Final Report

Annexes Report

SPECIALISED POLICY ADVICE (PS-2)

for

His Majesty's Government

Ministry of Information and Communication

Nepal

November 2003

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STRUCTURE OF REPORT

The report of project Specialised Policy Advice (PS - 2) consists of four volumes:

- **Main Report**
  - Annex Draft National Telecommunications Policy
  - Annex Explanatory Document to Policy

- **ICT Report, Information and Communications Technologies in Rural Nepal** - enhancing access and services delivery.

The main author of this volume is Ms Claire Milne, Antelope Consulting, cbm@antelope.org.uk, www.antelope.org.uk.

- **Legal Report**
  - Legal assessment of the current regulatory regime
  - Draft short term amendments to legislation

The main author of this volume is Mr. Simon Topping, simon.topping@twobirds.com, www.twobirds.com.

- **Annexes Report**
  - Annexes (working papers on selected topics, to be used in implementation of the Policy)

The report is structured provide shorter reports for those whose interest is only part of the scope of the entire project.

The Main Report includes the high level outcome of the Project, including the draft National Telecommunications Policy. The Policy includes implementation strategies and an annex with timing of actions. The Explanatory Document includes the background for the Policy.

The Information and Communications Technologies (ICT) volume is the outcome of two separate tasks in the TOR, addressing introduction and use of ICTs in rural Nepal. Implementation of the ICT proposals is less clear-cut than for the policy proposals, and requires further study.

The Legal report includes a legal assessment of the proposed amendments to the legislation, Act and regulation.

The Annexes Report includes a collection of separate discussion documents that were developed during the work in co-operation with the Policy Team. The purpose of the working papers was to work out various key policy topics with the Policy Team and in general the MOIC and the NTA. The working papers are essential for implementation of detailed strategies, to be used by MOIC and NTA staff and subsequent consultants.

SUMMARY OF CONTENTS OF ANNEXES REPORT

Terms of Reference

Correspondence with Terms of Reference

Formation of Policy Team

Persons met

Discussion papers

Papers on specific topics, most of them presented during seminars for the Policy Team. Due to the nature of the papers (essentially stand-alone), they overlap to some extent. The papers are partially updated to correspond to development after the relevant seminar.

Paper heading	Contents
Status of telecoms in Nepal	An international comparison of the telecoms situation in Nepal
Universal Access	A study of the population of rural Nepal, its consumption pattern, an estimate for demand for telecoms and its division in own and shared connections, and business plans for small PCOs
Options for liberalisation and privatisation	A summary of options for liberalisation and privatisation, including commercialisation. The paper also includes an action plan with timing. The first priority is to continue liberalisation
Report on Ownership tax and Service charges	An analysis of telecommunications taxation, including a proposal for immediate removal of Ownership tax (Rs 1500 per new user), and a proposed staged programme for normalisation of taxation (stepwise removal of royalty and Service charge). The paper also includes a tax revenue estimate and points out that increasing overall telecoms revenue by licensing new operators is the best way to increase tax revenue to HMG
Open and technology-neutral licensing	A long term licensing reform concept aiming at open and technology neutral licensing, which is the future when borders between different forms of communications disappear (convergence). The paper also includes a proposal for transition to a new licensing regime
Mobile licensing with maximum rural coverage	An outline for a licensing process and tender aiming at selecting the licensees based on maximum rural coverage rather than maximum licence fee. In addition an outline for least subsidy tendering principles after the mobile tender. Both can be implemented based on temporary changes to the Act. The paper includes a short annex with basics of dual band GSM spectrum assignment
WTO telecom offer	A background paper for Nepal's offer to the WTO regarding the agreement on basic telecoms
WTO telecom offer - Schedule	The offer (Schedule) in the format that the WTO requires
Short Term Action Plan for Open Licensing by 2004	The 1999 telecom policy states that all telecoms shall be open for full competition by 2004. The paper is an Action Plan to implement that objective

Table 1. Summary of discussion papers.

Workshop proceedings

Summary of the discussions during the workshop held 15 May 2003
Summary of the discussions during the workshop held 24 September 2003

TABLE OF CONTENTS

ABBREVIATIONS

ADB	Asian Development Bank
ADSL	Asymmetric Digital Subscriber Line
ARPU	Average Revenue per User
BOI	Board of Investment
BTO	Build Transfer Operate
CBO	Community Based Organisation
CDMA	Code Division Multiple Access, mobile technology
DIDC	District Information and Documentation Centre
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GIS	Geographic Information System
GNP	Gross National Product
GSM	Global System for Mobile Communication, mobile technology & service concept
HMG	His Majesty's Government of Nepal
IDA	International Development Association
ISP	Internet Service Provider
ICT	Information and Communication Technologies
IT	Information Technology
ITU	International Telecommunication Union
LDC	Least Developed Country
LOI	Letter of Intent
MBO	Management Buy-Out
MCT	Multipurpose Community Telecentre
MOF	Ministry of Finance
MOIC	Ministry of Information and Communication
MOLD	Ministry of Local Development
MOST	Ministry of Science and Technology
MSI	Media Services International
NGO	Non-Government Organisation
NITC	National Information Technology Centre
NTA	Nepal Telecommunications Authority
NTC	Nepal Telecommunications Corporation
OCID	Overall Composite Index of Development for Districts
OECD	Organisation for Economic Co-operation and Development
PABX	Private Automatic Branch Exchange
PDDP	Participatory District Development Programme
RIO	Reference Interconnection Offer
RoW	Rights of Way
SAPAP	South Asia Poverty Alleviation Programme
SIM	Subscriber Identity Module
SLT	Sri Lanka Telecom
SMS	Short Message Service, text messages in mobile telephony
TOR	Terms of Reference
TSRP	Telecommunications Sector Reform Programme
UMTS	Universal Mobile Telecommunications System
UNDP	United Nations Development Programme
UPS	Uninterrupted Power Supply
USD, US$	Dollar of the United States of America
UTL	United Telecom Ltd.

VAT	Value Added Tax
VCR	Video Cassette Recorder
VDC	Village Development Committee
VSAT	Very Small Aperture Terminal (satellite terminal)
WLL	Wireless Local Loop
WTO	World Trade Organisation
xDSL	Digital Subscriber Line of any technology

KEY TERMS

Broadband	Data transmission at a speed about sufficient to transmit slow video, usually implemented using the fixed telephone network (ADSL), cable television networks, or wireless connections to users
Commercialisation	Conversion of a government owned entity towards more commercial ways to operate, usually more customer oriented
Corporate services	Generic name for telecom services that companies, corporations and government entities etc. use, such as data transmission, other data services, leased lines, virtual networks, video transmission, etc.
Dual band spectrum	Radio spectrum from two different bands assigned to mobile operator, e.g. GSM 900 and GSM 1800
Dual licensing regime	Licensing regime with two parallel types of licences, such as new and old, during a transitional period
Individual Licence	A licence that is issued based upon a tender for spectrum based telecommunications services from year 2004 onwards
Interconnection	Connection of telecommunications networks to carry calls etc. from one network to another, including technical, financial, administrative and other required arrangements
Least subsidy tendering	Tendering for arranging defined services in a defined area, which is not served on a commercial basis, based on the lowest (usually one time) subsidy that an applicant offers
Liberalisation	Allowing more operators in the market, often transition from monopoly to competition
Licensing	The process of issuing licences and authorisations
Open and Technology Neutral Licensing, or Open Licensing	The procedure of issuing Standard Licences and Individual Licences
Ownership Tax	A tax (Rs 1500) levied on every new telephone user
Price elasticity	Relation between price and demand, lower prices <-> higher demand
Privatisation	The procedure when ownership of a government owned entity is sold to the private sector, either partly or fully
Receiving Party Pays	The principle that the receiver of a (mobile) telephone call pays for receiving the call

