

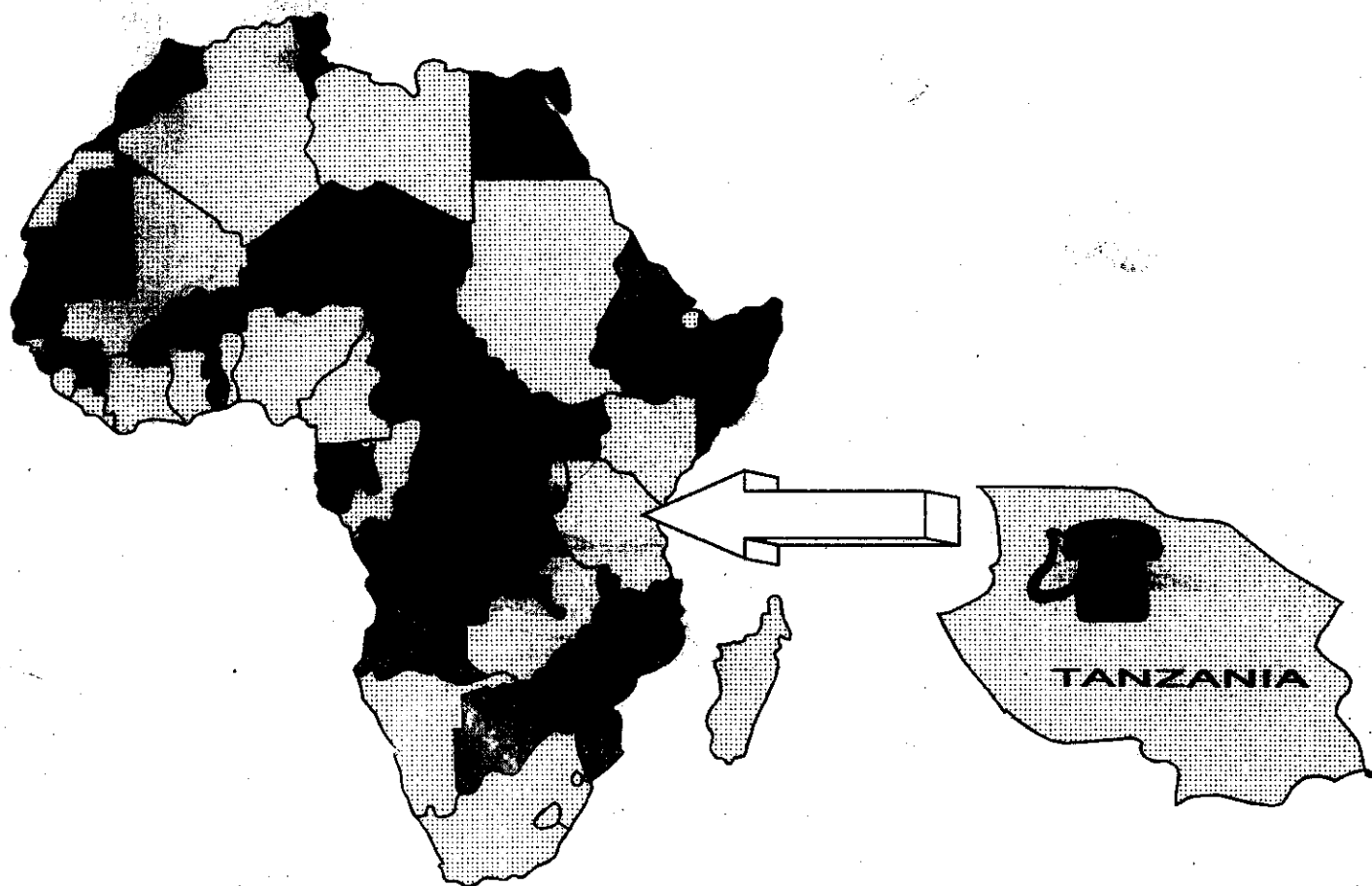


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ECONOMIC COMMISSION FOR AFRICA



PRIVATE SECTOR PARTICIPATION IN TELECOMMUNICATIONS IN THE UNITED REPUBLIC OF TANZANIA

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**Transport, Communications and
Tourism Division**

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ANNEX II

PRIVATE SECTOR PARTICIPATION IN TELECOMMUNICATIONS IN THE UNITED REPUBLIC OF TANZANIA

I. INTRODUCTION.

1.1. Objective of the Study.

1. The United Nations Economic Commission for Africa (ECA) regularly carries out policy analysis in support of economic and social development activities in Africa. In this regard, its Transport, Communications and Tourism Division (TCTD) is currently undertaking a study on **Private Sector Participation in Transport and Communications in Africa**. As part of this study, several countries were selected as case studies for specific priority areas; the United Republic of Tanzania was selected for its recent experience in the reform of its communications sector and introduction of private sector participation in the development of telecommunications in the country.
2. The objective of the case study on Tanzania is to review its experience in encouraging private sector participation in its development activities in order to identify some lessons which may be shared with other African countries which are either contemplating or already in the process of implementing similar policies.

1.2. Methodology and Scope.

3. The case study is based on consultations with several key constituencies in the telecommunications industry: government, public and private operators, as well as large users. These consultations provided different perspectives on the developments and problems in the sector following the introduction of private sector participation. The list of persons consulted is annexed to this report (**Annex I**). These consultations were supplemented with information from a national workshop which was organized on the issues of reform, as well as a project appraisal report.
4. Private sector participation in transport and communications development activities in Africa is a relatively new development post-1980, following on the heels of centralized and public sector-dominated development models followed by many African countries since independence in the early 1960's. It therefore requires not only a change in development philosophy, but also transformation of institutions and establishment of new structures for orderly and harmonious relationships among all stakeholders: government as policy maker; public and private operators as service providers; and the public at large as consumers. New laws have to be passed to provide the right legal environment for protecting all parties; new government policies must be developed to guide development of the sector; and new regulatory frameworks must be established to maintain order.

5. Thus, the recent experience of Tanzania in reforming the whole communications sector will be analyzed within the above framework: legal, policy and institutional. Such reform is expected to increase private investments in the sector, thereby facilitating development and improving services to the public. The actual experience in implementing the reform in terms of the process and results achieved so far, keeping in mind the short period under consideration, can provide a basis for drawing lessons for other African countries.

II. IMPETUS FOR REFORM.

2.1. Telecommunications Sector Before Reform.

6. The Tanzania Posts and Telecommunications Corporation (TPTC) was formed in 1978 to take over the functions and powers of the defunct East African Posts and Telecommunications Corporation. TPTC continued to enjoy an exclusive right to operate Public Switched Telephone Network (PSTN) for the provision of telecommunications services until 1993 when it was dissolved by the Communications Act (1993). Postal and telecommunications operations and regulations were fully integrated functions of TPTC.

7. In 1991, there were 188 telephone exchanges with a total capacity of 104,460 lines, with 78,000 lines connected, which equalled 85 per cent capacity utilization or fill rate. The telephone density in the country averaged 0.3 lines per 100 population, compared to the average of 0.46 lines per 100 population in Sub-Saharan Africa, and well below the 1.0 lines per 100 population target of UNTACDA I programme ^{1/}. The map in Figure 1 shows the territory covered by telecommunications and other key infrastructure.

