



UNITED NATIONS
ECONOMIC AND SOCIAL COUNCIL



45970

Distr.
LIMITED
E/CN.14/ACTT/4
16 September 1977
Original: ENGLISH

ECONOMIC COMMISSION FOR AFRICA
Intergovernmental Meeting of African Experts
on Aspects of Technology Development in Africa
Arusha, Tanzania, 3 - 8 October 1977

PREPARATIONS FOR THE UNITED NATIONS CONFERENCE
ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON SCIENCE
AND TECHNOLOGY FOR DEVELOPMENT (AGENDA ITEM 5a AND b)

Introduction

1. The decision to convene a United Nations Conference on Science and Technology for Development in 1979 was taken by the General Assembly, at its seventh special session, in its resolution 3362 (S-VII) of 16 September 1975. It was based on discussions in the Advisory Committee for the Application of Science and Technology to Development, the Committee on Science and Technology for Development and the Economic and Social Council.
2. At the end of the First United Nations Development Decade, the General Assembly adopted resolution 2658 (XXV) of 7 December 1970 in which it requested the Secretary-General to evaluate the main implications of modern science and technology, particularly for development, and to appraise the results achieved by the United Nations system in promoting science and technology and their application to development from 1963 to the present. In the report (E/5238 and Add.1 and Add.1/Corr.1) submitted in response to this request, the Secretary-General expressed the view that, although the 1963 Conference had created an awareness of the importance of science and technology in the process of development, this had not been followed by the expected action; and he recommended that the Committee on Science and Technology for Development should give serious thought to the question of generating the necessary political will and action and should consider the merits of an international conference to focus on policies and practical courses of action at the national and international levels (see E/5238, para. 22).
3. Subsequently, in resolution 1897 (LVII) of 1 August 1974, the Economic and Social Council emphasized the necessity for a conference and recognized that the new needs in the field of science and technology made it imperative for the United Nations to expand international co-operation on the basis of principles designed to adjust the scientific and technological relationships among States in a manner compatible with the special requirements and interests of developing countries.
4. An Intergovernmental Working Group of the Committee on Science and Technology for Development was convened by the Economic and Social Council in 1975 to examine the specific objectives, topics and agenda for a United Nations Conference, based on the recommendations of the Advisory Committee on the Application of Science and Technology to Development; the Intergovernmental Group on Transfer of Technology of the United Nations Conference on Trade and Development; the regional commissions and other United Nations bodies.

5. At its third session in 1976, the Committee on Science and Technology for Development approved a draft resolution which was subsequently adopted by the Economic and Social Council as resolution 2028 (LVI) of 4 August 1976. This was later endorsed by the General Assembly in resolution 31/184 of 21 December 1976.
6. The resolution established a link between the Conference and the new international economic order (NIEO). In the resolutions on the new international economic order adopted by the General Assembly at its sixth special session (resolution 3201 (S-VI) and 3202 (S-VI)), it was recommended that science and technology should be called upon to play a more direct and important role in the process of stimulating development and reducing international inequalities as well as inequalities within regions and within countries. The new international economic order is concerned, inter alia, with policies that may enable the developing countries, in co-operation with the developed countries, to redress the imbalance of economic power and provide a new basis for achieving higher living standards through both domestic effort and international solidarity. The role of science and technology in this process is a vital one.

Objectives of the Conference and preparation of national papers

7. The Working Group recommended that the Conference should:
- (a) Adopt concrete decisions on ways and means of applying science and technology in establishing a new international economic order as a strategy aimed at economic and social development within a time frame;
 - (b) Strengthen the technological capacity of developing countries to enable them to apply science and technology to their own development;
 - (c) Adopt effective means for utilization of the scientific and technological potentials in the solutions of problems of development of national, regional and global significance, especially for the benefit of developing countries;
 - (d) Provide instruments of co-operation to developing countries in the utilization of science and technology for solving socio-economic problems that cannot be solved by an individual section in accordance with national priorities.

8. The Preparatory Committee for the United Nations Conference on Science and Technology for Development has requested each State to prepare a single national paper which will include the identifications of goals, policies, priorities and recommendations dealing with the application of science and technology to development at the national, regional and global levels in accordance with the agenda of the Conference given below. The national papers should be completed and submitted to the Conference secretariat by 1 May 1978.