Rights of Way, Right to Use Land	The rights of an operator to locate network components on public ground (streets, roads, etc.), based on telecoms legislation
Royalty	A tax (4 %, or fixed in a licence as an outcome of a tender) imposed on telecommunications user bills in addition to operator charges, but before imposing VAT
Service Charge	A tax (15 %) imposed on telecommunications user bills in addition to operator charges, but before imposing VAT
Standard Licence	Term used in this project for a licence that is issued to any applicant meeting minimum criteria, for operation of telecommunications services from year 2004 onwards
Technology Neutral	The principle that licences, taxes, rules and regulations etc. are the same independent of technology, also that operators may use any technology
Telephone penetration	Average number of telephone connections per 100 inhabitants. The ITU uses the term *teledensity*
Universal Access	All inhabitants in a country have access to a public telephone (relevant for developing countries)
Universal Service	All inhabitants in a country have the right to obtain a telephone to his / her home at an affordable price (not realistic in developing countries)

Status of Telecoms in Nepal

1. Terms of Reference

Terms of Reference

Appendix: A -Description of Services (Terms of References)

HIS MAJESTY'S GOVERNMENT OF NEPAL (HMG)
Ministry of Information and Communications (MOIC)
Telecommunications Sector Reform Project (TSRP)
Terms of Reference (TOR)
For
Consultancy for Specialized Policy Advice (PS-2)

A. Outline of Government Policy and Objectives

His Majesty's Government of Nepal (HMG) is already implementing its reform program for the telecommunications sector. Having recognized, the importance of telecommunications as an increasingly important factor for economic development, social inclusion and welfare enhancement of the nation. HMG has taken a number of important actions to improve sector performance. These include:

1. Parliament passed new Telecommunications Act in April 1997 (amended in January, 2001) establishing a modern framework for regulation of the sector. The regulatory framework is aimed at putting all operators on an equal competitive footing and increasing competition;

2. Establishment of Nepal Telecommunications Authority(NTA) as stipulated in the Act and appointment of the NTA Chairman and it's Members;

3. Adoption of the new progressive telecommunications policy in September 1999 (amended in August 2002). The stated policy objective is the liberalization of the sector by promoting private sector participation in all market segments to ensure provision of qualitative telecommunications services at competitive rates. With the successful implementation of the policy, the sector performance is expected to improve dramatically.

4. More liberal and progressive "New Long-term Communications Policy-2059" has already come into affect since June 2002.

5. HMG-N has issued licenses to the private sector to operate FM radio, cable, and terrestrial as well as satellite TV broadcasting services.

The Ministry of Information and Communications (MOIC) is charged with formulating His Majesty's Government (HMG) of Nepal's telecommunications sector policy. The 1999 National Telecommunications Policy aims to develop and expand telecommunications services in a fair competitive atmosphere with the involvement of private sector and to make available new telecommunications services needed for the development of the country, by fulfilling the demand for services in a timely manner in all the areas of the Kingdom. Specifically, the policy provides for the:

1. Involvement of the private sector in the development and operation of telecommunications services in accordance with liberalization policy of HMG of Nepal.

Terms of Reference

Appendix: A -Description of Services (Terms of References)

2. Provision of quality services at a reasonable price by creating an environment of fair competition among the service providers.

3. Provision of basic telephone services in remote and inaccessible rural areas also of the Kingdom.

4. Creation of a pro-competitive interconnection regime.

Progress has been made in the implementation of the policy as evidenced by the following key actions taken by the Government and NTA:

- Issuance of a total of over 70 licenses for VSAT, radio paging and internet service providers; Basic telephone services and cellular mobile service;

- Selection of a second GSM operator in November 2000;

- Decision to privatize Nepal Telecommunications Corporation (NTC) and completion of a draft information memorandum (with the assistance of DANIDA financed consultants). The privatization process is expected to be completed within the next two years. As a precursor to privatization, NTC will be converted to a Limited Company.

- Selection of a WLL operator in June 2001.

Rural access and connectivity are the priorities of HMG. As a part of strategy of HMG, reflected in the recent telecommunications policy, MOIC and NTA are establishing a benchmark subsidy for rural investments by private operators. Process to issue a license to a private operator for the provision of Rural Telecommunications Services (RTS) in the Eastern Development Region has already been started. The bidder proposing the best option indicating lowest subsidy shall be selected through international competitive bidding. This will ensure efficient utilization of scarce public resources and will provide a benchmark for rural operations of NTC.

The primary activities included in the reform program are the following:

- Preparation of a policy update and strengthening the organizational and institutional capacity of the policy cell to enable it to respond to policy issues in the sector
- Modernization of the radio spectrum management and monitoring system and regulatory regime, including strengthening institutional capacity
- Establish an adequate regulatory environment by strengthening the capacity of government to respond to regulatory issues in the sector.
- Prepare licensing strategy to provide telecommunication services in the rural areas
- Finance the subsidy element required to induce private operators to provide rural telecommunication services (RTS)
- Avoid unfair competition among the service providers.

Terms of Reference

Appendix: A -Description of Services (Terms of References)

B. Scope of Work for Specialized Policy Advice Consultants

1. Objectives

The assignment has the following objectives:

1) to assist MOIC on all policy issues that will arise in the context of further liberalization of the sector, commercialisation of NTC, its potential privatisation and in the preparation of offer of HMG to the WTO agreement on Basic Telecommunications.

2) to assess and make a detailed recommendation on options for accelerating the provision of rural communications connectivity, in particular, approaches to deliver new modes of service delivery, e.g. licensing Tele-centers, and privately operated pay phones, distance education, health and other government programs to the rural population.

2. Tasks

The consultants will be responsible for the following tasks, which will be developed in close collaboration with the MOIC team:

Task 1. Expanding access

a) Assist the MOIC in assessing options to accelerate the provision of rural communications connectivity in currently underserved and not served areas
b) Recommend how access to more advanced telecommunications services, such as Internet, and IT services can be enhanced.
c) Identify new approaches to deliver services such as health, distance education and other government programs and services to the rural population.

Task 2. Further liberalization of the sector

a) Advice the MOIC on the sequence, speed, extent and modalities for further commercialization of NTC and liberalization of the sector. This recommendation should be detailed enough to lead to the following key outputs: (i) determination of the sequence, speed and scope of privatization of NTC service and (ii) detailed recommendations on the possible consolidation of existing service or technology specific licenses into composite licenses modification
b) Assist MOIC in the preparation of an offer to the WTO agreement on basic telecommunications.

Task 3. Consensus building and Transfer of skills

a) Conduct an in-country workshop to present the findings and outputs of the assignment, as an essential step in securing the necessary consensus to ease approval of the policies developed with all stakeholders in the sector.
b) Throughout the assignment, the consultants will provide hands on training to MOIC staff in policy development in an effort to transfer skills to their counterparts.

