss to shift boss and mine captain. A BCL certificate of competency was awarded but it would be ideal if such training were to be granted national or regional recognition. The delegate further outlined that off-site training was at degree and diploma level through sponsorship to European, regional, and local institutions. In his opinion, it was certainly cost effective to train within the subregion although quality was always a prime consideration. He concluded by indicating that the BCL localisation targets had largely been met and that new priorities included training for international competitiveness, management development training for turnover, and the management of retention of skills. He felt that it was in this direction that cross-border human resource development should be advanced.

Botswana Ash, Botswana

41. A delegate said the company produced salt and soda ash for the region and employed 560 people 18% of whom were expatriates. In technical management, this proportion increased to 53%. The core skills required included microbiologists, chemists, hydrogeologists and chemical and maintenance engineers. Internal training programmes were available for operators and artisans, and in supervision and computing. These programmes need to be accredited by a training institution. Lack of accreditation diminished the perceived usefulness of the internal training programmes. Technicians and graduate personnel were externally trained. A training budget of Pula 12 million was available and the policy of localization was strictly adhered to:

GENCOR, South Africa

42. The company representative reported that GENCOR had a well-focused training approach and had decentralized the training responsibility to the various cost centres in response to its business plans. Training was always affected by factors such as commodity prices and group employment levels which had declined to about 90,000 from 200,000 over the last ten years. Re-training of the workforce took place as a result of improved technology and the need to re-skill, particularly at lower levels. The representative emphasised that training needed to be focused and relevant to the needs of the business sector. He added that universities and colleges needed to continuously ask what they could do for mining companies. With respect to the proposed South African National qualification structure, the representative outlined that this was at several levels. Industry training occupied lower and middle levels while university and college training was at upper levels.

Wankie Colliery Company Ltd, Zimbabwe

43. The representative from the company pointed out that Wankie was the only coal mine in Zimbabwe and produced gas, benzol, tar, ammonia and motor spirit. He added that a range of mining and engineering skills were required to sustain production and that they were sourced within Zimbabwe. Although there had been migration of skills at independence, deficiencies had dropped. This had been facilitated by the Presidential directive for affirmative action in 1986/87. The representative further stated that the mine had its own training school which run a variety of programmes such as apprenticeships, overseer miners, plant operators, first aid, managerial and supervisory skills and nursing. The company also supported the University of Zimbabwe and the Zimbabwe School of

Mines. All employees undertook the retirement counselling programme. In conclusion, the representative said that although the training school accepted external applicants, the policy was to train for the country first and then for the subregion. In his view, regional integration needed to be backed with a political will.

### **Tertiary Education and Training Institutes**

#### Colliery Training College, South Africa

44. The delegate from the college reported that it was a niche private sector-based facility established by the Chamber of Mines of South Africa for the collaborative training of artisans and miners for the coal industry. The artisans were trained in various engineering skills while mining and blasting certificates programmes were also available. The qualifications provided by the college were portable to other sectors and were accredited by the Mining Industry Training Board. The representative circulated to the meeting a list of training centres for artisans in South Africa and pointed out that they were all willing to accept students from the subregion.

#### Namibian Institute of Mining and Technology (NIMT), Namibia

45. The representative from the institute reported that the first phase of its development was financed by Rio Tinto Zinc although the institute was used by a broad spectrum of mining companies in the country. He added that it was run by an autonomous Board of Trustees on which Government and the private sector were represented. It had three types of programmes, namely skills upgrading, apprenticeships and vocational training. The apprenticeship was a four-year sandwich programme which emphasised the practical component in industry. The country had a total of five vocational training institutes for which certification was done by the National Vocational Training Board. Degree level engineering training was undertaken in South Africa. The representative indicated that trainees from SADC countries were welcome but since the institute was self-financing, training had to be paid for. A Government-funded bursary scheme was in place for nationals.

