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UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA

Mission Report

**Advisory Mission to the Tanzania Commission for
Science and Technology
1 - 6 October 1991**

**Science and Technology Section
Natural Resources Division**

Advisory Mission to the Tanzania Commission
for Science and Technology

Introduction

In collaboration with the Canadian International Development Research Centre, the United Nations Economic Commission for Africa, through its Science and Technology Section, had carried out a study on the performance evaluation of selected national science and technology policy making institutions in Africa, with a view to bringing out their strengths and weaknesses, and making suggestions as to how they could be improved. The Tanzania Commission for Science and Technology was one of the selected institutions. The study was completed during 1989-1990, and the report with recommendations, sent to the participating countries.

As a follow-up of the study, it was necessary to find out what was being done at the level of the Tanzania Commission for Science and Technology. The Science and Technology Section of ECA wrote to the Commission which invited the secretariat to come to Tanzania and discuss with them the degree of implementation of the recommendations and to propose arrangements that would make the commission more effective in promoting the development and application of science and technology in Tanzania.

The Chief of the Science and Technology Section was delegated to undertake the mission, which took place between the 1-6 October 1991.

Composition of the Mission

Mr. S. Jugessur, Chief,
Science and Technology Section,
Natural Resources Division, ECA

Proceedings of the Mission

The mission reached Dar Es Salam on the first of October and met the Director General of the Commission, Prof. Msangi, and the directorate staff of the Commission on the second of October 1991. The list of people met is in Annex I to this report.

Background of the Commission

The mission was briefed about the present functions of the Tanzania Commission for Science and Technology established by the Tanzania Commission for Science and Technology Act, No. 7 of 1986, which replaced the Tanzania National Scientific Research Council Act, No. 14 of 1968. The Commission is to act as a parastatal that can co-ordinate and promote scientific research and technology development, and act as the chief advisor to the Government on all matters relating to technology policy, and on the development and application of science and technology in Tanzania.

MANDATE OF THE TANZANIA COMMISSION FOR SCIENCE AND TECHNOLOGY

The Tanzania Commission for Science and Technology is expected to:

- (i) to act as the principal advisory of government on all matters relating to scientific research and technology development;
- (ii) to formulate a national policy on the development of science and technology in the country;
- (iii) to monitor and co-ordinate all scientific research and technology development activities in the country;

- (iv) to acquire, store and disseminate scientific and technological information through conferences, symposia, workshops seminars etc. and through publications;
- (v) to advise government on priorities in scientific research allocation of research funds, regional and international cooperation in scientific research and technology development training and recruitment of scientific personnel, scientific education and establishment and maintenance of scientific standards;
- (vi) to popularize science and technology at all levels including the general public.

The Commission executes these functions through its Research and Development (R & D) Advisory Committees which are the main advisory organs of the Commission in so far as these functions are concerned.

These Advisory Committees are nine in number, namely: the Executive Committee, the Sectoral Research and Development Advisory Committees in the following sectors: Agriculture and Livestock, Natural Resources, Industry and Energy, Medicine and Public Health, Environment, Basic Sciences, Social Sciences, Research Clearance Committee and the Tanzania Award for Scientific and Technological Achievement Committee. These are represented in the organigram in Annex II.

The advice of these committees are translated into actions through four Directorates:

- (a) Directorate of Research Coordination and Promotion;
- (b) Directorate of Technology Development;

- (c) Directorate of Information and Documentation;
- (d) Directorate of Finance and Administration.

The directorates are staffed with qualified scientists and administrators.

Preliminary Findings

Before looking into the recommendations of the study sent to the Commission, a general discussion with the Director of Technology Development brought out the important fact that in Tanzania, the private sector is weak and most of the activities of the Commission have centred around public bodies funded by the government. There is very little contact with the private sector, and this has been possible only through training workshops.

The United Nations Centre for Science and Technology for Development based in New York, the Commission organized a training workshop on policy dialogue on building endogenous technology for small enterprises, in Tanzania on 24 October 1990. This workshop brought together policy makers researchers and representatives of the private sector who discussed the assessment and acquisition of technologies and the nature of support to small enterprises, including human and financial resource flows. As a follow-up of this workshop, another one was planned for the end of October 1991.

When questioned about the commercialization of research results, the mission was informed that this is a major problem in Tanzania. A national workshop on promotion of commercialization of proven designs/technologies in Tanzania, had been held from 26 to 28 February 1990, at the Arusha International Conference Centre, and it was organized by the Tanzania Engineering and Manufacturing Design Organization. This workshop stressed the need for R & D institutions, manufacturers, financial institutions, trading institutions and government ministries to work together to promote

the use of available R & D services and products. Market surveys on machinery and equipment that are in great demand and their manufacture in series by industry with the encouragement of the government through deliberate policies are necessary.

The Commission itself had commissioned a successful study on the quality of wine produced by a government owned wine company, and the findings had been discussed with the private sector with a view to improve production processes in collaboration with a firm in Harare. This project would give a boost to the grape growing industry in the country and improve the quality of life of the producers.

The Commission has been organizing Science and Technology fairs and exhibitions, including a computer fair in 1989, which increased the public awareness of science and technology. Every year the Commission gives an award to the best scientists and technologists for their achievements. This is done on the 30 June, the day of the Science Commissioner Day for Africa by the OAU, and the President of the country himself gives the award. Since 1982 when the scheme was started, fourteen people have been awarded prizes for their achievements.

The mission stressed the need for greater involvement of the private sector in the development and application of science and technology, as well as the consumer community. The latter were. Their representation should find a place in the advisory committees so that projects, all through the conceptual to the commercialization of results stages, will have the required impacts.