Agenda for the Conference

9. The following draft agenda was suggested by the Economic and Social Council in resolution 2028 (LXI).

1. Science and technology for development;
2. Institutional arrangements and new forms of international co-operation in the application of science and technology;
3. Utilisation of the existing United Nations system and other international organizations;
4. Science and technology and the future.

10. A limited number of subject areas would be selected with the objective that they would:-

- (a) be few and not exceed five;
- (b) be defined as (CRITICAL)* problem areas with economic and social implications that may be solved by utilizing science and technology;
- (c) require an integrated and inter-agency interdisciplinary approach;
- (d) have clear relevance to problems of development in "MANY"* countries, especially developing countries and emerge from national priorities through regional consensus;
- (e) be clearly delineated and limited in scope.

PREPARATORY PERIOD

11. The preparatory period for the Conference should form a component of the Conference itself, through national and regional analyses of problems which may be solved with the help of science and technology. This period was to be divided into three stages:-

* ECA's amendment

- A. Preparations at the national level - 1977 - 1978
- B. Activities at the regional level - 1977 - 1978
- C. Interregional meetings. Dates not decided.

Preparations at the national level

12. The preparatory process should involve each country in an analysis of its own experience, goals and priorities in applying science and technology to the process of economic and social development. The Secretary-General assumes that this phase would not involve any costs to the United Nations^{1/}. Results from the national level would be brought to the Regional Conference. If the need arises at the national level for the preparatory process, funds would be made available upon request for ad hoc appointments of consultants on a "first come first served" basis, or for advisers for the developing regions to assist individual countries in organizing and preparing their reviews.

Activities at the regional level

13. The second stage of the preparatory process would consist of regional meetings. All African member countries will be visited by advisers who would assist their governments to prepare national programmes for discussion at the regional meeting. The African Regional Meeting is expected to be held in 1978 for five days.^{2/}

Interregional meetings

14. It is hoped that several interregional meetings will be held during 1978. Each region is expected to submit regional papers to the Preparatory Committee.

^{1/} ECA feels that the national-level is most important and the work should consist mainly of real technology projects of an experimental and pilot-stage type. Consequently at least one third of the funding should support these activities, rather than office work.

^{2/} ECA feels that the Regional Meeting should not only discuss the Conference, but also take concrete action to stimulate the co-operative application of science and technology to problems in Africa.

PROPOSALS BY ECA

Suggested objectives for Africa

15. During the preparatory period, 1977-1979, the ECA intends to guide and assist African States to prepare and participate in the Conference. In Africa, close attention must be paid to ways and means to engineer a technological revolution without which industrial and agricultural revolutions cannot take root. Somehow, the divergent life-paths of a predominantly rural population must be dynamically galvanized to point in a single production-oriented direction that will result in just and prosperous societies. It is recognized that the power to bring about this transformation is contained in science and technology. The ways to this goal must be forged by African legislators, technologists, administrators and industrialists and economists.

16. It is realized that it will be necessary to restructure general education to bring technology into the minds of people before it can be brought into their homes. A vast array of human skills - from ore-welders to entrepreneurs, in a wide array of industries - must be acquired by the people. The natural resources of the earth must be converted to materials which provide service for mankind using the energy which emanates from the sun. Although it is painfully clear what should and must be done, the question of how it is to be done still has to be answered. This certainly is one of the principal goals of the Conference for Africa.

THE AFRICAN SITUATION

Background and introduction

17. The African region is recognized as one of the least developed areas of the world and yet Africa's wealth of natural resources has received worldwide recognition. Notwithstanding the deliberate efforts to achieve rapid transformation of the African economies and improve living standards over the past three decades, the income and technology gaps between the developed countries and African countries have not narrowed but rather widened. The realization is that the existing economic order and international relations in which Africa finds itself as a primary supplier of raw materials and as a consumer of manufactured goods and imported technology makes socio-economic transformation processes a

rather difficult task because of Africa's basic weak position and lack of capabilities. African countries would therefore see in the Conference on Science and Technology for Development one of the major means for bringing about the NIEO which for Africa should mean changing from a weak dependent position to an economically and technologically self-reliant one.