8. The quality of services was poor, the worker productivity low, while demand was about 200 per cent of supply. Local tariffs were very low (equivalent of US\$0.02 per minute), while international tariffs were some of the highest in the world (equivalent of US\$6.40 per minute). In terms of financial performance, TPTC was not very profitable, and in fact was technically insolvent in 1989 with a net negative equity of Tsh 19.5 billion (US\$100 million)^{2/}. Table 1 outlines a summary of TPTC's income for the period 1985-1989. The main causes of the poor performance were:

- | | | |
|-------------|---|--|
| Financial | - | inadequate tariffs, especially local; devaluation of the currency; poor billing and collection performance; and poor audit controls. |
| Operational | - | Unclear lines of authority; weak management information systems; inadequate training; lack of customer orientation; and poor staff compensation. |

^{1/} The United Nations Transport and Communications Decade in Africa (UNTACDA): 1978-1988; UN Economic Commission for Africa, 1983.

^{2/} World Bank Staff Appraisal Report No. 11539 - TA, 1993.

Table 1

TTCL - Income Statement: 1985-1989
(TShs Million)

	1985	1986	1987	1988	1989
Telephone	1,148	1,343	2,420	3,536	4,909
Telex	170	276	560	1,019	1,934
Telegraph	27	87	53	77	78
Other Revenue	8	301	101	224	227
Telecoms Operating Revenue	1,353	2,007	3,134	4,855	7,148
Telecoms Operating Expenses	631	1,624	2,453	3,701	5,173
Net Telecoms Operating Income	722	383	681	1,155	1,975
Net Postal Operating Income (Loss)	26	(34)	7	10	(37)
Less: Interest on Loans	14	56	309	255	3,615
Foreign Exchange Gain (Loss)	(48)	(2,328)	(3,705)	(2,650)	(5,269)
Net Profit (Loss)	435	(2,146)	(4,666)	(6,272)	(10,295)

Source: World Bank Staff Appraisal Report No. 11539-TA, April 1993

9. The structure of the sector before the reform process was a reflection of the previous centrally planned economy of the country. The Ministry of Communication and Transport was responsible for setting policies. It delegated to TPTC the responsibility for carrying out regulatory functions (licensing of private operators, setting equipment standards, granting equipment type-approvals, etc.) in addition to its being the sole monopoly operator. Thus, there was little opportunity for private sector involvement.

10. By 1995, there had not been much progress made and telecommunications services remained inadequate to support the country's economic and social development:^{3/}

- The teledensity less than 0.35 DELs/100 people, (lower than Sub-Saharan average of 0.5 DELs/100 people.
- Call completion rate for inter-urban and incoming international calls below 20%.

^{3/} ITU: Restructuring to Further Development, "Reform and Regulatory Issues" - Report of Tanzania at AF-RTDC-96, Document 79-E.

- Exchange capacity (130,000 lines) not fully utilized (90,270 lines in operation) due to lack of matching external plant.
- Number of waiting applicants was 118,000, giving a satisfaction ratio of only 37%.
- Rural-urban inequality remained wide: 87% telephone lines are in urban areas, whereas over 80% of population lives in rural areas.
- Poor maintenance and service in general due to inadequately trained staff, incompatible technologies, and use of obsolete equipment.

11. Table 2 shows some statistics on telecommunications development in the country compared to the Sub-Saharan Africa averages in 1994.

Table 2

TELECOMMUNICATIONS SECTOR BASIC INDICATORS: 1994

Indicator		
	Tanzania	Sub-Saharan Africa
1. Number of Direct Telephone Lines (DELs)	88,300	2,459,300
2. Telephone Density (DELs/100 Population)	0.31	0.46
Rural Areas	0.19	0.21
3. Total Demand	233,300	3,557,400
5. Domestic Tariff (US\$/minute)	0.02	N/A
6. International Tariff (US\$/minute)	3.60	3.0
7. Productivity (Number of employees/1,000 DELs)	19	25

Source: ITU: African Telecommunication Indicators, 1996

2.2. Objectives and Strategies of Reform.

12. Participation of private sector in telecommunications was introduced in Tanzania as part of the communications sector reform in particular, and the reform of the national economy in general. A comprehensive Economic Recovery Programme (ERP) was introduced in 1986, followed by an Economic and Social Action Programme (ESAP) in 1989, both based on the strategy to shift from a centrally planned system to a market-oriented economy. The government duly recognized the important role of telecommunications in this process and thus decided on the reform of the sector.

13. The new sector policy broadly aims at providing universal access to telecommunications for all people in Tanzania wherever service can be supplied on a practical and economically justified basis. These services should satisfy all customer demand for all types of telecommunications with quality and secure services at a fair and affordable price. The policy aims at encouraging investment in the telecommunication sector by creating a liberalized and competitive environment for operators whose stability is to be ensured by a regulatory agency.

14. The reform of the communications sector was aimed at achieving the following development objectives:^{4/}

- (i) To ensure that efficiency and financial viability drive sector development;
- (ii) To eliminate the existing bottlenecks in the availability of telecommunications services to business subscribers in key areas of economic importance; and
- (iii) To optimize the availability and effectiveness of public and private resources invested in the sector.

15. The following strategy was adopted to achieve the above objectives:

- (i) Establishment of a market-oriented regulatory and policy framework;
- (ii) Legalizing and requiring a regulatory body to license private operators to provide non-basic services;

^{4/} The United Republic of Tanzania - Third Telecommunications Project; Staff Appraisal Report, World Bank, Report No. 11539 - TA, . 1993

- (iii) Commercialization and corporatization of the State-owned telephone company;
- (iv) Rehabilitation and expansion of the basic local and long distance telecommunications network.

16. In view of its limited resources, the government sought and received assistance from multi-lateral and bi-lateral development partners for carrying out the reform programme. A special project, the Telecommunication Restructuring Project (TRP), was formulated specifically to facilitate this reform and received support from the World Bank (IDA) African Development Bank (ADB), European Union (EU), Denmark (DANIDA), Japan (JICA), Kuwait Fund and Sweden (SIDA). The investment programme developed for this purpose, was funded as follows:

<u>Source</u>	<u>US\$ Million Equivalent</u>
World Bank (IDA)	77.5
ADB (ADF)	41.1
EU	30.6
DANIDA	6.0
JICA	9.2
SIDA	34.5
Kuwait Fund	13.5
Local (TPTC)	<u>30.4</u>
TOTAL	242.8

17. The main objective of TRP was to meet the most urgent medium-term requirements of customers for telecommunications services. This can be achieved by strengthening the financial base of TPTC to set in place a regulatory and policy framework, to restructure TPTC and build its institutional capacity for sustainable future, to rehabilitate and expand the telecommunications network. By the end of the programme in 1998, the number of telephones is expected to increase by 70% over the 1993 figures. The programme also aims to improve the quality of service, as well as operational and financial performance. The net result of TRP was the separation of posts from telecommunications and the establishment of a new regulatory and policy framework.

III. INSTITUTIONAL FRAMEWORK FOR REFORM.

3.1. Policy Objectives.

18. As part of the reform programme, the ministry of communications and transport drafted a policy statement of its intentions to restructure the sector. The statement indicated that the Ministry would be wholly responsible for policy matters; it would be responsible for incorporating the Government's economic and social objectives into the telecommunications policy. The existing telecommunications law was to be revised to allow for market-oriented activities including private investment and competition.

19. A specialized agency independent of TPTC would be established to be responsible for regulating activities in the telecommunications sector under a market-oriented structure. An autonomous operating entity would be responsible for providing telecommunication services according to sound commercial principles. The operating entity would be regulated by the regulatory body. Private sector participation would be legalized and encouraged in basic and non-basic services. As part of a study on private sector participation, appropriate incentives to encourage private investment would be defined.