#### Technikon Witwatersrand, South Africa

46. The representative of the technikon explained that technikons were equivalent to the old polytechnics in the UK. Wits technikon



was the second largest in South Africa with a student population of about 11,500 while the faculty of mining and metallurgy had 750 students in 6 programmes. Courses offered included the National Higher Diploma and Bachelor of Technology Degree (BTech) in Mining, Mineral Processing, Surveying, Geology and Engineering Metallurgy. The representative further reviewed industry's involvement in the technikon's programme through: the Liaison Committee which assessed the standards of teaching; training managers from industry who reviewed progress of their students; and the Tertiary Steering Committee on which mining companies were represented and which was chaired by the Chamber of Mines. He emphasised that technikons were not research but applied teaching institutions in which experiential or practical training was essential and had to be done responsibly within Technikon guidelines. He ended by outlining that Wits technikon had about 25% capacity for foreign students although placement for practical training might present some problems if they were not sponsored by industry.

#### University of Botswana

47. The representative from the University reviewed the development of a national training facility for the country's mineral sector at the University of Botswana. He reported that a three-year diploma in mining was initiated at the University in 1994 although skill deficiencies were at all levels of the industry. Graduate training was still pursued outside Botswana, including the SADC region. He outlined that the industry in Botswana had some unique features which were critical in determining training requirements. The features included the fact that the industry was young with a low turnover of workers. The country also had a small population while Government policy strongly supported skills development for the mineral's industry. Developing mining training programmes had been biased towards improving the technical skills of the existing work force at lower levels where demand was greatest. The progressive introduction of training programmes in direct response to industry requirements avoided problems of viability and longer term sustainability. The representative contended that sustainable training programmes required a close partnership with industry and that they should be substantially locally developed, particularly at lower levels where national training facilities were a sensible goal.

#### University of Pretoria, South Africa

48. The representative of the university explained that it offered graduate and postgraduate courses in geology, mining engineering and metallurgical engineering and that specialised geology courses,

such as exploration geophysics, engineering geology and environmental management, were also available. He further explained that although the official language of the university was Afrikaans, lectures, text books and exams were available in English. Each of the Departments had additional capacities for about 10 foreign students per year. Where potential students did not have the required level in maths and science, the University offered one year bridging programme to upgrade the candidate's knowledge to the required level. The representative concluded by stating that the university was geared towards addressing the needs of the mining and exploration houses and encouraged the subregion to utilise the large potential for training and research offered at the university.

University of Witwatersrand, South Africa

49. The delegate from the institution outlined that Wits University had served the mining industry for over 100 years and was regarded as a centre of excellence by world standards. This was evidenced by the recent A+ accreditation of the Department of Mining by a North American/European panel and the ongoing accreditation of Metallurgy and Chemical Engineering in the School of Process and Materials Engineering. He added that the University had spare capacity at undergraduate level and also on a wide variety of modular courses towards the Graduate Diploma at the post graduate level. Wits University already had a track record of successfully accommodating foreign students. The representative contended that a healthy intake of students was necessary to ensure the continuation of the available centres of excellence as there appeared to be little room for more. He pointed out that what was required was to address national sentiments, entry barriers to existing institutions, increased contacts among institutions through networking and external examinerships. At Wits University, there were no barriers for prospective students from the subregion and full use of the university should be made in undergraduate study programmes and postgraduate research.

University of Zimbabwe, Zimbabwe

50. A representative of the university told the meeting that the Department of Mining and Metallurgical Engineering was established in 1985 as a joint project with GTZ. The department was intentionally planned using a participatory approach with consultations between industry, Government and the university. He added that the curriculum, which was reviewed every two years, had an input from industry and there was a strong belief that the university had to show a lead in taking technology to industry. The

Engineering Advisory Board had members from industry and that the department run two mining sites for environmental purposes. Degree programmes were 5 years long and included a 1 year practical period. Postgraduate programmes were offered by research only. The department was currently considering a cooperative modular short course-based MSc programme with other universities in the subregion. The development plan of the course programmes included performance indicators which helped the monitoring, evaluation and steering of the department's development. At present, shortages in lecturing staff were abated through extensive use of short term part-time staff.