Terms of Reference

Appendix: A -Description of Services (Terms of References)

The consultants selected shall be responsible to provide Ministry of Information and Communications with independent advice on telecommunications sector policy issues, based on relevant international experience, state-of-the art knowledge of best practices in sector policy, adequate methodologies and tools; and specific analytical evidence to be developed.

C. Administrative Arrangements

1. Counterpart

The Consultants shall report to their counterpart MOIC who in turn will:

- facilitate coordination with other consultants and relevant Government departments.
- facilitate access to reports, information, data and to other persons in HMG as appropriate and in a timely manner.
- provide office space, local administrative support and facilities.

2. Time Frame

The entire assignment is scheduled to be completed in 6 man-months within a 10 month period from the date of signing the agreement between the MOIC and the Consultant. The Consultant should indicate if the time required to complete the work differs from this schedule. This will be taken into account when evaluating the proposals. The Consultant shall submit monthly reports on the progress of the assignment, and a full report upon completion.

3. Qualifications

The consultant is expected to be a firm or joint ventures of firms and will be selected based on its experience and capacity in carrying out this type of work. Its knowledge of, and experience in the telecommunications sector, with necessary skills. One of them having at least 10 years of international experience in telecommunications policy and be familiar with international practices in telecommunications policy, legislation, privatization and regulatory issues, relevant to the situation in Nepal. It is envisaged that the assignment shall be carried out by one consultant. However, if additional consultants are required they should have at least five years of experience in above mentioned areas of work.

D. Deliverables

The consultant should produce the following reports and recommendations.

1. Inception Report
2. Draft report of USO Policy options and recommendations.
3. Draft Report of Options and Recommendations including blueprint for the liberalization of the sector.
4. Draft New Telecom Policy

Terms of Reference

Appendix: A -Description of Services (Terms of References)

Addendum to TOR of Specialized Policy Advice - (PS-2)

The following study and impact analysis on Telephone ownership tax and telephone service charge reduction/abolishment is added on the TOR of the PS-2

1. Background :

Telecommunications Ownership Tax and Service Charge :

The tax regime on the telecommunications sector puts services beyond the reach of a large proportion of the Nepalese population. In particular, telecommunications service charge of 15% on the Nepal Telecommunication Corporation (NTC) bill amount is levied to all the subscribers. Further, a 10% VAT is charged to all the subscribers on the aggregate amount of NTC bill and telecommunications service charge. So, every telecommunications subscribers are paying a 26.5% tax on NTC bill amount. Moreover, during the assignment of a telephone number ownership tax of Rs 1,500 flat is charged to all the new subscribers. This case is same in the case of the Mobile subscribers as well and the pre-paid card holders are also intended to be treated as a new subscriber.

NTC has already purchased an intelligent network platform and is ready to provide pre-paid services. However, such service provision has not yet begun, as it is yet to be decided whether or not prepaid subscribers have to pay the ownership tax. The trend in most developing countries that have introduced mobile services is that prepaid services make access affordable for the majority of the people. Particularly, the prepaid services are targeted towards the tourists and the lower middle class groups. It allows subscribers to make budgetary control over the usage while still having affordable access to telecommunications. Prepaid cards also allow low income people to obtain the telecom service with out a credit check. It allows operators to control costs as prepaid services involves less customer administration and no bad debt liabilities. In Nepal, where high charges have kept cellular services beyond the reach of the majority of people, the imposition of the telecommunications ownership tax for prepaid services will not allow the country to take full advantage of the benefits of prepaid mobile service. It is considered that HMG/N take necessary steps either to abolish or to reduce this telecommunications ownership tax considerably. Consideration of the estimated contribution by this tax to government revenue must be balanced by an understanding of the impact of such a tax which results in dampening effect to the increase of larger customer base and the economic activities generated by access to telecommunications services. The MOIC, MOF and NTA are desirous to undertake to a fiscal impact analysis study so that Ministry of Finance (MOF) can make and informed decision on either abolishing/reducing such telecom service charge and ownership tax in particular.

2. Objectives :

The overall objectives this study is to carry out a fiscal and economic impact study on the abolishment/reduction of the telecommunication ownership tax and service charge. This study is supposed to facilitate the MOF to arrive at a decision.

Terms of Reference

Appendix: A -Description of Services (Terms of References)

2.1 The following will be the specific task :

(a) Present the data/status on the international experience in this topic, especially in similar developing countries and south Asia region.
(b) Assess the possibility including the magnitude of increased access and revenue by increased customer base and economic activities generated by access to the services.
(c) Implications of the ownership tax on the sale of the proposed prepaid cards of cellular mobile to be analyzed thoroughly. The same analysis should be carried out in case of the telecom service charge.
(d). *Based on the impact analysis, suggest/recommend to abolish/reduce the said service charge in general and the Ownership tax in particular.*

3. Time Schedule

The Draft Study report should be submitted by April 20, 2003 and the final report by 27 April 2003.

4. Assistance from the Client

The Client will provide information/data to the Consultant on the annual revenue collection regarding telephone ownership tax and telephone service charge for last three years.

Terms of Reference

Scope of Additional Work for Telecom Act / Regulations Drafting

A. Background on existing Telecom Act and Regulations

The Telecommunication Act and Telecommunication Regulation were prepared in the mid 1990's, reflecting the reforms to be undertaken in the telecom sector at that time. Since then, the sector has developed rapidly everywhere, and it is normal to amend the telecommunication legislation and subsidiary Regulations every one to two years in order o relect and make provisions for the further development of the sector.

The Telecommunications Act of 1997 was amended in January 2001. The Telecommunications Policy of 1999, as amended in August 2002, clearly sets a deadline for the full liberalization of the sector starting on January 1, 2003. It is important for the Government to adhere to this liberalization time table in order to:

- Ensure that Nepal does not fall behind its regional peers in the development of crucial telecommunications and information infrastructure;
- Preserve credibility for investors and market participants;
- Obtain admittance to the WTO's Agreement on Basic Telecommunications.

There is a need to implement important amendments to the existing legislation and Regulations in order to implement market liberalization in 2004. For example, the existing legislation does not establish a very pro-competitive licensing regime as it does not distinguish between licences and permits / authorisations. With the forthcoming market liberalization, it will be necessary to implement a simple licensing process, where licenses are awarded for facilities / services that require the use of limited resources such as the radio spectrum and authorisation of other services. Therefore, it is recommended that urgent amendments be made to the existing Act and Regulations in order to facilitate market liberalization.

B. Objectives :

The overall objective is to prepare needed amendments to the existing Telecommunication Act and Telecommunication Regulations for implementing the full liberalisation of the telecom sector as provisioned in the Telecommunications Policy 1999 and the new Draft Telecommunications Policy being developed under ongoing PS-2 Project.

The specific objectives are:

a) Undertake a detailed legal analysis of the initial requirements for liberalization in 2004; and in particular assess the requirements concerning licensing changes to enable liberalization and mobile licensing, interconnection, leased lines, right of way, facilities sharing, dispute resolution requirement, universal service, and numbering, among others.
b) Prepare amendments in close co-operation with MOIC and NTA officials.
c) In co-operation with MOIC / NTA undertake stakeholder (sector players and related HMG/N agencies) consultations in order to build consensus on the proposed legislative amendments.