20. The Government recognized the need to clarify and separate the role of the Ministry and that of TPTC. In addition, the Government recognized the need to commercialize TPTC's operations. In March 1992, a Ministerial Directive (MD) and Memorandum of Understanding (MOU) were signed between the Ministry and TPTC to this effect. In addition to clarifying the roles of the Ministry and TPTC, these directives outlined elements for the commercialization of TPTC. The main goal of commercialization was to improve the efficiency, quality, financial viability and customer responsiveness of TPTC's operations and ensure that TPTC becomes financially self-reliant in its operations. The directives gave TPTC autonomy in personnel policies, salaries, procurement and management of its financial affairs and in return, making it accountable for its performance.

21. Specific financial, technical, operational and service quality objectives were outlined in the MOU to be updated on an annual basis. Performance targets agreed at negotiations were outlined in an annex to the MOU and TPTC's compliance with these objectives were to be monitored through efficiency audits done by independent consultants on an annual basis.

22. The national telecommunications policy, which, inter alia, laid the foundation for private sector participation, was drawn up in 1992 as a framework for reform of the telecommunications sector. Having recognized the importance of communications in the development of the country, the government policy was designed to ensure more efficient operation of telecommunications. The policy also defined the role of the various partners in telecommunications development, namely, government, regulator and operators.

23. The policy aims to ensure that:

- (a) service is provided to as many people as is economically and socially justified in both urban and rural areas;
- (b) a full range of basic and value-added services are provided on a timely basis to satisfy customer demand;
- (c) telecommunication services are efficiently and cost-effectively provided in part through the introduction of competition;
- (d) resources available to the sector are maximized through private sector involvement;
- (e) technical standards for telecommunications equipment and services are developed and complied with;
- (f) tariff policies are liberalized over time in appropriate market segments;
- (g) telecommunications manufacturing is encouraged only in areas where it is economically justified;
- (h) reliable communications are provided to media for information for services such as TV, radio, etc.;
- (i) R & D in telecommunications is encouraged; and
- (j) regional and international cooperation in telecommunications is enhanced in a search for common development strategies and network standards.

3.2. Role of Government

24. During the reform process, the government was called upon to:

- (a) limit its role in the sector to setting sector policy;
- (b) establish a politically independent regulatory body which will be appointed by the Government;
- (c) require the commercialization and corporatization of TPTC to operate with a market orientation;

- (d) legalize and require that the regulatory body foster the involvement of private companies in basic and value-added services;
- (e) establish a policy, regulatory, and resource mobilization strategy which will provide for the rehabilitation and expansion of the basic telecommunications network in urban and rural areas;
- (f) require a regulatory body to establish and monitor operator compliance with service quality standards;
- (g) enhance the sector's capacity to not only recover costs but mobilize fiscal resources through taxes and dividends and as a result improve its net contribution to the national budget;
- (h) require that a regulatory body implement policies and provide licences to promote the introduction of modern telecommunication technologies including digital, fibre optic, satellite, and radio technologies in the switching and transmission systems and the external line plant; and
- (i) review and revise existing laws, acts, and government procedures.

25. Once a regulatory body has been established, the sectoral responsibilities which remain exclusively the province of the Government, are to:

- (a) define the sectoral policy (resource mobilization, development level, and policy for rural telecommunications) and ascertain that the policies are implemented;
- (b) interact with other relevant Government departments on all questions dealing with national security and any other concerns of the Government in the area of telecommunications;
- (c) represent the Government within regional and international telecommunications bodies dealing with questions of general sectoral policy, and conclude treaties, agreements, conventions and international regulations in this area; and
- (d) define a mechanism by which the users' views could be periodically assessed.

3.3. Role of Sector Regulator.

26. A politically independent regulatory body, appointed by the Government, would be established. Its authority will include monitoring of all issues related to telecommunications

and enforcing compliance with the Government's policy. The main functions of this entity will be to:

- (a) define the tariff policy and approve the rates for basic services laid down under this policy; TPTC, however, would retain the management right to automatically increase tariffs on a semi-annual basis to cover inflation and devaluation;
- (b) define the indicators of service quality and the financial return expected from the operating bodies, and monitor compliance with these standards;
- (c) allocate the frequencies and administer the radio spectrum technical management in an efficient and orderly manner and monitor the radio frequencies to avoid channel interference and maximize the utilization of available frequencies;
- (d) grant licences to operate telecommunications links, private networks or value-added services to all operators of telecommunications services and devices (public and private). Procedures for licensing and type approval will be issued by the regulatory unit and will be made public;
- (e) grant licences for subscribers' installations, networks and equipment to qualified private contractors, approve subscribers' equipment and terminals, and authorize sale and connection to the network, of such equipment by private licensees;
- (f) promote the development of competition; and
- (g) review interconnection and revenue sharing arrangements.

3.4. Role of operators

27. As part of the reform, the monopoly status of the State-owned operator, Tanzania Posts and Telecommunications Corporation (TPTC), would be ended by allowing other operators, including those from the private sector, to operate networks and provide basic and specialized services. TPTC would be granted operational autonomy and accountability and would sign a performance contract with the Government. Furthermore, non-core functions of TPTC were to be divested (including printing, motor vehicle repair, and construction) and postal and telecommunications activities were to be separated.

28. Believing that private sector involvement and competition can promote operational efficiency and attract investors to provide the necessary investment capital in telecommunications, the policy aims at promoting a competitive environment. Other private

and possibly public operating entities would be allowed to provide value-added and, where appropriate, basic telecommunications services under these policy guidelines. Procedures for application of licences, compliance with technical standards and other operating conditions and guidelines would be issues by the regulatory body. They will be required in particular to:

- (a) manage and operate the telecommunications services under their control in a completely professional manner, in accordance with methods and procedures in force in the sector and in observance of the principles of economy and efficiency;
- (b) stay abreast of trends in demand, plan the introduction of new services or the extension of existing ones; design, prepare and implement extensions of upgrades to the infrastructures on the basis of the most advantageous technical and economic approach;
- (c) manage their personnel autonomously, including hiring and dismissals, in accordance with the law and the regulations in force; make proposals for changes in pay levels and pay scales, and provide introductory and ongoing staff training;
- (d) manage their own financial resources and cash flow autonomously and in accordance with the systems and procedures applicable to similar enterprises; contract loans and issue bonds; however, TTCL would receive compensation from the Government, the amount of which would be agreed upon in the Programme Contract, for non-profitable services to be provided upon Government's requests;
- (e) prepare annual and multi-annual investment plans and operating accounts;
- (f) define and propose revisions to the level and structure of tariffs for basic services, and define and initiate rates for new services, and changes in rates for services not under the control of the Government;
- (g) conclude contract for equipment and services in accordance with procedures applicable to similar enterprises;
- (h) bring actions or go to court, if necessary, in the event of disagreements with third parties;
- (i) suspend or cancel service to users who do not meet their obligations; and

- (j) take part in regional and international conferences, committees and working groups dealing with technical, administrative and operational matters in the field of telecommunications.

29. Private sector participation and competition will be expanded starting with network terminal equipment such as telephone sets and telex terminals, subscriber premises wiring, provision of value-added services such as public access information services and specialized communication services such as mobile services, and later to be followed by basic telecommunications services.