## **Chambers of Mines and Associations**

### Chamber of Mines of South Africa

51. A representative of the Chamber reviewed the major developments in the delivery of education and training in relation to the South African minerals industry. He outlined that in the new vision for relevance of education and training, the paramount factors were that: learning was lifelong; the workforce should be flexible, innovative and competent; and that there should be key national standards and competencies. The vision would be realized through a National Qualification Framework (NQF) that would define 8 levels of competency from compulsory school education to higher degrees. He added that quality assurance mechanisms would be emplaced and controlled by the South African Qualifications Authority (SAQA) whose function would be to develop the NQF through national standards and accredited education and training (E&T) qualifications authorities. In the minerals industry, this would be the Mine Qualification Authority (MQA) which would advise the Minister on:

- a) the creation of a Mine Qualifications Framework (MQF) to oversee qualifications, learning achievement, safety and health;
- b) setting standards for competency examination, quality and accreditation;
- c) linking the mining qualifications framework to the NQF.

52. The representative further explained that the MQA would function through two Boards. The Mine Qualifications Board (MQB) would determine, review and set standards in the technical

management of the industry while the Vocational Qualification Board (VQB) would similarly be responsible for the operational/technician support of the industry. He stressed that the two boards would ensure that E&T would be "fit for purpose", viable and relevant to the needs of industry. He said that the role of the Chamber of Mines was to influence national debate and legislation so that workable models of qualification frameworks and certification structures met its members' human resources needs in the foreseeable future. In this respect the Chamber was pursuing a competency project to examine the needs of the industry. Where appropriate, E&T processes would be revised or modified to fall into line with the MQB and VQB required competencies for approval by the MQA and ultimately by SAQA. Tertiary institutions of learning would also be part of this process and be prepared to adjust in accordance with industry's needs.

53. In conclusion, the representative said that a similar process would be required on a SADC basis to promote cross-boarder recognition of standards and competencies. In this connection, SADC had initiated a project to draw up terms of reference, investigate national and international developments with a view to identifying best practices and their components, and identify common areas of competence and criteria. A committee, chaired by the representative, had been established but had been slowed down by the delayed appointment of other members to it.

#### Small Scale Miners Association Of Zimbabwe, Zimbabwe

54. A representative of the Small Scale Miners Association of Zimbabwe reported to the meeting that small scale mining was usually organised in cooperatives and that the needs for training were high. Training was required in a diverse number of areas such as rock identification, map reading, simple exploration, mine evaluation, planning and safety, and financial planning. However, funding to the sector was poor with the possible exception of donor funds. In Zimbabwe, some training was provided by the Ministry of Mines, although this was insufficient. The representative emphasised the benefits of training especially in terms of rural development. In conclusion, he pointed out that small scale mining was a permanent feature in the subregion and therefore needed support. He urged the ECA/MULPOC and SADC to do more to build skills and capacities in the sector. He also implored Governments in the subregion to investigate the establishment of a fund to repatriate old destitute miners to their home countries.

55. The delegates' reports were all discussed enthusiastically. The central points in the discussions evolved around: the

recognition and portability of skills, and the relevance of education and training to industry's needs; the issue of national aspirations weighed against regional cooperation and integration; the need to remove entry barriers to education and training establishments and examine entry qualifications; the inadequate levels of material support for education and training in mining skills; and the disadvantaged access to skills by small scale miners. In the light of the discussions, the meeting resolved that their recommendations should address the following principal themes:

- a) accreditation and competence;
- b) cross-country training provision and access;
- c) funding of education and training;
- d) sub-regional continuing professional development;
- e) small scale mining.

**Recommendations of the Meeting: Towards a Unified Strategy for Human Resources Development in the Subregion** (Agenda Item 7)

**ACCREDITATION AND COMPETENCE**

56. The meeting resolved that the major issues to be tackled with respect to the accreditation of skills and competencies were national and subregional capacities, the non-uniform secondary school systems, the problem of language, and the relevance of education and training to industry's needs. Accordingly, the meeting made the following recommendations:-

a) Capacities and Accreditation

- (i) The quality of education and training should be absolute and cost-effective and should not be adversely affected by the lack of numbers. If quality could not be produced nationally, it should be obtained from elsewhere in the subregion.
- (ii) SADC should initiate a system of networking to disseminate previous work on accreditation and competencies to the member states. In this connection, national projects related to competencies and accreditation should be made available to the SADC mining

sector. The South African initiative on accreditation and competencies was a worthy example.