Follow-up on the Recommendations of the STPI Study

The mission then took up the recommendations made by the Science and Technology Policy Institutions Study, item by item, and analyzed the steps taken to implement them by the Commission, and

Goals and Functions

Concerning the issue of goals and functions, there is no problem in regard to the statutory powers of the Commission. Statutory goals can be realized in the near future, specially as the government has agreed to set up a Technology Transfer Centre.

The Commission was awaiting a UNIDO expert who was to stay in Dar Es Salam for a period of two years and get the centre off the ground. On the question of risk venture capital for local industrial enterprises, the government is establishing an Investment Promotion Centre that will deal with this.

As regard the Science and Technology plan, the mission was informed that the commission had a plan since 1988, and it is now being revised in the context of the Economic Recovery Programme which will incorporate the new ideas.

Inter-organizational relations can be improved with adequate representation on boards where the Commission is not represented presently.

The status of the scientific and technological workers is recognized for their initial salary is greater than that of people in other professions. However, they do not move as fast as administrators who catch up and get more at the higher level posts. There is a donors' fund for researchers and teachers, also a scale superscale allowance, and this enables the country to keep the best brains from leaving. However, the fund comes from NORAD, GTZ, and SDC, and there is no guarantee that this will last. Hence, there is a need for locally generated funds to be put at the disposal of the S & T community.

Organization

The Tanzania Commission for Science and Technology falls under the Ministry of Science, Technology and Higher Education. The Minister in charge of the portfolio has to compete with other ministers when it is time for allocation of budgets, and as a separate ministry for a field like science and technology which is intersectoral, there are major problems in the allocation of resources. The Commission now realizes the difficulties inherent in having a ministry, as is the case in other countries where separate ministries have been created for science and technology. The feeling is that the President or the Prime Minister of the country should be in charge of the portfolio for science and technology so that co-ordination and financing of science and technology can be made easier.

In the present set up, the Commission for Science and Technology has no representation on the Planning Commission, and there is need to rectify this lapse.

There are nine institutionalized committees that meet four times a year. Since the members are paid for their attendance, there is no problem of participation and continuity in the membership.

Composition

Concerning the recommendations in this section, the mission was informed that there is scope for improvement of the composition of the commission by adding to it representation from the private sector and the consumers through the consumer cooperatives.

There is no problem regarding transfers, delegation and sub-delegation, but the financing of S & T activities is a major problem, specially as the commission is headed by a separate

Linkages

Inter-sectoral linkages are made possible through annual seminars conducted by the Commission, and every two years there is a symposium. These also enable them to evaluate their performance.

Sectoral Science and Technology institutions in Tanzania are not accountable to one coordinating commission since the commission itself is headed by a parent ministry. It is now felt that coordination would be better if the President's or Prime Minister's office were in charge.

Science and technology generators and consumers like trade boards, manufacturers' associations, consumer organizations are presently not represented on the national commission, and this lapse needs to be remedied.

The Commission is presently strengthening its S & T information unit. A new publication entitled 'Tanzania S & T News' is coming out which will be tested out in some time.

Powers

The statutes empower the Commission with what is necessary and the power structure creates no conflict in roles. However, there is room for conferring more executive than administrative powers over the Commission in order to enable it to implement properly set policies.

Resources

A national Science and Technology fund is being setup, but the Commission needs to generate local funds with the cooperation of the private sector in order to fund its activities. Total reliance on public funding is not advisable. The Government has given the Commission a great building, and some furnishing. It is now up to

the Commission, through fund raising activities, to build on what exists. Training courses, use of infrastructure for conference services, contract-research with private sector, commercialization of research results after patenting, sale of publications, etc, etc, are ways and means that can be explored.

Conclusion

The Tanzania Commission for Science and Technology is now an established institution with a bright future, provided its cadres are encouraged to commit themselves to its growth, and themselves gain from this growth through incentives and promotions. Its major asset is the beautiful and spacious building donated by the government, and this building needs to be fully utilized and funds generated by making its space available for public and private functions.

So far the private sector and the trading community have not been involved in the setting up of policies, plans, programmes and projects that the commission is charged with. The commercial exploitation of research results is a major avenue to be explored. With the advent of the Centre for Technology which the Commission will soon have, there is hope for greater progress in the country.

Annex 1

List of People Met

(1) Tanzania Commission for Science and Technology

P.O.Box 4302

Bagamoyo Road

Dar Es Salam, Tanzania. Telex: 41651 Deplan Tz.

(a) Prof. A.S. Msangi - Director General

Tel. 74019

(b) Prof. M.S. Sheya - Director, Technology

Development and Policy. Tel.: 74015

(c) Dr. H.F. Bitanyi - Director Research

Coordination and Promotion. Tel.: 74013

(d) Ms. Ngunu - Chief Accountant.

(e) Mr. S.J. Asman - Administrative Manager.

(2) Ministry of Science, Technology and Higher Education

Hon: Dr. W. Shija,

Minister for Science, Technology and
Higher Education.

(3) Tanzania Industrial Research and Development Organization
(TIRDO).

Msasani, Uganda Avenue

P.O.Box 23235, Dar Es Salaam

Prof. Ndaalio, Director, Tel: 67151, 68822.

- (4) Tanzania Industrial Studies and
Consulting Organization (TISCO)
I.Ps Building, 4th - 6th Floor,
Samora Avenue/Arzikiwe Street
P.O.Box 2650, Dar Es Salaam
Tel: 30420, 31421/3, Telex 41182
Mr. E.L. Kamuzora, Director General