18. The question therefore for these countries is to find out how to utilize individually and collectively the development potentials of science and technology to create self-reliant and self-sustaining economies; economies which will ensure a transformation of the life-styles of the common African especially those living in the rural areas; these countries must also inquire how to reduce the gap between the rich who are getting richer in highly productive economies and the poor, who are getting poorer in Africa with her economies of low productivity.

19. In search of indigenous capabilities it is not so much the limitation of financial resources but rather of capabilities derived from knowledge, technical and managerial know-how, ownership of patents and control and invention and the capability to comprehend, negotiate, transfer, adapt, apply and develop modern technologies that are at the root of Africa's economic and technological backwardness. To live up to the challenges of the NIEO and take full advantage of its opportunities, including the opportunity to demonstrate self-reliance and exercise control over the region's natural resources, Africa must first acquire and develop the basic capabilities needed for participation in the New International Economic Order.

20. At this conference, African countries should exchange information and ideas with other third world countries with a view to learning from each other's successes and failures; to studying future plans and efforts directed at enhancing their capacity to use industrial technology effectively; to discussing with examples, the problems of the impact of transfer of technology on the development of local scientific and technological capability, the cost of transfer, the appropriateness of the technology transferred, policies formulated to obviate adverse effects, etc.; to examining the technology links, e.g. ECOWAS, MANO RIVER UNION, OMBUS, UDEAC, etc.; and to examining and suggesting significant inputs from the United Nations system to help redress the current economic trend.

21. For the United Nations Conference on Science and Technology for Development (UNCSTED) to effectively address itself to these issues, the African national papers should focus on all the above mentioned areas and more. They should contain, for example, national inventories of policies, institutions and programmes aimed at integrating science and technology with socio-economic factors so as to meet not only development needs but also to strengthen self reliance.

Strategy

22. This section of the document therefore offers guidelines as to what subject areas African Governments can report on in their attempts to redress the current situation and, at the same time, makes proposals as to the courses of action necessary to effectively utilise science and technology in the achievement and maintenance of high standards of living. It is proposed that for African countries to develop adequate technological capacity, their governments must consciously make provision for continuing comprehensive scientific studies and documentations of existing conditions. From this, priority areas for development would be identified in progressive national plans, and policy instruments created at the national, regional and international levels to seek solutions. The following critical areas in which organized effort must be applied to obtain growth are suggested for consideration; and they demand immediate attention if success is to crown Africa's development efforts.

Critical areas for the application of technology

23. The application of technology is essential in all fields of social and economic development. However, it is evident that at this stage of development of the African continent the need is felt more sharply in some fields than in others. In fact the development of some activities may have to rely wholly or partly on the previous establishment of other activities. For this reason ECA proposes to single out for stepped-up action the acquisition of technology (through transfer, adaptation and development) relevant to the following areas, because of their special value as stepping stones or engines for future development. It should be noted that the selected technologies may play their role of engines for future development only if ultimately they are the most energy saving types and as far as possible, based on the use of non-conventional renewable energies such as geothermal, hydro, solar, wind and bio-gas.

Agriculture and food

24. The agricultural field (of which food and food-processing is only a sub-field) is essential as a basis for the development of other sectors. The agricultural sector is responsible for the production of inputs to many other sectors while at the same time relying on inputs from the other sectors.

Because of this the needs for technology are large and varied. The acquisition of technology should concentrate on three items. First on the input side we may list fertilisers, seeds, etc., second on the production side technology in the following fields is urgently needed: land-use, irrigation, farm implements, reforestation techniques, etc. On the output side the need is felt for technology for preservation, stockpiling, transportation and processing in general. Furthermore there are technologies related to servicing the agricultural sector, such as the establishment of co-operatives of different kinds, agricultural extension, non-formal education, finance etc.

Natural resources

25. Africa is particularly well-endowed with natural resources of many kinds, but in many instances the continent lacks the necessary technological capabilities to harness its rivers, to extract solar energy, to store water so as to bridge the long dry seasons, to prospect for, mine and process its mineral deposits and to conserve, develop and utilize the resources of the sea. The major problem related to developing natural resources is usually that of the gigantic financial investment involved. The urgent need is therefore felt to develop technologically sound and economically feasible methods to obtain full use and benefits for the continent's wealth in natural resources. In particular, special attention must be devoted to the development of integrated industrial plants where the waste energy or effluent of one part provides useful energy or basic material input in the other part of the plant.