- (iii) SADC should constitute project teams consisting of experts to generate competency guidelines for the subregion
- (iv) Each country should push for the establishment of a national accreditation authority. Such an authority would facilitate the recognition of cross-industry training schemes.
- (v) A SADC region qualifications authority should be formed to promote accreditation of competencies and training providers.

b) Non-uniform School Systems

To circumvent the effects of different secondary school exit points, good and workable bridging practices between schools and tertiary institutes, such as colleges and universities, must be studied and disseminated to member States through the Mining Sector.

c) Language

English and the national language should be used for the delivery of lower level skills and competencies. For higher level technical learning, English should be used in the SADC region.

d) Relevance of Education and Training

Although academic learning must be underpinned by academic freedom, it should be demand-driven, affordable and satisfy the needs of industry. In this respect, a strong advisory body, which would ensure outcome-based education and training, should be established.

## **CROSS-COUNTRY TRAINING PROVISION AND ACCESS**

57. The meeting concluded that the long-term objective to be served by a SADC cross-country HRD initiative was to ensure that the skills, knowledge, attitudes and values needed to develop a globally successful mining and minerals beneficiation sector were collectively available in the citizenry of the region.

58. To produce this outcome the meeting recommended a number of immediate and short to medium term actions for implementation. These were:-

a) Immediate Actions

- i. a register of providers of mining-related learning at all levels (degree, diploma, certificate); mining-related programmes and associated services should be developed;
- ii. the register should be used to plan and manage a process of rationalization across the region with a view to making use of best practices and facilities; preventing unnecessary duplication and thus containing costs; and enhancing the quality of HRD provision;
- iii. barriers to the rational deployment of learning resources in the region (eg. political parochialism, bureaucratic ineptitude, institutional inertia, funding constraints, etc.) should be identified and overcome;
- iv. an investigation into the feasibility of establishing a qualification framework for the region in mining and mining-related fields of learning should be launched.

b) Short to Medium Term Actions

- i. existing centres of excellence should be utilised in a network of partnership arrangements to enable learners have access to the best of mining-related learning and assessment in the region; and
- ii. mechanisms should be established to provide for the mobility of skilled citizens of the region to serve mining and minerals beneficiation projects wherever they occur.

**FUNDING**

59. The meeting acknowledged that to rectify the skill deficiencies in the region's mineral sector, funding in a number of specific areas was required.

a) Areas of Priority

60. The meeting recommended that funding be sought to address the following specific areas of need:

- i. material support to optimise the use of existing training facilities in the region;
- ii. training of appropriate technical staff for governments which do not yet have a mining industry, and where the industry is small, in order to empower them in their supervisory and regulatory functions of the emerging mining sectors;
- iii. organising training workshops for small-scale miners;
- iv. support for student exchange schemes.

b) Sources of Funding

61. The meeting considered various potential sources of funding for HRD activities and recommended that the following should be pursued:

- i. material support from mining companies operating in the region based on the principle that the beneficiary should pay for the development of their own human resources;
- ii. solicit for donor funding;
- iii. national governments should make available bursaries for training their own mining-related manpower;
- iv. limited support should be made available from funds generated from the sale of SADC Mining Sector publications and the commercialisation of SADC-related conferences;
- v. Governments should consider the introduction of some form of national industry-specific training levy to generate funds for HRD. This concept could be extended to a regional initiative where SADC sourced and administered a dedicated fund for purposes of training in the region.

**SUBREGIONAL CONTINUING PROFESSIONAL DEVELOPMENT**

62. The meeting acknowledged the role of continuous professional development in raising the stock of skills and competencies in the subregion. It recommended that:



- a. continuing professional development should be initially targeted towards B.Sc degree professionals from Governments, the private sector and academic institutions. The potential number of beneficiaries in the subregion in this group were estimated at more than 4,648 professionals.
- b. continuing professional development should take the form of modular short courses of one to two weeks duration at selected subregional universities possessing appropriate facilities and should include English and Portuguese courses as and when required.
- c. capacity building, through the secondment of professionals from one institution to another and between countries in the subregion, should be made a major feature of professional continuing development.
- d. the key players, who constitute Government, industry and academic institutes, should accord priority to sub-regional continuing professional development. As a start, the SADC Mining Sector should immediately contact potential module providers at the Universities of Witwatersrand, Zambia and Zimbabwe to submit a concept paper on subregional continuing professional development.
- e. subregional continuing professional development should include post-BSc practical training and field visits; technician and artisan skills development programmes; and training courses for small-scale miners.
- f. subregional continuing professional development, in its various forms, is only possible when issues of:-
  - i. accreditation and competence
  - ii. cross-country access to training and
  - iii. funding constraints

have been successfully and timely addressed.