IV. RESULTS OF SECTOR REFORM.

4.1. Legislative.

30. The reform of the communications sector came into effect on 1 January, 1994. In 1993 the Parliament of the United Republic of Tanzania passed three basic laws, namely, the Tanzania Communication Commission Act, the Tanzania Telecommunication Company (Incorporation) Act and the Tanzania Posts Corporation Act. In addition, the Vesting of Assets and Liabilities Act No. 21 was also passed. The enactment of these laws led to the dissolution of the former Tanzania Posts and Telecommunications Corporation and the creation of the new Tanzania Telecommunications Company Limited (TTCL), the Tanzania Posts Corporation (TPC) and the Tanzania Communications Commission (TCC). These three new organizations would operate as separate and autonomous public entities. The Communications Act (1993) also outlined the responsibilities of government vis-a-vis the new entities.

31. These changes affect the new entities in different ways. This section will review the experience of each stakeholder in the new environment in telecommunications sector in Tanzania since 1994. Representatives of government, TTCL, TCC, and TPC were interviewed and their views are presented in the sections that follow. The experience of private sector operators and the views of major consumers will be considered separately.

4.2. Government.

32. The government policy is to reform the economy by clear definition of its own role to provide policy framework, national security, law and order. The development policy recognizes the important role of the public sector in providing services which the private sector is unable to assume in part or in total. It therefore provides for public-private partnerships in order to achieve development goals in the most efficient manner with minimum government involvement in operational activities.

33. This role in a liberalized telecommunications sector is directed towards defining policies to guide the development of the sector and to ensure that the various operators operate within the policy guidelines. In addition, government is responsible, through the regulator, for establishing standards in the sector.

34. The Communications Act (1993) spelled out the general orientation of government policy. The government is now in the process of formulating a new national telecommunications policy aimed at increasing capacity fivefold by the end of the century, from the current 200,000 to 1 million lines. In this regard, a workshop was organized in September 1995, bringing together representatives of the major stakeholders to discuss the future of the industry. A follow-up workshop was scheduled to be held before the end of 1996 in order to prepare a draft policy document to be tabled before parliament for

discussion. A summary of the outcome of the first workshop is attached to this report (Annex II).

4.3. Tanzania Communication Commission (TCC).

35. Before the reform of the sector, the Ministry of Communications and Transport was responsible for policy and overall supervision of the sector, including regulation. TPTC was responsible for frequency allocation as well as type-approval of terminal equipment. Under the new Tanzania Communication Commission Act of 1993, the line minister is responsible for sector policy. The regulatory role is vested in TCC, under the general oversight of the minister. The objectives of the Commission may be summarized as follows^{5/}:

- (a) ensuring the provision of "good and sufficient" telecommunication services throughout Tanzania (universal service);
- (b) ensuring rates for provision of services are consistent with efficiency, continuous service and financial viability of operators;
- (c) regulating telecommunications through licensing and supervision of licensing conditions;
- (d) promotion of competition in providing telecommunication services and to regulate tariff rates with a view to eliminate unfair business practices among operators;
- (e) to further advancement of technology;
- (f) to be the national body that represents Tanzania in international organizations in telecommunication matters and pay, on behalf of the Government of Tanzania, annual membership subscriptions to regional and international organizations responsible for communications and postal affairs;
- (g) to advise the Government on all telecommunication matters and on matters pertaining to the Commission.

36. The regulatory framework was prepared by an inter-ministerial committee, which carried out extensive consultations, including visits to a number of countries for first-hand experience on the functioning of their regulatory framework (Malaysia, Singapore, U.K. and U.S.A). The following features of the framework adopted is indicative of the circumstances in the country:

^{5/}Tanzania Communication Act, No 18 of 1993 Section 6.

- (a) The Commission regulates both the postal and telecommunication sectors, thus minimizing cost of regulation and taking into account human resource capacity constraints;
- (b) The Commission is independent in all aspects, except the legislated mandate to the minister to intervene through specific directives;
- (c) The framework is flexible, allowing room for development;
- (d) The administrative procedures are simple, but allows appeals; and
- (e) The Commission benefited from technical assistance in its start-up operations and has embarked on an intensive programme of regulatory capacity building through tours of mature regulatory organizations in other countries as well as attendance of seminars by members of staff.

37. TCC is composed of a Chairman appointed by the President of the country and six Commissioners appointed by the Minister of Communications and Transport and drawn from a diverse background (lawyers, engineers, banker and politicians). The Commission is supported by a secretariat of experts headed by a Director General who is appointed by the President. It currently has a total of 16 senior officers organized into six departments: Telecommunications Services (3); Frequency Management (4); Postal Affairs (2); Legal Services (2); Consumer and Industry Affairs (2); and Finance and Administration (3). The technical staff were drawn from then existing structure where they were performing almost the same functions: former TPTC for frequency management, telecommunications services and postal affairs; Ministry of Communications and Transport and Ministry of Justice for legal, consumer and industry affairs. Others were recruited from the open labour market.

38. The Commission is self-financed through license fees, royalty charges as percentage of revenues of operators, and fees for services rendered (frequency management, type-approval, etc). Any reserve funds will be invested as part of the rural development fund which the Commission expects to set up and manage.

39. Institutional capacity building was supported by TRP and consisted of overseas training study tours for 3-4 weeks in various parts of the world. A programme of capacity building to increase the capacity of the individual staff member has been instituted. However, TCC is of the opinion that it is currently under-staffed in terms of numbers and technical capacity for the responsibilities it is expected to carry out.

40. In the two years since it started operations in March 1994, TCC has had a significant impact on the telecommunications sector in Tanzania. Specifically, it issued the following guidelines to the telecommunications operators:

- (a) Procedures for Radio Communication Services Licences;
- (b) Procedures for Terminal and Network Telecommunication Equipment Type Approval;
- (c) Procedures for Applying for Contractor's Installation and Maintenance Licence;
- (d) Procedures for Importation and Distribution of Telecommunication and Radio Communication Equipment; and
- (e) Procedure for Licensing Land Mobile Cellular Telephone Operators.

41. In addition, the Commission has set new tariffs and fees for all radio communications and telecommunication services. It has also issued licences for private and public postal and telecommunication operators.

42. In the policy aspect, TCC organized the national Workshop on Telecommunication Development in Tanzania (1995) to discuss the draft new telecommunications policy. And, in the legal area, it drafted a Bill which the line minister submitted to Parliament amending the Communication Act (1993) to prohibit International Call-Back communication in the country.

4.4. Tanzania Telecommunication Company Limited (TTCL).

43. The Tanzania Telecommunication Company Limited (TTCL) was incorporated as a wholly state-owned but autonomous company operating as a commercial enterprise. The government appointed a Board of Directors which is fully responsible for the management of the company, including the appointment of the Managing Director (of course with the approval of the line minister) and ensuring the attainment of the objectives outlined in the Memorandum Of Understanding (MOU) signed between the company and the government.

44. In order to operate as a commercial enterprise, TTCL embarked on a major internal restructuring process, implementing staff reduction incentive programmes and improving the working conditions (including higher salaries for staff). With significant resources from TRP, TTCL's operations are markedly improved from those of TPTC.

45. As dominant operator TTCL has the following responsibilities:-

- To manage the national telecommunication network and provide interconnection for all other operators.
- To provide and operate telecommunication services.
- To provide universal service.

46. The restructuring of the telecommunications sector created an enabling environment for improving the management and operation of the sector through, among other things, the commercialization of services and prompt decision-making afforded by the measure of autonomy now enjoyed by the dominant operator.