Construction

26. The construction sector in Africa offers wide scope for rapid technological innovation so as to make use of available local building materials to construct housing units which of necessity respond to other requirements than are usual in the developed world. The same is true to a lesser extent for the non-housing branches of the construction industry, such as road construction and industrial plant erection. Especially the latter activity has not received much attention,

and there is a need to thoroughly study the construction of industrial plant in the light of available construction materials as well as of the distinct climatic conditions under which these units are meant to operate.

Transport and communications

27. The African continent is, except for some relatively small areas, sparsely populated. It follows that the building up of a transportation and communications network is a long, expensive and difficult process. Almost all technology in this field has been and is being generated in the developed world and under the current state of affairs the best African countries can achieve is to select transportation and communication facilities after careful evaluation of their needs for and appropriateness of the technology offered. Gradually this position of user-buyer will have to be transfocused into one of user-buyer adaptor to end into one of user-inventor-seller. How this can come about is perhaps open to debate; but one way is to start establishing engineering workshops and manufacturing units which over time will produce more and more components and parts until the technological capacities built up in this way will allow the design and production of complete (and perhaps entirely new) products.

Health and Environment

28. The technology related to the health sector has to be adapted in many instances to specific African problems. The health technology per se is relatively well known in the African urban environment and the main effort will probably have to be concentrated on improved hygiene, potable water, improved housing, well balanced nutrition, the collection of traditional knowledge relating to medicinal plants, the study of weaning habits and the development of suitable weaning diets, the study of endemic diseases, etc. Again the necessary technology is already available in most urban centres, but it has to be adapted to some of the specific needs and conditions in the rural areas.

29. The African environment is still relatively free of industrial society's pollution. This, unfortunately, is due to the low level of industrial activity rather than to any conscious effort on the part of policy makers. In fact, a policy with respect to pollution of the natural environment is almost non-existent. There is no reason why the African continent should make the same historical and almost irreversible mistakes of the developed countries by allowing its industries to grow without despoiling the environment. Africa has the unique chance of industrialising into a society with a clean and healthy environment for its

population with the exception of the pressing problem of uncontrolled deforestation. An appropriate policy has to be worked out which allows for the absorption of existing and creation of new anti-pollution technology. This may only be achieved at a price, but it is bound to be a very cost-efficient policy in the long run.

Proposed policies and strategies at the national and regional level

30. It is fairly evident that if sufficiently motivated and informed, the African governments could act individually and collectively at the national, regional and global levels to plan and implement programmes in the key areas of scientific and technological development discussed above. They should evolve national development policies that regard science and technology as the sinews of development strategy pervading all aspects of production process and supporting services.

31. The task is really gigantic and suggests a restructuring of the old economic order to accommodate AFRICAN ECONOMIC CO-OPERATION which is a must for the achievement of national socio-economic goals. A possible means for the accomplishment of these goals in many African countries is the appointment of a science and technology-planning board in an advisory capacity to the ministries responsible for Development Planning and formulation of Fiscal Policies to meet this need. The composition of such a board should encompass a broad spectrum of experienced engineers, economists, scientists, industrial managers, scientific and technological educators devoted to the goal of appropriate utilization of science and technology for socio-economic development. This board may make policy proposals in the following areas:

(a) Education and manpower development

The development into an industrial society cannot be achieved unless the population is properly educated. With respect to creating a technology-oriented and receptive population, some course-corrections in the educational field are in order; curricula and teaching methods of educational institutions must accommodate innovative thinking and action; they must also include a proper socio-economic technological mix.

Generally speaking there is still a lack of competent people at all skill levels but the lack is especially great (and perhaps growing) at the middle level. This situation is aggravated by the fact that the few technically educated personnel function mainly as administrators for most of their lives. There is need for carefully formulated policies and development of effective mechanisms (such as, incentives to ensure that technically trained personnel are employed within their field of competence rather than as administrators and should be discouraged from being diverted into administration). To correct these undesirable situations policies are needed; for the development of realistic for technical and vocational education; for the strengthening of existing training institutions and for greater emphasis on science and technology oriented subjects at the primary and secondary levels of education in order to stimulate and nurture interest in these fields. The need for strong technical and engineering training institutions at the tertiary level cannot be over-stressed.