#### **SMALL SCALE MINING**

63. The meeting defined the context of a small mine as that characterised by minimal infrastructure and high labour intensity. It further recognised that the major stakeholders in small scale

mining were the mining title holders and Government as a beneficiary of economic rent and promulgator of legislation. The meeting also acknowledged that the issues confronting small scale mining were numerous and often inter-related. These included: the lack of durable marketing arrangements; the ill-developed cutting and jewellery services to add value to precious stones; economic sustainability of operations; funding constraints; and the low skill levels in the sector. The meeting therefore resolved that the approach to ameliorating skill and competence deficiencies in the sector had to be holistic and simultaneous to achieve maximum impact. Accordingly, the meeting recommended that:

- a. extension officers should be trained in the broad fields of prospecting, geology, mining, surveying, safety, environment, valuation, business skills and marketing. The underlying concept was for extension officers to assist the small scale miner in similar fashion to the agricultural sector.
- b. That the issue of control, and cost implications, of extension officers be addressed. The meeting proposed that the officers be controlled by Governments while SADC should evaluate the cost implications of the scheme as part of its Human Resources Development sub-Committee project portfolio.
- c. That SADC and the ECA/MULPOC solicit for technical assistance from the donor community for the purpose of training extension workers.
- d. Funding to the small scale mining sector be provided through extension services. This would lead to the development of custom plant services within the impact areas of mining operations.
- e. Economic sustainability would osmotically be enhanced through the implementation of the extension services scheme.

64. The meeting recognised the difficulties of implementing some of the recommendations, such as the use of english in technical training. It observed, nonetheless, that the proposed SADC Mining Protocol was yet to be discussed at the national level. It recommended that some of the issues be incorporated in the proposed protocol to facilitate implementation. In this connection, the meeting also urged SADC to ensure that relevant national experts were involved in discussing the Protocol.

Any Other Business (Agenda Item (viii))

65. The meeting expressed concern that recommendations from many such fora often ended up not being implemented. They therefore resolved that the implementation status of the above recommendations be reviewed at the SADC Mining Sector meeting to be held in November, 1996.

66. To facilitate communication among the member States, the meeting recommended that an address list of the SADC contact points (on the Human Resources Subcommittee) be attached to the report of the meeting. This has been included as annex III.

Vote of Thanks (Agenda Item (ix))

67. Mr N. Grobler moved a vote of thanks to the meeting. He pointed out that there was a long-term commitment in SADC to transform it into SAEC (Southern African Economic Community) and that the signing of the Trade Protocol in Maseru in August 1996 was another step towards this goal. He underscored the condition that an economic block implied the mobility of skills across borders on economic grounds. This called for uniform standards in training and certification, a factor favoured by the sharing of available training facilities.

68. Mr Grobler continued that the ECA/MULPOC report on skill deficiencies was opportune as it supplied basic information for the SADC Human Resources Development Sub-committee to make informed decisions on training issues in the subregion. The Ad Hoc Expert Group meeting had identified current practices and problems and sharpened the focus on this important aspect of Community Building.

69. Mr Grobler commended the ECA/SADC cooperation and noted that the outcome achieved by the ECA/MULPOC report would not have been greater if SADC had used a consultant. On behalf of the SADC Mining Sector, he thanked the ECA/MULPOC for organising the meeting and the participants and rapporteurs for a splendid job. He also announced the biennial UNECA Energy and Minerals Conference which would be held in Durban, South Africa from 7-12 November, 1997 and which would be sponsored by the Department of Minerals and Energy and the Council for Geoscience.