Terms of Reference

The finalized drafts must also be prepared in the Nepalese language.

C. Administrative Arrangements

1. Counterpart

The Consultant will report to the Project Coordinator, TSR Project. A team of counterparts will be assigned, who in turn will:-

- facilitate co-ordination with the other consultants and relevant Government departments.
- facilitate access to reports, information, data and to other persons in HMG as appropriate and in a timely manner.
- provide office space, local administrative support and facilities.

2. Time Frame

The entire assignment is scheduled to be completed within 21 man days over a period of one month from the date of acceptance to be issued by the Client. The following is the suggested man-days. The Consultant should indicate if the time required to complete the work differs from this schedule.

Telecom leader / Telecom consultant (international)	3 days
Telecom Legal Expert (international)	10 days
Telecom expert (local)	4 days
Legal expert (local)	4 days

D. Qualifications

The consultants should have knowledge, experience in the telecommunications sector with necessary skills.

E. Payment

Upon receipt of the final report acceptable to the Client the total payment will be made within 45 days of the receipt of invoice.

F. Deliverables

The Consultant should produce the Final Report consisting the followings in English and Nepali language:

1. Amendments to the Telecommunications Act of 1997 as amended in 2001.
2. Amendments to the Telecommunications Regulations of 1998, as amended in 1999, 2001 and 2002.

2. Correspondence with Terms of Reference

Correspondence with Terms of Reference

2.1 GENERAL

This annex is a summary of correspondence with the Terms of Reference.

2.2 TASKS IN THE TOR AND REFERENCE TO PROJECT DELIVERABLES

The text of the TOR is shown as normal, the references to project deliverables is in italics.

Objectives

1) to assist MOIC on all policy issues that will arise in the context of further liberalization of the sector, commercialisation of NTC, its potential privatisation and in the preparation of offer of HMG to the WTO agreement on Basic Telecommunications.

Liberalisation is a main part of the draft Policy, it is the basis for the amended legislation (see Legal Report), and is described in more detail in the following annexes:

- Options for Liberalisation and Privatisation,
- Open and Technology Neutral Licensing,
- Mobile Licensing with Maximum Rural Coverage, and
- Action Plan for Open Licensing by 2004.

Commercialisation and privatisation of NTC is included in the draft policy, and is described in more detail in the following annex:

- *Options for Liberalisation and Privatisation.*

Preparation of an HMG offer to the WTO is included in the following annexes:

- *WTO Telecom Offer, and*
- *WTO Telecom Offer - Schedule.*

2) to assess and make a detailed recommendation on options for accelerating the provision of rural communications connectivity, in particular, approaches to deliver new modes of service delivery, e.g. licensing Tele-centers, and privately operated pay phones, distance education, health and other government programs to the rural population.

Rural connectivity (mainly telephone) is perhaps the most important feature of the entire policy. Delivery of services is also included in the policy.

Rural connectivity is the main focus of the annex Mobile Licensing with Maximum Rural Coverage, and delivery of services is the focus of the separate report volume on ICTs in rural Nepal.

The consultants will be responsible for the following tasks, which will be developed in close collaboration with the MOIC team:

Correspondence with Terms of Reference

Tasks

Task 1. Expanding access

a) Assist the MOIC in assessing options to accelerate the provision of rural communications connectivity in currently underserved and not served areas

Rural connectivity (mainly telephone) is perhaps the most important feature of the entire policy.

Rural connectivity is the main focus of the annex Mobile Licensing with Maximum Rural Coverage, including a component of Internet connectivity.

b) Recommend how access to more advanced telecommunications services, such as Internet, and IT services can be enhanced.

The draft Policy is based on full liberalisation, which will remove many of the present obstacles for provision of more advanced telecommunications services, in particular to the urban corporate sector.

The annex Mobile Licensing with Maximum Rural Coverage includes delivery of Internet access within the coverage area of the new mobile licensees.

c) Identify new approaches to deliver services such as health, distance education and other government programs and services to the rural population.

Delivery of services is included in the policy.

Delivery of services is the focus of the separate report volume on ICTs in rural Nepal.

Task 2. Further liberalization of the sector

a) Advice the MOIC on the sequence, speed, extent and modalities for further commercialization of NTC and liberalization of the sector. This recommendation should be detailed enough to lead to the following key outputs: (i) determination of the sequence, speed and scope of privatization of NTC service and (ii) detailed recommendations on the possible consolidation of existing service or technology specific licenses into composite licenses modification

Commercialisation of NTC is included in the policy. Liberalisation of the sector is one of the main features of the proposed policy. The Action Plan (annex to the Policy) includes a summary of sequence, speed and modalities of activities.

Commercialisation and privatisation are furthermore included in the annex Options for Liberalisation and Privatisation. The annex Open and technology-neutral licensing is a blueprint for a major licensing reform, addressing in detail this task of the TOR.

b) Assist MOIC in the preparation of an offer to the WTO agreement on basic telecommunications.

Correspondence with Terms of Reference

The annexes WTO Telecom Offer and WTO Telecom Offer - Schedule were developed to provide HMG with the needed support in this respect.

Task 3. Consensus building and Transfer of skills

c) Conduct an in-country workshop to present the findings and outputs of the assignment, as an essential step in securing the necessary consensus to ease approval of the policies developed with all stakeholders in the sector.

Two workshops were conducted, apparently with excellent results.

d) Throughout the assignment, the consultants will provide hands on training to MOIC staff in policy development in an effort to transfer skills to their counterparts.

The assignment included 10+ short seminars for the Policy Team, with discussions on various policy topics. These seminars were hands-on training, learning by doing. The seminars resulted in the Policy team giving instructions to the Consultants on how to amend the various working papers to better suit Nepal.

Throughout the assignment, the Consultant had continuous contacts with MOIC and NTA staff and other relevant stakeholders. The Consultants also used an open door policy, resulting in informal discussions, sometimes even long, with interested persons.

In addition, the Consultants printed a number of copies of various versions of the working papers for the seminars, to disseminate information to MOIC, NTA, and also other stakeholders, and to invite feedback. The Consultants also printed a number of international reports with relevant information on world-wide trends and underlying reasons. The Consultants used a total of five laser printer cassettes, each sufficient for about 5000 pages. Thus the total number of distributed pages was probably between 20,000 and 25,000.

Additional TOR on taxation

The assignment included an additional TOR, on taxation of telecommunications, with the following tasks:

(a) Present the data/status on the international experience in this topic, especially in similar developing countries and south Asia region.
(b) Assess the possibility including the magnitude of increased access and revenue by increased customer base and economic activities generated by access to the services.
(c) Implications of the ownership tax on the sale of the proposed prepaid cards of cellular mobile to be analyzed thoroughly. The same analysis should be carried out in case of the telecom service charge.
(d). Based on the impact analysis, suggest/recommend to abolish/reduce the said service charge in general and the Ownership tax in particular.

The response to this task is the annex Report on Ownership Tax and Service Charge.

Correspondence with Terms of Reference

The response apparently assisted in the decision to reduce the Ownership Tax for pre-paid mobile telephone connections from Rs. 1500 to Rs. 50. After the tax reduction NTC introduced pre-paid cards, with a resounding response, showing that the tax reduction contributed to service provision, but also increasing tax revenue as pre-paid users pay normal telecommunications tax for usage. However, neither increased service provision nor increased tax revenue is fully implemented as mobile and pre-paid coverage is so far provided only for a small portion of the population.