47. Since liberalization of the telecommunications sector certainly introduced competition even in areas of business previously confined to TTCL, the Company has appealed to all its staff to measure up to the demands of the new market environment. TTCL has the obligation to provide the various sectors of the economy with efficient, reliable and affordable telecommunications services. However, given the meager resources at its disposal, this obligation can only be fulfilled over time. With the rapidly changing and converging technologies the task becomes even more challenging.

48. TTCL is of the opinion that, due to high population growth rate and lack of adequate funding, its ability to satisfy expressed demand has declined from 70% in the 1970s to about 37% today. However, even with increased resources, the demand-supply gap in telecommunications services is unlikely to disappear - it can only be narrowed. For instance after the successful implementation of TRP, it is projected that the satisfaction ratio will gradually increase to 65% by year 2000. The high demand for new services such as land mobile cellular telephones, paging and data services, though profitable, cannot be met unless an effective basic service is provided first.

49. The vision of TTCL is "to be market and customer oriented by providing good quality, prompt, and reliable telecommunication services at competitive prices so as to make a fitting contribution to the social and economic development of Tanzania"^{6/}. TTCL is determined to remain the dominant operator.

50. When the Telecommunication Restructuring Programme is completed, the network will have been modernized; about 100,000 lines will have been added to the existing exchange capacity; the penetration factor will rise to 0.7. A new customer service computer system will enable TTCL to improve the management of revenue collection and provide accurate and timely information regarding service provision and management. The structure, operations and processes of TTCL are being reviewed so as to make them more customer focused and business oriented. The human resource of the company will be developed through a dynamic programme of training and retraining.

51. In view of the expected decline in the traditional donor funding of projects in the sector, future development of the company would have to rely more and more on internally generated revenue, government funds, revenue from joint ventures of the type concluded with Millicom in Mobitel where TTCL holds 25% of the shares, and from the capital market

^{6/} Mapunda, A.B., Managing Director, TTCL; Report of Workshop Proceedings, TCC, September 1995.

when the Stock Exchange is in place. Foreign investors might be attracted to the sector when a conducive environment is created and a fair return on investment is assured. A friendly partner with capacity to inject both capital and expertise would be welcome, but privatization of TTCL is not favoured at this time.

4.5 Tanzania Posts Corporation (TPC)

52. The reform of the communications sector also affected postal services in Tanzania. Created upon separation from TPTC, the Tanzania Posts Corporation (TPC) remains a state parastatal organization. It views the reform as having been particularly beneficial to postal services which had been rather neglected when it was part of TPTC. In particular, it cites the fact that, with its own board of directors, decisions are more focussed and faster.

53. TPC recommends that the reform of the postal sector should aim at establishment of an autonomous postal corporation to operate as a commercial enterprise focused on efficiency, reliability and quality of service. Such a reorientation is absolutely crucial to the survival of the post as known today - provider of vital services to the rural areas - in the face of competition from private couriers as well as technological advances.

54. Regarding private sector participation, it is noted that the private sector has long participated in the postal sector throughout the world with the entry of private courier operators. The postal sector countered this competition by introducing the Expedited Mail Services (EMS) which has been largely successful especially in Africa.

55. The posts is also affected by the new communications technology, such as fax and electronic mail and networking, which have changed customer habits. It is therefore essential for posts to harness these technologies for its own operations. For example, using its extensive networks, the posts could transmit messages and transfer money by establishing fax service centres at the post offices throughout the country. Given that the majority of postal customers have no access to telecommunications, this could be a practical method of providing improved services to the customers.

56. In preparing for the reform, TPC carried out extensive training of its staff at ESAMI as well as abroad. The institutional capacity development programme was supported by UNDP as well as the World Bank.

57. Two years into the new environment, TPC has decided to restructure itself in order to better focus on marketing and customer services. Through the World Bank loan, it has contracted management consultants to assist with the restructuring programme.

58. TPC supports privatization of non-core businesses but retaining mail distribution. However, any privatization of the sector should be carried out in a systematic manner:

- enactment of an act to transform posts into a commercial entity;
- establishment of a management contract between management and the government (owner), based on well defined operational targets;
- privatization of non-core operations, possibly through joint-ventures between the postal organization and private partners.

V. PRIVATE SECTOR PARTICIPATION

59. Private sector participation in Tanzania's economy was introduced in mid-1980s as part of ERP and the broad government policy is to encourage private sector investment in telecommunications through various modes, including total or partial divestiture of state-owned enterprises, as well as removing state monopoly and allowing private operators.

60. The Tanzania Telecommunication Company (Incorporation) Act (1993) has provisions for privatization of TTCL. However, it is unlikely that it will be privatized in the near future for several reasons, notably: strong public opinion against sale of profitable state assets, particularly to foreigners; partners in TRP are against immediate sale of TTCL; and the Presidential Parastatal Sector Reform Commission announced that TTCL would not be privatized at this time.

61. Nevertheless, government recognizes the investment potential of the private sector and its ability to meet the requirements of specific groups such as the business community. It has, therefore, decided that private sector participation should be allowed in providing non-basic services such as value-added services, specialized services such as mobile cellular telephone, sale and installation of customer premises equipment (telephone sets, fax, telex, etc), and in wiring subscriber premises. The participation of private sector operators in each of the service groups is reviewed in the sections which follow, and the views of customers on the provision of services are also presented. The license for value-added services and local mobile cellular telephone operations includes the conditions that locally owned shares should not be less than 35%, and that a foreign company which owns majority shares (over 50%) must submit to the Commission guarantee of network performance for the duration of the license.

5.1. Basic and Fixed Services.

62. The Act envisages, in the long-run, competition in all services, including fixed telephone services, terminal equipment and related services, mobile cellular services and non-basic services. However, initially TTCL has been granted an indefinite period of exclusivity in the basic and fixed services, except in rural areas in which other investors have been encouraged to set up local services to be connected into the national network of TTCL. Furthermore, ZANTEL Limited (Zanzibar) has been licensed to compete with TTCL in providing basic services in Zanzibar and the islands.

63. TTCL is encouraged in its licence to enter into joint-ventures with private partners. In this regard, TAZARA expressed interest in reviving discussions with TTCL on possible cooperation in developing joint operations of communications network for its own railways operations (management, signalling), as well as for public services by TTCL. However, TTCL intends to maintain exclusivity of basic services as long as it is allowed to.

5.2. Mobile Cellular Services.

64. Given the high demand for mobile cellular services, TCC has divided the country into four service areas and will allow a maximum of two service providers in each. The limitation of the number of operators in each zone to two is partly due to frequency band availability (890-960MHZ), but this will be reviewed after a period of five years. Millicom (Tanzania) Ltd was licensed in 1993 to provide service in Dar es Salaam and Zanzibar; it started operations as Mobitel in 1994. A second operator, TRI Telecommunications Tanzania Ltd (of Malaysia), was licensed in 1995 to provide services in the Coastal and Northern Zones, but so far it is only operating in the Coastal Zone. TTCL has been granted licences for Northern, Central and Southern Highland Zones, and is seeking partners to develop service in these areas.

65. MIC Tanzania is part of Millicom International Cellular SA, incorporated in Luxembourg. Its other African operations are in Mauritius (Emtel) and Ghana (Mobitel). It is a private operator providing mobile cellular telecommunications services in the coastal area of the country. It is a joint company between Millicom International Cellular SA (51%) and TTCL (49%). It started operations in 1994 as the first cellular mobile operator in the country.