Closure of the Meeting (Agenda Item (x))

70. In his closing remarks, Mr S.A. Ochola of the ECA/MULPOC disclosed that the last three days had been edifying and that the high level of seriousness shown by the participants had contributed to a number of practical recommendations which would be useful to the proposed SADC Protocol. If implemented, the recommendations would ensure self-sufficiency of skilled manpower in the region in addition to giving it a competitive advantage.

71. Mr Ochola stressed the willingness of ECA to continue to work with the existing institutions in the subregion and thanked Dr Grobler for his kind words about the MULPOC's work and partnership with SADC. He ended by drawing attention to the spirit of collaboration which had been engendered and hoped that this would be kept alive through a continuous exchange of information. He thanked all participants for the positive contributions and wished them Bon Voyage.

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ECA/MULPOC/LUS/ICE/IV/13 (b)

ANNEX I

Page 8

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**STATEMENTS MADE AT THE MEETING**

**STATEMENT BY THE REPRESENTATIVE OF THE CHAMBER OF MINES OF ZIMBABWE, MR. B.W. MATABELA, AT THE OPENING OF THE AD-HOC EXPERT GROUP MEETING ON SKILL DEFICIENCIES IN THE MINERAL SECTOR OF EASTERN AND SOUTHERN AFRICA HELD IN HARARE, 2-6 SEPTEMBER 1996**

Mr. Chairman and Gentlemen,

On behalf of the Permanent Secretary in the Ministry of Mines and the Chief Executive of the Chamber of Mines of Zimbabwe I welcome you all to this important meeting which has been convened by the United Nations Economic Commission for Africa for the purpose of examining the question of skill deficiencies in the Mineral Sector of Eastern and Southern Africa. To those participants from beyond our borders I would like to extend a special welcome to Zimbabwe and to wish you a happy and memorable stay in our country.

The importance of the theme of your deliberations cannot be over-emphasised. It is a well known fact that the economies of South Africa and Zimbabwe in particular as well as those of other countries in our region, originated from mining. In Zimbabwe other sectors of the economy such as farming, manufacturing, rail and road networks as well as banking services arose out of the need to service the mining community that had been established following the signing of the Rudd Concession in 1888.

Today mining is a major economic activity in our region which is endowed with vast mineral deposits that have barely been tapped. The industry earns a significant portion of the much needed foreign exchange and contributes significantly to the GDPs of our countries. It provides employment for approximately 5% of the total population of wage earners in our economies. Mining has therefore, an important role in the economies of our nations.

The fact that we are talking about skills deficiencies 100 years after the establishment of such an important industry in our region, to me, suggests that our planning in this field has not hitherto been well co-ordinated, if at all. I believe this is why you are here today - to exchange ideas on how to overcome these deficiencies, this skills 'drought' in an industry which is not ordinarily affected by weather patterns.

Before concluding my brief remarks, I would like to thank UNECA for choosing Zimbabwe to be the venue for this important workshop. I would also like to express my grateful thanks to the following organizations for supporting this meeting in cash and kind.

Boart Longyear (Zimbabwe)  
Chemplex Corporation  
Kinross Holdings  
and Members of the Chamber of Mines

Gentlemen, thank you for according me this opportunity to speak to you. I wish you success in your deliberations.

I thank you.



STATEMENT BY MR. SAMUEL A. OCHOLA ACTING DIRECTOR OF THE  
LUSAKA ECA/MULPOC AT THE OPENING OF THE ECA/SADC AD-HOC EXPERT  
GROUP MEETING ON SKILL DEFICIENCIES IN THE MINING INDUSTRIES  
OF EASTERN AND SOUTHERN AFRICA ON TUESDAY  
3 SEPTEMBER, 1996, HARARE, ZIMBABWE

Mr. Chairman

Mr. Winston Matabela

Distinguished Participants

I wish on behalf of the ECA Executive Secretary, to add my own words of welcome to you all to this important Ad-Hoc Expert Group Meeting on Skill Deficiencies in the mining industries of the eastern and southern African subregion. Let me at the outset express our deepest appreciation to the Government of Zimbabwe, for not only kindly accepting to host the meeting, but also for the cordial and warm welcome which have been extended to all of us since our arrival. We are proud to be here because of the high reputation which this country enjoys as one of the key mining countries in the subregion. I am sure you will also join me in thanking both the Chamber of Mines and the Ministry of Mines for the excellent arrangements they have made to ensure the success of this meeting. I am certain that a lot of hard work had been put in the preparation of the meeting.