Also there is much scope for more technology-oriented non-formal education and training, especially in the agricultural and industrial sectors. This may be brought about by intensifying the flow of information to the rural areas on such topics as seed-selection, land-use, development, utilization and maintenance of simple implements, breeding techniques, marketing systems, financial and other co-operative activities, etc. For the industrial sector there clearly is scope for on-the-job training, after-hours technical education, etc.; technological-institution industry co-operation is also essential since such co-operation would highlight the importance of acquiring development-oriented skills which require not only academic competence in a classroom environment but also practical experience in a real industrial situation.

(b) Transfer, adaption and development of technology

This is a field well suited to regional co-operation and action to solve the existing problems, such as:

- the definition of transfer as it relates to the development of self-direction and self sustainment;

- the meaning of technological dependence;
- the character and distribution of transferees and how they affect transfer, adaptation and development of technology;
- exorbitant costs of the transfer;
- limitations on the kind of technology available for transfer and restrictions on its uses (e.g. non-negotiable conformity of process and final product);
- unsuitability of the technology available for transfer (e.g. incompatibility with the low K/L ratio in developing countries, minimum feasible capacity limitations, poor relatedness to existing pool of technology and education, unsuitability of required inputs, non-priority final products);
- general dependence of developing countries on imported technology combined with a lack of and sometimes uneasiness with locally generated technology.

The following short list may be considered as a set of urgently needed policy measures. Most cannot be meaningful unless they are taken at the regional level or, in any case, by a substantial group of countries.

- legislation on foreign investment, including a generally accepted code of conduct;
- legislation on licences and patents;
- development of a set of criteria for project evaluation with respect to its technological impact, and the eventual selection of a suitable technology for this purpose;
- a uniform strategy for negotiating contracts with substantial technology contents;
- establishment of national and international institutions stimulating the transfer of technology while at the same time protecting the recipient and enhancing adaptation (if not the local generation) of technology;

- emphasis on appropriate and intermediate technology, specifically a systematic and sustained effort.

(c) Institution building

For the institutions suggested below it is almost invariably true that their establishment and proper functioning at the national level will have to be backed up by the creation of institutions at an international (perhaps even regional) level to supplement, support and assist the national institution.

- in the field of the transfer, adaptation and local development of technology, national institutions geared toward the selection, reception, standardization and co-ordination of such technologies will have to be established. ECA is already involved in the establishment of the African Regional Centre for the Transfer, Adaptation and Development of Technology;
- documentation and dissemination of technological information to various levels of users are essential to successful technological development and African countries will have to establish national centres for this purpose. Their scope may initially be limited to a few crucial sectors in which case a liberal exchange of information between countries needs to be allowed. ECA has taken the initial steps for the establishment of AFDIN, which will eventually develop into a fully computerised, easily accessible and comprehensive information system;
- in the field of research and development the African continent is in need of institutes, facilities and manpower. These institutes will usually be linked to institutions of higher learning or in some cases will be established as government controlled units linked to a specific sector, regional co-operation and exchange of findings will be essential;
- the strengthening of development banks and the creation of new institutions which can contribute effectively to the financing of development-projects, e.g. the financing of small scale solar, wind and bio-gas plants;

- the encouragement of local consultancy services and the establishment of other service organisations with provision for standardisation and quality control measures in the production of goods and services.

Some possible activities during the preparatory period

32. The preparatory period should be used to focus government and public attention on the goals and potentialities of science and technology.
33. At the local or national level, seminars and idea-exchanging discussions can be held in as many segments of society as time and funds permit - in schools, factories, experimental farms, offices of the planners, radio stations, and universities.
34. The thinking and aspirations of the people towards their own technological development will be compiled and compared with both needs and plans for such development and assistance given to guide the resulting Conference concepts into realistic moulds. Surveys will be stimulated. Stock-taking will be added. Results will be reported.
35. The theme of how to use technology will be emphasized in activities undertaken in co-operation with the public information media-radio, TV and the press - in order that the full publicity value of the world Conference is obtained. ECA will co-ordinate the exchange of news articles, interviews, TV presentations, features, etc., when such material can be duplicated or recorded and used by other media in the region. Special programmes, such as exhibits, round-table discussions, etc., will be encouraged.
36. Intraregional co-operation in technology will be an important aspect of the conference topics and get-togethers will have to be arranged by ECA. Such co-operation is especially important in Africa because national boundaries exist on the basis of certain historical considerations rather than according to the distribution of exploitable natural resources which must become the targets of future technology. Further, States with a small population can effectively increase their production and marketing areas by co-operation.