The annex also includes a proposed long-term plan for reduction of telecommunications taxation towards international best practice, normal business taxation. The plan is based on licensing new operators increasing total sector revenue and subsequently increased tax revenue. Once the tax revenue increases, taxation can be stepwise reduced towards normal business taxation

Additional TOR on legal work

The assignment included an additional TOR, on taxation of telecommunications, with the following tasks:

a) Undertake a detailed legal analysis of the initial requirements for liberalisation in 2004; and in particular assess the requirements concerning licensing changes to enable liberalization and mobile licensing, interconnection, leased lines, right of way, facilities sharing, dispute resolution requirement, universal service, and numbering, among others.
b) Prepare amendments in close co-operation with MOIC and NTA officials.
c) In co-operation with MOIC / NTA undertake stakeholder (sector players and related HMG/N agencies) consultations in order to build consensus on the proposed legislative amendments.

The legal analysis was mainly done as part of the main project, and is included in the Legal Report. The analysis was further refined during discussions with the legal consultant, Mr. Ram Kumar Shrestra and the Legal Team, consisting of the legal officers of MOIC and NTA.

Proposed amendments of the Telecommunications Act and the Telecommunications Regulation were prepared, to facilitate implementation of the policy.

The principles for the legal amendments were thoroughly discussed during the second workshop, with a large consensus achieved. The detailed drafting was then done with the legal team.

2.3 Tasks performed but not included in the TOR

It is normal that consultants extend their work slightly outside the TOR when the success of the project requires. In this project the most important such cases were:

Correspondence with Terms of Reference

- *development of a new licensing regime*
- *development of a plan for and outline of a tender for mobile licences.*
- *estimate of rural telecommunications demand.*

The TOR did include a task on consolidation of existing licences, but did not require design of a new licensing regime. The dual licensing regime plan for transition to the new regime is the immediate response to the TOR. The task was undertaken to explain in more detail the general concept of liberalisation mentioned in the TOR. The licensing regime consultants to NTA (starting work in October 2003) will develop the licensing regime concept in more detail.

The TOR did not mention a tender for mobile licences. An RFP for a consultancy for mobile licensing guidelines was mentioned in the Aide Memoire of The World Bank dated January 2003. That consultancy is now unnecessary, but a consultancy will be needed to formulate and run the tender. The task was undertaken to explain how a mobile tender based on coverage instead of highest licence feed could be designed. The mobile tender is a cornerstone of the proposed policy.

The TOR did not mention an estimate for demand for rural telecommunications. The task was undertaken, because an understandable estimate of demand was necessary as a basis for dimensioning the policy. Previously the general perception of rural demand has been very much lower, resulting in very low rural service supply objectives (two lines per VDC etc.) and subsequent severe undersupply in rural areas. The Nepalese perception of rural demand apparently changed due to the study.

3. Formation of Policy Team

Formation of Policy Team

His Majesty's Government
Ministry of Information & Communications

Ref. No.: P|TSRP-PS-2, 2060 Date: April 28, 2003

To,
Mr. Arno Wirzenius
Managing Director
Teleplanning Wirzenius Limited, Finland
Field Office, Kathmandu

Subject: Formation of Policy Team for PS-2

Dear Mr. Wirzenius,

We would like to inform you that HMG/N, Ministry of Information & Communications (MOIC) has constituted a Policy Team for the purpose of assisting/steering the Consulting services for PS-2.

In our contract, there is a provision of counter part staff from MOIC to assist the Consultants; and also a provision of transfer of skill to the counter part staff from the Consultants. The counterpart staff for the purpose of this contract is the Policy Team. The Policy Team will assist and jointly review the Consultant's work (PS-2). The logistics and other administrative support (as per the contract) to the Consultant will be extended/facilitated by Project Coordinator of TSRP, officials of the Policy, Planning, Monitoring and Evaluation Section of MOIC. The following are the members of the Policy Team:-

	Name	*Designation*	*Institution*	*Position*
1.	Mr. Sushil Ghimire	Joint Secretary	Administrative Division, MOIC	Member
2.	Mr. Mukunda P. Acharya	Joint Secretary	Communication Division, MOIC	Member
3.	Mr. Mahesh P. Adhikari	Chief	FMD, MOIC	Member
4.	Mr. Kosh K Nembang	Under Secretary	Legal, MOIC	Member
5.	Mr. Bishwa Nath Dhakal	Under Secretary	Finance, MOIC	Member
6.	Mr. Ramesh K. Adhikari	Project Coordinator	TSR Project, MOIC	Member
7.	Mr. Hare Ram Neupane	Section Officer	PPME, MOIC	Member Secretary

The formation of Policy Team is expected to assist the smooth implementation of the TSRP. Please feel free to meet individual members of the team or the team as a whole as and when you need their support.

Thanks

Yours sincerely

(Ramesh Kumar Adhikari)
Under Secretary
Project Coordinator
TSR Project

Singh Durbar, Kathmandu, Tel: 977-1-220150, 225556, 227728, Fax: 977-1-221729

4. Persons met

Persons met

PERSONS MET
during the entire project

Ministry of Information and Communications MOIC

Hon. Minister, Mr. Kamal Thapa.
Mr. Mukunda Sharma Paudyal, Secretary
Mr. Sushil Ghimire, Joint Secretary
Mr. Mukunda P. Acharya, Joint Secretary
Mr. Ramesh K. Adhikari, Under Secretary, PPME
Mr. Bishwa Nath Dhakal, Under Secretary, Finance
Mr. Kosh K. Nembang, Under Secretary, Legal
Mr. Mahesh P. Adhikari, Special Officer, FMD
Mr. Shyam B. Basnet, Executive Engineer, PPME
Mr. Pashupati Paudel, Section Officer, Audiovisual Section
Mr. Rajeev Rauniyar, Senior Technical Officer
Mr. Deepak Kafle, Senior Technical Officer
Mr. Jeewan Prasad Thanju, Procurement Consultant

Ministry of Local Development

Mr. Reshmi Raj Pandey, Under Secretary, Information, Publication & Documentation Section
Mr. Durga Prasad Bhurtel

Ministry of Science & Technology

Mr. Purna Bhadra Adiga, Joint Secretary
Mr. Atma Ram Ghimire, Executive Director, National Information Technology Centre

Ministry of Health
Mr. Ramesh Chandra Neupane, National Health Education Information and Communication Centre
Mr. Devendra Prasad Gnawali

Ministry of Education and Sports
Mr. Laba Prasad Tripathi, Joint Secretary

Ministry of Agriculture and Co-operatives
Mr. Bhairab Raj Kaini, Agriculture Information and Communication Centre
Mr. Shukra Kumar Pradhan, Deputy Director, Department of Agriculture

National Planning Commission

Dr. Yuba Raj Khatiwada, Member
Dr. Hari Krishna Upadhyay, Member

Persons met

National Commission for Information Technology

Mr. Sharad Chandra Shaha, Vice Chairman

Nepal Telecommunications Authority NTA

Mr. Suresh Kumar Pudasaini, Chairman
Mr. Maniram Ojha, Director of the Board
Mr. S.P. Sen, Adviser
Mr. Bhakta Rana, Adviser
Mr. Kumar Sharma, Deputy Manager
Mr. Ambar Sthapit, Assistant Manager
Mr. Deepesh Acharya, Assistant Manager (Licence)
Mr. Kailash Pd. Neupane, Assistant Manager (Legal)
Mr. Santosh Paudel, Assistant Manager (Rural Telecom)