May I also take this opportunity to sincerely thank the SADC Mining sector, the Co-organizers of this meeting. It is a collaboration which we have enjoyed and would wish to be continued. We at ECA have embarked on a renewal process, in which, we hope to deepen our working relationship with all the existing developmental institutions in the subregion. I hope therefore, that this meeting marks the beginning of intensifying these relationships in which we will explore together the possibilities of exploiting our complementarities for the benefit of the member States that we both serve.

Mr. chairman

Distinguished participants

We are meeting at an exciting time in the history of the mining sector in the subregion, and in Africa as a whole. Exciting because a number of momentous changes have been taking place which directly impact on the present and future of the mining industry.

We have always known that the subregion is a world-class storehouse for numerous mineral deposits indeed - a mineral El-Dorado - many of which have been under-explored due to a dearth of risk-capital. I am sure you have heard the statistics that Africa, with a land mass of 21% was attracting less than 5% of global exploration expenditure in the 1980s. I am sure that you are also aware that the participation of State-owned and operated mining companies has in most cases been dissuasive to the growth of the industry due to the re-distribution of rent on non-core business activities which has led to a starvation of re-investment finance and a declining mine output. Thirdly, I am sure you are aware that where mining in the subregion has been underpinned by private sector participation, mine output has remained buoyant and exploration expenditure through risk capital actually increased.

There has been renewed thinking about the role of state participation in mining operations. In virtually all countries in the subregion, we have witnessed major reforms in the legislative and fiscal regimes to make them attractive to private sector participation in exploration and mining activities. The separation of production from undue state intervention has in a short space of two years increased private exploration expenditure in Africa, excluding South Africa, from less than US\$100 million in 1993 to about US\$300 million in 1995.

The second momentous change has been the re-admission of South Africa into the subregional and global business arena. Everyone is aware that South Africa is a super power in mining terms and has a number of mining corporations which are major global investors. These companies have ventured further north in the subregion with the promise of adding synergy to local and the other international mining houses which have increasingly migrated into the subregion.

Mr Chairman  
Distinguished Participants

How can we as a region maximise the benefit of our ride on this crest of positive changes? The truth is that we can not unless we have access to globally competitive skills and competencies which would make us efficient and low-cost producers of mineral commodities. The survey which we have undertaken at the Lusaka-based ECA/MULOC, and which will form the basis of your discussions, has revealed glaring structural weaknesses in the availability and delivery of mining skills and competencies. Some of the major ones include the following:

- All countries in the subregion have numerical deficiencies in mining skills of various intensities.
- The skill and competency base in a number of our member States is weak.
- The facilities for developing competitive skills and competencies are not just numerically limited but mostly weakened by lack of funding capacities.

There is, however, a silver lining to these constraints. Some of the positive findings of the survey have been that:

- The capacity of the human resources development facilities is sufficient to meet our needs as a subregion.
- There are sufficient role models in our midst to act as focal points for spreading best practices and improve the available stock of skills and competencies. This is facilitated by the fact that the major mining corporations in all our countries have increasingly moved towards convergence.
- The will to learn from each other and share our experiences and facilities is there. It is this paradox of a half full and a half empty glass, that this august assembly is being called upon to unlock the parody and work out modalities to redress the anomaly. It is therefore my understanding that the major task of this meeting is to find out how to turn these weaknesses into strengths within the context of our collective capacity.

I dare suggest that perhaps, the principle of networking should be considered as one of the main features of our solutions.

This will involve an assessment of how we can all become effective partners of a network. It will also involve harmonization of our understanding and perceptions of skills and competencies and how they can not only form a basis for defining the competitiveness of our skills but also for their liberal mobility within the subregion.