66. MIC entered Tanzania having won a tender offer by TPTC for a partner. Incentives for investment were under the Investment Promotion Centre (IPC) programme and includes no tax and duty on equipment during construction phase and a five year tax holiday after operation begins. The private operator's policy is to develop and rely on indigenous human resources and has invested extensively in capacity building.

67. MIC expressed concern over the change in licence after it was granted. Upon its inception at the end of 1994 (twelve months after the new law came into force), TCC gave notice to MIC (Tanzania) to apply for a new licence as required by the Tanzania Communications Act (1993), for all operators which existed before 31 December 1993. This apparent instability in the licensing procedure has eroded some confidence by the company.

5.3. Other Services.

68. **Public Radio-Paging Services:** Licenses to cover the whole country were granted to four companies in December 1995. TTCL, Beep-Me Limited, Call Systems Limited, and African Communications Group Telesystems Limited (ACG). However, none of them had started operations by mid-1996.

69. **Public Data Services:** Three licenses have been issued to the following companies since April 1996: Wilken Afsat Tanzania Ltd., Datel Tanzania Ltd., and SITA Group. However, service had not yet begun as of September 1996.

70. **Cardphone Services:** These are currently being provided by three companies: TTCL, Jupiter Communications and African Communications Group Telesystems. The service is very popular with the public and seems to have eliminated the traditional long waiting lines at public telephone booths when calls were of unlimited duration. Cardphones offer cards for sale at site for different units. At present they are used only for local, national and East Africa calls.

71. Several private companies have also been licensed to import, distribute and service customer premises equipment. Subscribers are allowed to acquire equipment from any supplier provided it is type-approved. Dealers have been licensed to provide equipment, wiring and maintenance.

5.4. Financing Telecommunications Development

72. As previously discussed, TRP is an investment programme aimed at strengthening TTCL through network expansion, rehabilitation and modernization as well as capacity building. At the end of the programme in 1998, TTCL is expected to have improved quality of service as well as operational and financial performance so as to effectively compete with private sector operators.

73. In order to support more private sector participation, the Government has issued a policy through the National Investment and Protection Act, which sets out guidelines for foreign investment in the country, including issues of arbitration and repatriation of capital and profit. Furthermore, preparations are at final stages for the establishment of a stock market in the country. It is expected that the operation of the stock market will provide access to the public at large to participate in investment activities, including in the telecommunications sector.

VI. CUSTOMER SERVICE

74. Several major users in both public and private sectors were consulted on their experience with the new order in telecommunications in the country. These views were generally consistent with those expressed at the Workshop on Telecommunications Sector Development in Tanzania, which was organized by TCC in September 1995 (Annex II). The user is supposed to be the ultimate judge of the results of reform and privatization. The following is a summary of views expressed by several customer representatives regarding each type of service.

6.1. Fixed and Basic Services

75. Except in Zanzibar, fixed and basic services are provided in the country by TTCL, the dominant operator. User views may be summarized as follows:

- (a) **Access:** There has not been any noticeable increase in the number of telephone lines. Many users, especially in Arusha, felt that it takes as long as - if not longer than - in the past to obtain a residential or business line. For example: a large tourist hotel chain has been unable to secure much needed additional lines; businesses located in the Arusha International Conference Centre have waited in excess of one year for telephone connections which have yet to be made. There are complaints of demand for up-front unofficial payments to acquire service.
- (b) **Local Service:** - Many users complained about poor service quality and lack of maintenance, with up-country areas unable to communicate with Dar-es-Salaam. Furthermore, there were complaints about allocated lines being "loaned" out by technicians to other users at night and on week-ends.
- (c) **International Service:** This has noticeably improved. Many users felt that it is much easier to make an international than a local call. However, the cost of international calls is very high and tends to have a negative impact on tourism, a major contributor to the economy of the country.
- (d) **Customer Relations:** Users in upcountry offices felt that top management of TTCL does not pay sufficient attention to them; complaints to the company often go unanswered.
- (e) **Billing:** Many users are very displeased with the billing system. Bills are irregular, which affects their cash flow management. In addition, when finally presented, TTCL demands immediate full payment or service is disrupted. Moreover, inaccuracies in billings give the impression that some lines are illegally transferred to other users by technicians of the

telecommunication operator. In one case, the telephone subscriber telephoned his number, which was not working, only to get a response at a different location.

- (f) **Rural Service:** Compared to other countries in Africa, telecommunications distribution in Tanzania is fairly equitable; all district centres have telephones. However, service is still unreliable, thus inhibiting electronic publication of newspapers throughout the country. For example, a private publisher expressed concern that it is not able to establish a central database for its business due to unreliable or non-availability of communications facilities in the rural areas.

6.2. Mobile Services

76. Mobile services are provided by private operators. At present, only the Coastal Zone has services provided by two operators: MIC and TRITEL. Users in Arusha look forward with great enthusiasm to the introduction of mobile services in their region. Users have noticed significant improvement in telecommunication access in Dar-es-Salaam as a result of introduction of mobile services. This is one very positive contribution of private sector participation.

77. The cost of mobile services is often regarded as very high. However, with the entry of a second operator, this cost is gradually declining. Nevertheless, mobile services have filled a very important gap in telecommunications service, especially to the business community which can afford the service.

6.3. Cardphone Services

78. Cardphones have replaced coin boxes in public phone booths in Dar-es-Salaam. These have greatly improved access and many users are pleased with the service.

VII. CONCLUSION.

79. Private sector participation in economic development of a country is motivated by the need to improve the sector efficiency as a result of competition, increased investment and expanded services. In Africa in particular, it has become evident that governments can raise much needed revenues through sale of state-owned enterprises, granting licenses and concessions to private operators and reducing government outlays in non-performing assets and thereby redeploying resources to other priority areas. However, the effectiveness of private sector participation depends to a large extent on how it is introduced into a country.

80. The Government of Tanzania recognized that private sector participation and competition are not standard in all countries; changes must be managed within the framework of the overall economy of the country. A suitable environment must be established in order to assure investors a fair return while achieving sectoral development objectives of the country. The decisions by Millicom International Cellular SA and TRI Telecommunications of Malaysia to invest in mobile cellular market in the country are partial realization of the government's policy to promote private sector participation in the country.

81. Private sector participation in telecommunications was introduced in Tanzania in a very systematic manner. It was part of the overall economic reform and reflected government policy to open up the economy. The necessary legal and policy frameworks were established and a regulatory mechanism put in place before monopoly of TPTC was reduced, the market partially liberalized and competition introduced in selected areas of the market. The following sequence was adopted for transforming telecommunications development: public monopoly operator → liberalization of the sector → commercialization of the public operator → introduction of competition in specific sectors → privatization of certain components of the business of the public operator.

82. The decision to reform the communications sector was made in 1992 and a period of two years was dedicated to careful preparation for the reform to take effect in 1994. The enabling legal and institutional frameworks were put in place and capacity building was vigorously pursued in order to orient telecommunications towards commercial operations. The establishment of the regulatory agency at the time of liberalizing the industry ensured order, which is very essential during the transition from a restricted centrally managed operations to a competitive environment. In Tanzania, regulatory reform preceded private sector participation.