Nepal Telecommunications Corporation

Mr. Keshab Bdr. Shah, General Manager
Mr. Rupak Haldar, DGM, Operations & Maintenance Department
Mr. Bala Ram Pradhanga, DGM, Finance
Mr. Madan K. Shakya, Director

Private operators

Mr. Rupesh B. Shrestra, General Manager, Infocom Private Limited
Mr. N. R. Mokhariwale, CEO, United Telecom Ltd.
Mr. Muni B. Sakya, CEO, H T P Communication [P] Ltd.
Mr. Sanjib Raj Bhandari, CEO, Mercantile Office Systems
Mr. Binay Bohra, Managing Director, Vianet Communications
Mr. Dileep Agrawal, Worldlink
Mr. Pankaj Raj Shrestra, Worldlink

UNDP

Mr. Suresh Dhoj Shrestra, Information & Communication Technology Advisor, Rural-Urban Partnership Programme
Mr. Adarsha Tuladhar, National Project Manager, ICTs for Development
Mr. Manohar Bhattarai, Consultant
Mr. Upendra Aryal, UNDP Digital Broadcast Initiative
Mr. Deepak Shrestha, ICTs for Development

SAARC Secretariat

Mr. Rajiv K. Chander, Director, Trade Economics & Transport Division

Federation of Nepalese Chambers of Commerce & Industry

Mr. Binod Bahadur Shrestra, President

Persons met

Computer Association of Nepal

Mr. Lochan Lal Amatya, President
Mr. Biplav Man Singh, First Vice President
Mr. C.N. Upadyaya, Treasurer, Co-ordinator CAN Info-Tech 2003

Andersen Management International A/S, Denmark

Mr. Fred Munk Hansen, Market Director
Mr. Dan Asbjørn Smitt, Chief Economist
Mr. Madhu Bir Pande, local consultant, M.B. Pande & Co, Chartered Accountants

Other

Mr. B.R. Pandey, former Chairman, NTA
Mr. Ram Prasad Sharma, former General Manager, NTC, President, Society of Electronic and Communications Engineers
Mr. Gaurab Raj Upadhaya, Consultant, CEO & Technical Chair, Nepal Internet Exchange
Mr. Hank Intven, McCarthy Tétrault, Canada
Mr. Chris Jackson, DFID
Mr. Ram Krishna Pokharel, Local Governance Project
Mr. Kamalesh Adhikari, South Asia Watch on Trade, Economics and Environment
Dr. Mohan Raj Pradhan, Health-Net
Mr. Harka Bahadur Thapa, SDC
Mr. Bharat Pokharel, SDC
Mr. Bharat Koirala, Media Services International
Mr. Hem Bahadur Bista, Media Services International
Mr. Vinaya Kumar Kasjoo, Media Services International
Mr. Aditya Man Shrestra, Media Services International
Mr. Deependra Joshi, IUCN
Mr. Ram Krishna Risal, Helvetas
Professor Jagan Nan Shrestha, Center for Energy Studies, Institute of Engineering, Tribhuvan University
Mr. Shiva B Nepal Pradhan
Mr. Shree Dhar Gautam, Director General, Postal Services Department
Mr. Divakar Devkota, Postal Services Department
Mr. Bimal Tandukar, Enabling State Programme
Mr. Shailenda Sigdel, Enabling State Programme
Dr. Indra Manandhar, Central Department of Geography, Tribhuvan University
Dr. Nanda Gopal Ranjitkar, Central Department of Geography, Tribhuvan University
Mr. Sher Bahadur Bhandari, Rural Environment and Development Association
Mr. N.K. Shrestra, Geographic Information Adviser, Participatory District Development Programme
Mr. Suresh K. Regmi, President, Information Technology Professional Forum (ITPF)
Mr. Chris Davis, Director, Quotient Associates, UK
Mr. Richard Womersley, Managing Consultant, InterConnect Consultants, UK

Persons met

The World Bank

Mr. Ritin Singh, Senior Telecommunications Specialist, Washington DC
Ms. Tenzin Dolma Norbhu, ICT policy specialist, Washington DC
Mr. Bigyan Pradhan, Sr. Financial Management Specialist, Kathmandu
Mr. Surendra G. Joshi, Sr. Transport Specialist

5. Status of Telecoms in Nepal

Status of Telecoms in Nepal

5.1 GENERAL

The purpose of the paper is to provide HMG / MOIC with information on the status of telecommunications in Nepal compared to a selection of relevant countries.

5.2 INTERNATIONAL COMPARISON

5.2.1 Priority profiles

This chapter includes a brief performance comparison between a few countries in Asia. The comparison is based on ITU statistics, to ensure equal data, even if ITU statistics also includes some errors. Countries have implemented very different priorities with regard to prioritising means of telecommunication. See Figure 1.

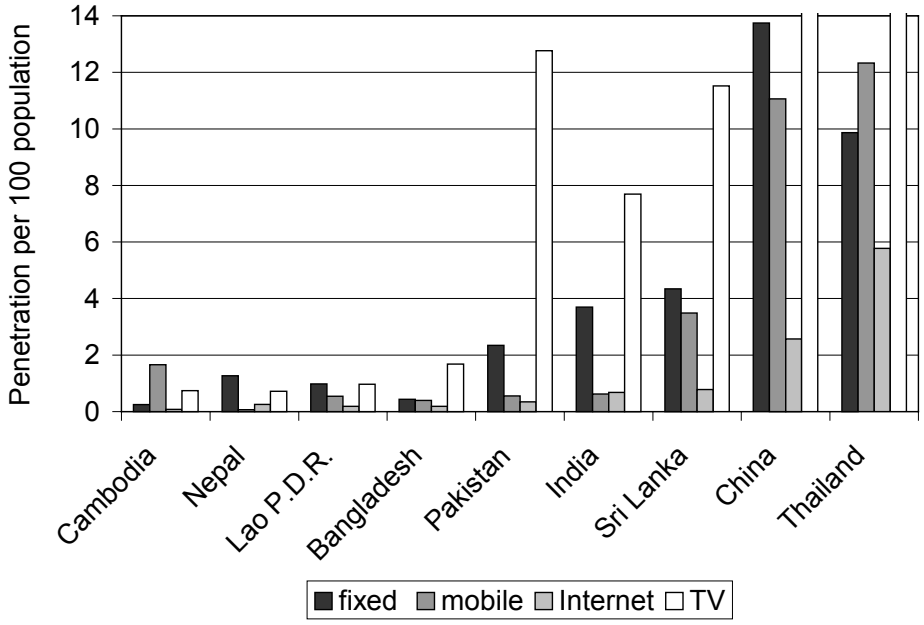

Figure 1. Penetration of various telecommunications means. Source: ITU, years 2000 or 2001. Countries are in order of GDP per capita.

The figure shows that some countries have focussed mainly on one kind of telecommunication: Cambodia on mobile phones, Pakistan on television. China, Sri Lanka and Thailand have promoted several kinds of telecommunication. In virtually all countries there is a lack of service provision, in particular telecommunications services. The lack of service provision is a combination of waiting lists and lack of geographic coverage. Thus the priorities mainly reflect the policy with regard to allowing operators to providing service, and to some extent also Government's own investment and service provision.