Mr Chairman

Distinguished Participants

The task before you is an onerous one. But I am persuaded that the rich blend of intellectual resources within this meeting will measure up to the task. I will therefore not waste any more of your precious resource - time. It would however be remiss on my part if I do not record our deep gratitude to the private mining sector in Zimbabwe for their crucial role in organizing this meeting. We are indeed very grateful to them.

I thank you.

**VOTE OF THANKS BY DR. N. GROBLER, DIRECTOR INTERNATIONAL  
COORDINATION, DEPARTMENT OF MINERAL AND ENERGY OF SOUTH AFRICA**

Mr. Chairman, Lady and Gentlemen,

As the oldest member of the SADC Mining Sector, allow me to inform you about some aspects of SADC some of which the meeting seems to have been unaware of.

There is a long-term commitment in SADC to convert to SAEC, the southern African Economic Community. At the SADC Summit meeting held in Maseru towards the end of August 1996, the SADC Trade Protocol was signed. This is the first step towards an economic block; a free trade zone. However, this dream will take about 10 years to come to fruition, if not longer.

An economic block or full trade zone also implies cooperation in other fields, notably free movement of persons across boundaries, or more appropriately, freedom of persons to sell their skills across national borders; in short cross-border mobility.

In order to attain this goal, there has to be uniform standards of training and certification so that skills are accepted regionally. It therefore makes sense for the region to share its training facilities, just as there will be sharing of electrical energy through the Southern African Power Pool.

The tendency towards localisation of training and employment opportunities is therefore a backward step contrary to the goals of SADC.

The ECA/MULPOC's study on skills deficiencies in the eastern and southern African States was one of those broad-based projects which came at a very opportune time for the SADC Human Resources Development sub-Committee of the Mining Sector. It supplies the basic information needed to make informed decisions on training in the SADC region. The meeting of experts which discussed the ECA report also threw light on current practices and problems in individual SADC member States, and served to further focus attention on this very important aspect of community building.

The ECA/SADC cooperation is much appreciated. If SADC had engaged a consultant to gather this important information for its project AAA.6.2, it would not have had a better result than that developed by the ECA/MULPOC. My only regret is the non-cooperation of South Africa's Mining Houses to supply the required information for this important study.

May I at this occasion to announce that the biennial Minerals and Energy conference of UNECA will take place in Durban on 7-12 November 1997 and will be jointly sponsored by the South African Department of Minerals and Energy and Council for Geoscience.

In conclusion, Mr. Chairman, may I express the appreciation of the SADC Mining Sector to the ECA/MULPOC for having organised this meeting and for all of those who have attended the meeting and have made valuable contributions. Sincere thanks and appreciation are also due to the rapporteurs for doing a splendid job.

**CLOSING STATEMENT BY MR. S.A. OCHOLA, ACTING DIRECTOR OF THE  
UNECA/MULPOC TO THE AD-HOC EXPERT GROUP MEETING ON SKILL  
DEFICIENCIES IN MINERAL SECTOR OF EASTERN AND SOUTHERN AFRICA,  
3-6 SEPTEMBER, 1996**

Mr. Chairman,  
Lady and Gentlemen,

The last three days have been very edifying indeed. The level of discussions has been extremely high and the seriousness with which you have approached the issue of skill deficiencies in the mining industries has borne testimony to the importance you attach to finding a solution to this problem which constitute a real bottleneck in the development of the mining sector.

As I stated in my opening remarks, the blend of intellectual resources that has been available at this meeting, has enabled us to come up with a number of practical recommendations which I believe will contribute positively to the SADC countries, especially with respect to the SADC Protocol on Mining.

Some of the recommendations that have emanated from this meeting, if implemented, should go a long way in making the region collectively self-sufficient in the required mining skills, besides making the region more competitive vis-a-vis other regions.

Equally important, is the spirit of collaboration and partnership which has been generated as a result of having worked together during the last few days. I hope you will keep the spirit alive through continuous exchange of information.

At the ECA level, we shall continue to work with the existing institutions in the subregion, and to make our modest contribution to the on-going development debate. We are indeed grateful to Dr. Grobler for his kind words about our work and partnership with SADC.

We leave Harare much more informed than when we came - having strengthened our invisible bonds of friendship.

It is my pleasure to thank you all for your active participation and positive contribution.

Bon Voyage.

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