83. Assessing the impact of private sector participation in a country requires a much longer period than has so far elapsed in the case of telecommunications in Tanzania. Nevertheless, there are already some tangible results. The mobile cellular telecommunication market in the country amply demonstrated one of the benefits of private sector participation in a competitive market environment. MIC (Tanzania) was the first to provide mobile services in the coastal zone. Being the only operator in this market segment, its charges

were perceived by customers as being rather high, including charges for receiving in-coming calls on the mobile telephone. However, upon the entry of TRITEL in 1996, MIC immediately dropped charges for incoming calls because its new competitor did not levy such charges. Furthermore, MIC also reduced the cost of its service. The entry of a competitor directly benefited new customers by providing additional services; it also benefited MIC's customers in reduced cost of service.

84. An important aspect to be noted from the experience of Tanzania is that the process of introducing such participation also bears some useful lessons; the formulation of new policies (1992); the reform of the sector such as separation of posts from telecommunications and operations on commercial basis (1993); enactment of appropriate acts of parliament (1993); and the creation of an industry regulator (1994).

85. Another useful lesson from Tanzania is in the establishment of the regulatory structure. Building and sustaining regulatory capacity requires resources and commitment. Tanzania has shown definite commitment in setting up TCC as a self-financed and largely independent (arms-length) regulator. Having a regulatory framework with a separate regulator in place is essential for establishing order in a market in transition, especially given the entrenched habits of previous monopoly operator as well as the varied characteristics of new entrants into the market. The regulator in Tanzania has been able to ensure that the interests of each stakeholder are protected. The regulator should have the authority to counter any resistance to change in a fair manner.

86. It should however be noted that, although regulatory reform has opened the way, private sector investment in the country still faces obstacles, key among which is the lack of financing for local investors. The stock market has yet to be set up in the country and, consequently, most private investment so far is foreign.

87. Furthermore, the major telecommunications operator, TTCL, though incorporated as a limited liability company remains wholly owned by the State. This approach of "virtual" privatization^{7/} is usually referred to as commercialization. Furthermore, TTCL has been granted an indefinite period of exclusivity in the mainland in the provision of fixed-line basic telecommunications services. Private sector participation has been introduced not by divestiture of existing state-owned enterprise, but by opening up specific market segments, a process called horizontal unbundling. A strong and independent regulatory agency, TCC, is essential in such a case to ensure fair competition between the dominant operator (TTCL) and the emerging private operators (MIC, TRITEL).

^{7/} Otobo, E.O. Regulatory Reform: An Imperative for Successful Privatization: Economic Commission for Africa, Addis Ababa (1996)

88. Finally, users at large should be involved in the reform process in order to gain their inputs on the one hand, and, probably more important, to avoid generating unreasonable expectations of the impact of the reform. For instance, while significant technical changes have been made by TTCL, their impact on services is not quite evident. Users tend to expect immediate and noticeable change. It is therefore essential that a conscious effort be made to inform the public of developments as it occurs.

89. In conclusion, it can be seen that the introduction of private sector participation in telecommunications sector in the country has indeed resulted in some benefits: there is increased investment in the sector, especially in mobile services and phone bureaus; services have improved as mobile services offer alternative access and cardphones have eliminated waiting lines at public call places; new technology is coming into the country; and telecommunications equipments are more easily available to customers. However, some problems still persist from the past, especially as regards the operations by TTCL, the dominant operator: lack of telephone lines; poor service; expensive international calls; and irregular and inaccurate billing. Nevertheless, there is a general consensus that allowing private sector participation has had a positive impact on the development of telecommunications in the country. This experience could provide useful lessons to other African countries.

LIST OF RESPONDENTS IN TANZANIA

Ministry of Communications and Transport.

1. Mr. A.N. Temba, Director of Planning and Research.
2. Mr. Daniel Kiunsi, Expert in Information Technology.

Tanzania Telecommunications Company Limited (TTCL).

3. Mr. Fadhil J. Manongi, Chief Economist, Directorate of Business and Strategic Planning.
4. Mr. Lucas O. Mwalongo, Senior Economist, Directorate of Business and Strategic Planning.

Tanzania Communications Commission. (TCC)

5. Mr. J.M. Bushesha, Director, Department of Finance and Administration, and Acting Director General.
6. Mr. Emmanuel Mange, Director, Department of Frequency Management.
7. Mr. G.I.S. Ole Medeye, Head, Personnel and Administration, Department of Finance and Administration.

Business Care Services.

8. Mr. Rashidi Mbunguni, Managing Director.
9. Mr. Ali Mwambola, Manager, Finance and Administration.

Tanzania Information Services (MAELEZO).

10. Mr. Nsubisi S. Mwakipunda, Principal Information Officer and Acting Director.
11. Mr. Joseph Qorro, Principal Information Officer.
12. Mr. Kassim Mpenda, Principal Information Officer.

Tanzania Electric Supply Company, Limited (TANESCO).

13. Mr. K.R. Abdulla, Director of Corporate Planning and Research.

MIC Tanzania Limited (Mobitel).

14. Mr. Ronald Ross, Managing Director.

Tanzania Posts Corporation (TPC).

15. Mr. S.M. Msofe, Post Master General.
16. Mrs. R. Makuburi, Manager, International Postal Affairs.
TAZARA
17. Mr. Michael J. Ngonyani, Director, Planning and Research.

Tanzania Hotels Investments Ltd. (TAHI).

18. Mr. Edmonds, Group manager.
19. Mr. Tim Williamson, Group Financial Controller.

Arusha International Conference Centre (AICC).

20. Mr. Edwin Shetto, Director of management Services.
21. Mr. H. Mbaruku, Principal Engineer.

WORKSHOP ON TELECOMMUNICATIONS SECTOR
DEVELOPMENT IN TANZANIA
(25-27 September, 1995)

A. WORKSHOP OBJECTIVE

1. The objective of the workshop was two-fold, first to seek views from stake holders and donors on how best to develop the Telecommunications sector in Tanzania, and second, to start building a culture of stakeholders' participation in evolving issues and developing policies affecting their sector.
2. Participants coming from the government, parastatal organizations, the private sector, telecommunications operators, foreign investors, donor agencies, customers and international organizations discussed a draft study on Telecommunications Sector Development in Tanzania by Carl Bro International a/s and eleven other papers presented by various Authors. They gave their views on issues that should be brought to bear on the following:
 - (a) Development of the right telecommunications policy for Tanzania.
 - (b) Development of regulatory, functional and procedural action by the Regulator in developing an efficient, vibrant and sustainable telecommunications sector.
 - (c) The present and future investors in determining their investments in the sector.
 - (d) The present and future operators in ensuring an efficient, self sustaining and customer satisfying telecommunications sector.

- (e) The consumer and general public in demanding, paying and agitating (through consumer pressure groups) for modern and satisfactory telecommunication service at his money's worth.

3. To start a culture and practice of stakeholder participation in developing evolving issues and strategies that affect their sector.

B. MAIN OBSERVATIONS AND RECOMMENDATIONS OF THE WORKSHOP

4. On the Draft Study on Telecommunications Sector Development in Tanzania by Messrs Carl Bro International a/s the Workshop made the following recommendations:

- (i) The Consultants should have interviewed more Tanzania based firms and individuals with experience in telecommunications.
- (ii) TTCL should not be privatized but should be strengthened so as to enable it to compete effectively with other telecommunications operators.
- (iii) Privatization of the telecommunications sector should take into account and facilitate the participation of local investors. It should also ensure the transfer of the most appropriate telecommunications technology.
- (iv) More studies should be undertaken to establish whether the proposed Regional Operating Companies would be viable. The Consultants should give examples of countries where they have been successful.
- (v) The legal framework within which TCC and TTCL operate should be reviewed and appropriate improvements recommended.
- (vi) TTCL should be exempted from payment of taxes to enable it to reinvest a larger amount of internally generated revenue.
- (vii) Government should be asked to convert into equity some of the loans owned by TTCL.
- (viii) The consultants should have looked into the possibility of manufacturing locally some of the telecommunications components and equipment currently being imported from abroad.