Except for Cambodia, Nepal, and partially Laos, television is the most widely used of these means of communications. Broadcast radio can be very important too, even if statistics are less easily available.

Status of Telecoms in Nepal

None of the countries has significant penetration of Internet. Internet penetration is well behind other types of telecommunication.

A similar comparison is shown in Figure 2 for fixed and mobile telephone penetration, related to GDP / capita.

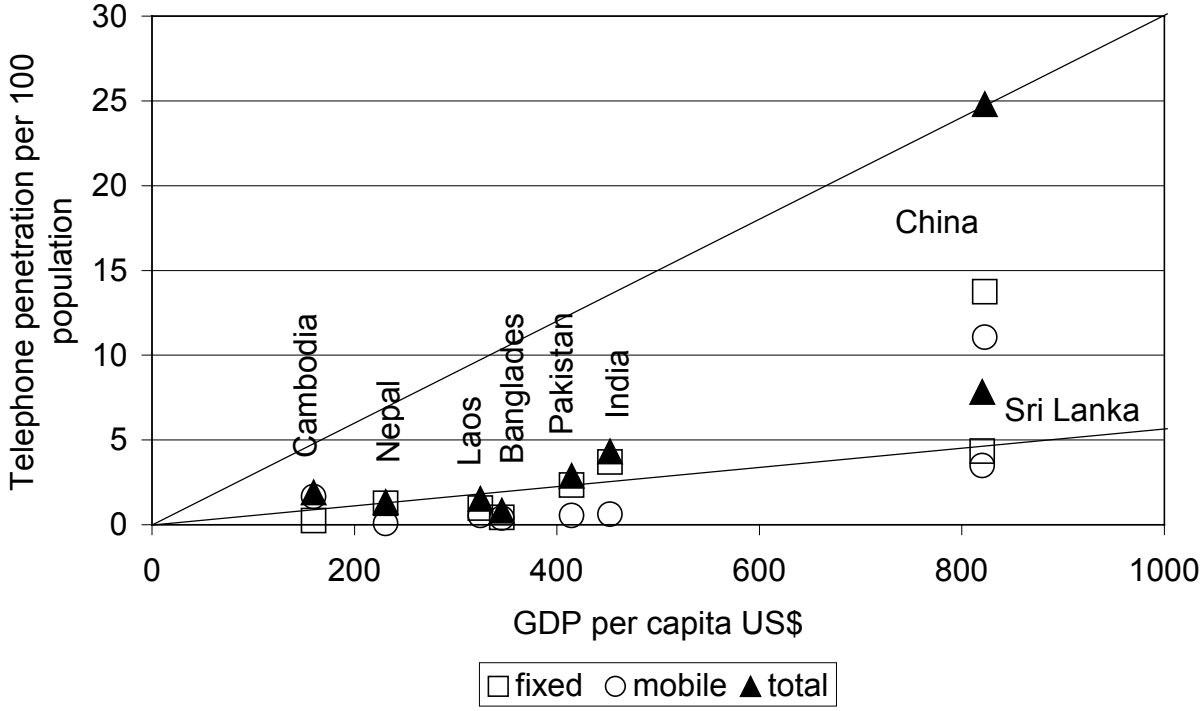

Figure 2. Penetration of fixed and mobile telephones. Source: ITU, years 2000 or 2001.

The two lines in the graph show how large total penetration should have been to equal the total penetration of the leader, China, and equal to Nepal, both in proportion to GDP.

China is clearly the leader, in particular for fixed telephony. China and Cambodia are leaders for mobile telephony, while Laos and Bangladesh are well behind the others. It should be noted that e.g. Cambodia has doubled its mobile penetration in 2002 and has about 0.4 million mobile connections[1] for a population of some 12 million, and the penetration is still growing fast. A corresponding growth in Nepal would have been more than one half million new mobile connections in one year.

China's GDP in 2001 was 3.6 times the GDP of Nepal. China was ahead of Nepal in penetration (connections per 100 persons) in all sectors compared: 11 times as many fixed telephone lines, 50+ times as many fixed telephone lines in rural areas, 150 times as many mobile connections, 10 times as many Internet users, 43 times as many TV sets.

[1] Statistics information varies. The ITU states that Cambodia had 0.38 million mobiles in 20002. Another authoritative source states 0.484 million. The difference may depend on how expired accounts or otherwise limited accounts are included. The authoritative source states 0.606 million mobiles in Cambodia in October 2003.

Status of Telecoms in Nepal

Nepal has performed about average in fixed telephone penetration, while it is the last in this group of countries in mobile telephone penetration. However, all countries in this comparison have unmet demand for telecommunications, and almost any comparison means a comparison with an underperformer. Even China has a strong growth, indicating that not all demand is met. If Nepal were at the level of China (taking into account the difference in wealth), Nepal should multiply its penetration fivefold.

A third type of comparison is to which extent telecommunications is concentrated in the capital (largest city) or if extended around the country.

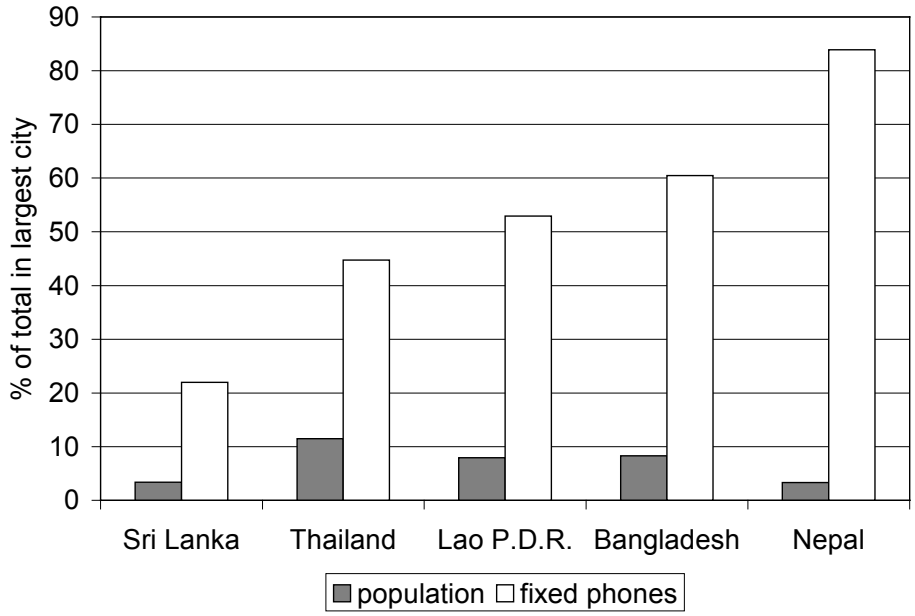

Figure 3. Concentration of population and fixed telephone lines in the largest city. Source: ITU, years 2000 or 2001. Nepalese data report about the same level of fixed connections in the largest city as Laos and Bangladesh.

The Figure shows that all countries have significant distortion in distribution of telecommunications between the largest city and other areas, but Nepal has the most distorted distribution, 3.3% of the population in the capital and 84% of the fixed connections in the capital. Nepalese sources state that about half of the fixed connections are in the capital. Some rural development has taken place in Nepal after the ITU data year, but for the purpose of comparison the same years have been chosen.