Mass-media programmes

37. Preceding each national and regional gatherings, journalists may be invited to attend full-day meetings in order to acquaint them with the goals and programme of the world Conference in particular and the methods and potentials of science and technology in general. Considerable hand-out materials for use in the preparation of news material can be provided.

Rebroadcasts

38. Follow-up arrangements would be made to use especially attractive news programmes in other countries which may want to rebroadcast or reprint them.

Interviews

39. Live interviews and seminars by persons of national stature should be arranged to discuss and publicize the needs, problems, methods and potential of technology. About 12 such are envisaged. Several special TV tapes of 12 minutes each could be prepared to illustrate attractive important aspects of technology.

Interregional technology

40. In Africa, despite diverse language and geography, there are many common problems and needs of technology which cross national borders and should be attacked on a joint intraregional basis. Some of these involve the exploitation of natural resources and others concern the acquisition of skills for basic industry and mechanized agriculture by large segments of the population.

41. It is the conviction of ECA that the planning and execution of projects which enable Africans to acquire technological skills must be a major part of the effort to use science and technology for development. Therefore, in order to examine these as yet unevaluated needs for the purposes of the world Conference, exploratory work must be initiated in the critical areas.

42. In these areas, some of which have already been mentioned, Conferences should be held, but also some associated planning and follow-up action must be contemplated, because the learning and understanding of appropriate methods to stimulate and guide acquisition of skills is a significant part of the whole technological problems. Discussion alone is insufficient, at least in Africa. Action is imperative.

43. The Conference will emphasise sharing of ideas, plans, experiences and planning of follow-up activity. Innovative features of educational methods, new institutions, and successful projects that harness technology should be highlighted and brought to the attention of the world Conference. The most important fields of effort are those which are catalytic to the further spread of technology and involve most of the people.

44. Some suggestions for preparatory work in these basic fields include:

a. Methods to communicate technology to rural people

How is agricultural technology to be brought to subsistence farmers who can not risk a single crop failure? How are the technology elements (machines, fertilizers, roads, and markets) to be created inspite of language, geographical and literacy barriers?

It is probable that information must be gathered first. The needs and problems of rural people must be surveyed by direct exchange between planners and farmers and by using the work and experience of others.

b. Education training for manpower development

How is a colonial, book-oriented educational system to be supplanted by one which also teaches technologies related to the neighbourhood and daily life of the student: some African schools have accomplished this already and their results and experiences should be shared. Additional progress can be made in experimental schools established for this purpose and the question of location (rural or urban) of such schools is of paramount importance here.

c. Self-help road building

The two edifices upon which a nation's technological revolution is built are urban industry and rural mechanized agriculture. Roads are the arteries which make possible the exchanges of goods between the two, and without them technology development is hampered. How can the technology of roads be brought to and understood by the rural people? How can they be mobilized to supply, through self-help, this vital element of technology?

Perhaps a combined effort could be effective with villages building their own roads with government assistance for survey. A pilot project is needed to see if this can work and find the best ways of undertaking it.

d. Rural mining and mineral industries

It is a paradox that, although mineral processing technology is developed in the cities, the sources of raw materials are inevitably rural. In order to develop the mining and metallurgical industries of Africa, means must be found to surmount the urban-rural barriers. How can the aid of rural populations be enlisted to prospect and exploit mineral resources? Can the technologies of mining, smelting and cement-making be nurtured within the rural environment? What are the economics?

e. Communication industries

Telecommunication is an essential element of the modern technological community, yet much of telephone technology is as old as Alexander Graham Bell. In view of the importance, technological simplicity, need for standardization, and high labour-value added, it is imperative that Africa plan the immediate development of regional telecommunication industries.

No feasibility study is needed to conclude that a telecommunication industry is an imperative for Africa's development in the modern world. It is one of the least capital-intensive of proven technologies, easy to begin and highly stimulative of industrial development. A planning and African-standardization conference should be held first, followed by engineering studies of component manufacturing.

f. The study of traditional technologies

In this area efforts could be mounted to rediscover ways of producing metals using local ores and to communicate the experience of countries at the Conference.