5. On the Regulator's point of view and vision the Workshop made the following recommendations:

- (i) TCC should build the necessary capacity (human and technological) to perform all its duties without relying on TTCL.
- (ii) TCC should formulate and clearly articulate a coherent and transparent telecommunications development policy. Stakeholders should be fully involved in the process.
- (iii) TCC should initiate the formation of Telecommunications Advisory Committees at national as well as regional level.
- (iv) Before attending important international conferences TCC should seek the views of stakeholders.
- (v) TCC should create a conducive environment for private investment in the sector and should level the ground for free and fair competition in value added as well as in basic services.
- (vi) TCC should encourage and monitor local manufacture of telecommunications components and equipment. It should establish standards for such products.
- (vii) The TCC tendering and licensing procedures should be transparent and above board.
- (viii) TCC should impose sanctions on any operator who does not fulfill stipulated performance targets.
- (ix) Operators of Land Mobile Cellular Telephone Services should not charge their customers for in-coming calls. They should also reduce their tariffs to affordable levels.

6. On the Dominant Operator's point of view and vision the Workshop made the following recommendations:-

- (i) TTCL should not be privatized nor fragmented into Regional Operating Companies (ROCs), instead it should be reorganized to make it more market and customer oriented.
- (ii) The company's Board of Directors should include people with proven business experience and those with long experience in the telecommunications sector.
- (iii) There should be a dynamic personnel training programme for TTCL and the rest of the sector.

- (iv) The TTCL Training College should be commercialised.
- (v) TTCL should welcome participation of private investors capable of injecting capital, management as well as technical skills.
- (vi) Corruptive practices by some of TTCL staff should be eliminated.
- (vii) TTCL should pay its staff motivating salaries and other benefits. This will help in eradicating or at least minimizing corruption.
- (viii) Where a customer has more than one line, the under utilized lines should be allocated to other applicants.
- (ix) TCC should require TTCL and all other operators to achieve a certain minimum quality level in the services they provide.
- (x) TTCL should explore possibility of using the TANESCO, TAZARA & TRC dedicated networks, especially in providing telecommunication for rural telecommunications services.
- (xi) Government should exempt TTCL from payment of taxes and should convert into equity some of the loans owed by the company.
- (xii) Tariffs should be rebalanced periodically in order to offset the adverse effects of devaluation and inflation.
- (xiii) Regional cooperation in telecommunication development should be encouraged through SADC, COMESA or East African Cooperation of bilaterally.

7. On Telecommunications Contractors' point of view and vision the Workshop made the following recommendations:

- (i) In awarding contracts TCC and TTCL should bear in mind the need for technological transfer to nationals and creation on employment for local telecommunication contractors.
- (ii) Procedures for obtaining work permits for foreign investors and personnel and clearing telecommunication equipment through customs should be streamlined.
- (iii) Telecommunication equipment should be exempted from import duty.

- (iv) Suppliers of telecommunications equipment should provide warranties and after sales service for reasonable periods. They should guarantee availability of spare parts for at least seven years.

8. On Telecommunications Fundamental Plans the Workshop made the following recommendations:

- (i) All Fundamental Plans should be managed by TCC and should be published for the information of the main players and stakeholders.
- (ii) They should be reviewed regularly to keep abreast with technological changes and market trends.
- (iii) The change from Analogue to ISDN should be accelerated.

9. On Multimedia the Workshop made the following recommendations:

- (i) In view of convergence of technology in telecommunications, information and broadcasting, the Ministries responsible for these functions should be restructured so as to bring them under a single Ministry and Regulator.
- (ii) Negotiations should be conducted with neighboring countries in WRC-95 to make no change in the 1-3 GHZ.
- (iii) A body should be created or appointed to control the importation of computers.

10. On Local Manufacture and Research and Development the Workshop made the following recommendations:

- (i) TCC should support a chair at the University of Dar-es-Salaam, Department of Engineering. An incentive package for researchers should be considered.
- (ii) Standards should be established for locally manufactured telecommunications components and equipment.
- (iii) Industries should be encouraged to support R & D in their respective sectors.
- (iv) Collaboration with neighboring countries in manufacturing telecommunications equipment should be encouraged.

- (v) South - South cooperation in telecommunications development and in sourcing of supplies should be explored.
- 11. On Scientific and Technological Human Resources Base in Tanzania the Workshop made the following recommendations:-**
- (i) The Telecommunications sector (through TCC) should prepare a sectoral human resources development indicative plan.
 - (ii) The education system in the country should be reoriented in favour of science subjects.
 - (iii) TTCL and other telecom operators should intensify their training programmes through
 - (i) formal education
 - (ii) On the job training
 - (iii) Portable self learning modules.
 - (iv) Local retired telecommunications professionals and technicians should be re-engaged on contract or as consultants. Foreign consultants should be encouraged to seek their views.
 - (v) Telecommunications engineers should also be trained in resource management such as finance, manpower, materials and in other commercially focused activities.
- 12. On the Local Private Investors' point of view and vision the Workshop made the following recommendations:**
- (i) Telecommunications development plans should be coordinated with those of other sectors of the economy.
 - (ii) Tariff rebalancing should apply to all operators of telecommunications services.
 - (iii) Radio paging should be encouraged.
 - (iv) TTCL should develop a Public Data Telecommunication Network.
- 13. On Consumer's point of view and vision the Workshop made the following recommendations:**
- (i) TTCL should endeavour to allocate telecommunication facilities on a first come first serve basis.

- (ii) Faulty lines should be repaired promptly.
- (iii) A more efficient billing system should be introduced so as to avoid arbitrary disconnections.
- (iv) Tariffs for international calls should be affordable so as to avoid call-back arrangements.
- (v) Consumer representatives should be involved in formulating telecommunication policies.

14. On Strategies for Providing Telecommunications Services in Rural and poor urban areas in Tanzania the Workshop made the following recommendations:

- (i) TCC should explore feasibility of establishing a private sector company to provide telecommunications services to one or more rural and poor urban areas.
- (ii) TCC should set up a Rural Telecommunications Development Fund (RTDF) to subsidize such operations.
- (iii) TTCL should go into joint ventures with TANESCO, TAZARA and TRC in providing rural telecommunications services.
- (iv) Possibility of establishing Rural Telecommunications Cooperatives should be studied.

15. On Ownership and Management of Telecommunications Services in Tanzania the Workshop made the following recommendations:

- (i) Free and fair competition should be the rule of the game in the telecommunications sector.
- (ii) Private investors, both local and foreign, should join hands with TTCL in developing the telecommunications sector.
- (iii) TTCL and private investors should go into joint venture in specific telecommunications projects.
- (iv) TTCL should sell some shares to nationals.
- (v) Government should establish a Stock Exchange to facilitate buying and selling of shares.

16. On Telecommunications Industry as Trade in Services the Workshop made the following recommendation:

- * TCC and TTCL should study the WTO General Agreement on Trade in Services (GATS) with a view to developing the telecommunications sector to required international standards.