As a whole the above comparison suggests that the main areas to develop in Nepal are **rural** and **mobile telecommunication**. The focus of the assignment seems appropriate. International development is clearly towards mobile as the largest business. Mobile (in particular pre-paid) is evolving world-wide as the main means of telecommunications for the poor. This development has barely started in Nepal, lagging several years behind many similar countries. Introduction of pre-paid services in 2003 suggest that the same pattern is valid for Nepal, pre-paid services will be popular, once coverage is available and initial cost (handset price and connection fee) is low.

Status of Telecoms in Nepal

Internet is growing fast in industrialised countries, leaving developing countries still further behind. Internet is recognised as one main driver for development. Internet is perhaps not for the illiterate and barely literate, but it is essential for the overall development of countries, and for export development in particular. Internet is problematic in the sense that no general success formula has been found in developing countries.

5.2.2 Comparison to Sri Lanka and India

The main development in these three countries is shown in Figure 2.

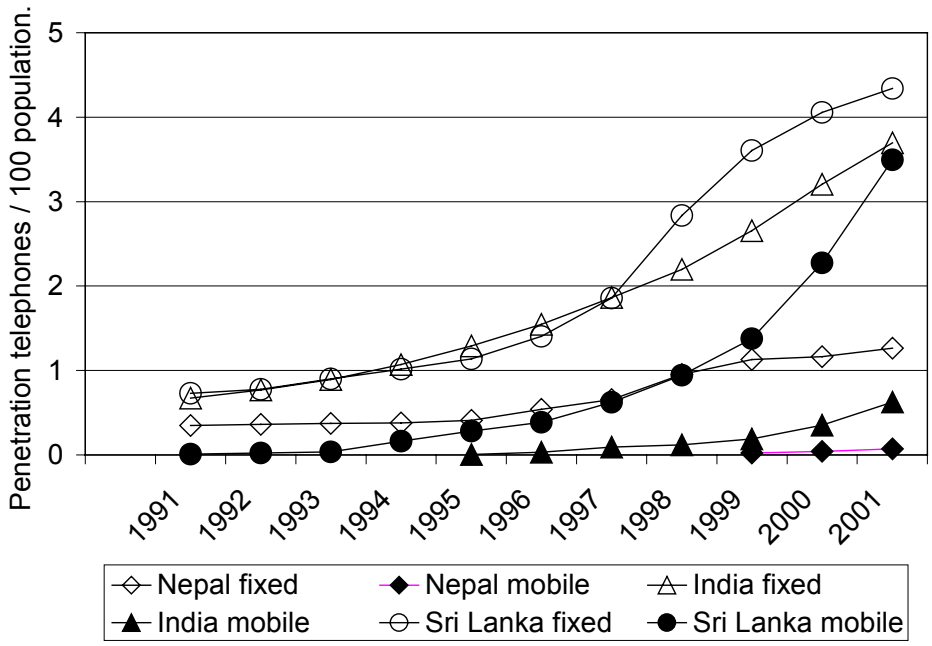

Figure 4. Development of the telecommunications sector in India, Nepal and Sri Lanka. Source: ITU.

Nepal and **Sri Lanka** are two South Asian countries, roughly of equal size in terms of population. There are significant differences in geography. Sri Lanka is at present somewhat more developed, with a GDP per capita roughly three times that of Nepal. The telecommunications sectors in these two countries have developed very differently over the last ten years.

The situation in the early 1990's was rather similar. Both countries had one major operator, serving mainly the capital, with long waiting lists even in the capital. In 1991 Sri Lanka introduced "competition in the margins", meaning licensing a number of minor services and operators, including the then minor mobile service.

The terms and conditions for operators in Sri Lanka were essentially for normal business. Licence fees were low, no revenue sharing was applied, in most cases normal taxation applied, and in general the business conditions were stable and predictable. Little price regulation took place for the new operators. Mobile operators applied Receiving Party

Status of Telecoms in Nepal

Pays, a charging regime that prevents the poor from using a technology that can be made cheap for low users.

The figure shows that the differences increased significantly in the early and mid 1990's. At that time the Government of Sri Lanka realised that the incumbent, Sri Lanka Telecom (SLT), could not cope alone with the required development. New WLL operators were licensed in 1996, competing with SLT. At the same time mobile operators grew rapidly, despite the charging regime (receiving party pays, i.e. mobile subscribers pay for incoming calls, which is a major hindrance for the poor using mobile). A main outcome of the exercise was that SLT dramatically improved performance, partially due to privatisation and a strategic partner. SLT is still the largest operator. A major part of SLT's revenue was still the overpriced international traffic. New technology offered significantly lower cost of international connectivity, but cost reduction was not transferred to user prices.

Despite the enormous overall improvement in provision of fixed as well as mobile connections, the official waiting list for fixed telephone lines has increased to 250,000. **This is a clear indication that an official waiting list is an unreliable measure of actual demand.** The only reasonably certain conclusion is that a significant waiting list is a clear indication of unmet demand.

The Government of Sri Lanka has initiated major sector reforms in the early 2000's, aiming at significant improvement of service provision and reduction of charges, to the benefit of the population rather than as a division of markets between operators. A major component was to fully liberalise international telecommunication, in early 2003. The outcome was a dramatic reduction of international telephone charges, unofficially introduced years earlier through Internet telephony.

India is a very different environment, partially due to its sheer size. In terms of population India is more than 40 times as large as Nepal.[2]

India started issuing licences for fixed operators as well as for mobile[3] operators as an outcome of the 1995 telecom policy. India divided the huge country into regions (circles), and strictly regulated the rights, terms and conditions within and between these circles. The number of new operators was low, aiming at duopoly in each circle, and included terms and conditions that made business conditions unpredictable. Mobile services were originally classified as value added services. Mobile services were issued for parts of the country (the less successful US-type concept), mandating interconnection through long distance operators for calls between mobiles in different circles, and national roaming when travelling in the country.

Licence fees were high and varied between operators (8-15%), revenue sharing arrangements were introduced and varied between operators, and licensing was apparently aimed at maximising licence revenue to Government through auction type arrangements. A number of issued licences were not used, as winners declared that the licence fees made the

[2] See http://www.itu.int/osg/spu/ni/competition/casestudies/india/India%20case%20study%202.pdf for a more detailed description of competition policy in India.

[3] This report uses the word *mobile* rather than *cellular*. Cellular technology can be used for fixed (WLL) and mobile services, even the same network components. Some sources use *cellular* when they mean *mobile.*

business unprofitable. Licences included roll-out obligations based on administrative rules rather than a result of tendering.

The outcome was that India's fixed telephone sector improved growth, almost in line with Sri Lanka. Similar to Sri Lanka, it appears that the main effect of opening the fixed market was improved performance by the incumbents, rather than actual service provided by new entrants. Mobile telephone development can be classified as a failure if compared to other countries.

There was still a lack of service in 1999, and the Indian Government decided on a new telecom policy in 1999. This policy is only partially implemented. Its main features are almost full liberalisation, and avoidance of auction type actions for maximising licence fees. The division of tasks between the Department (Ministry) and the regulator is proposed to be significantly changed, e.g. licensing and spectrum management is transferred from Department level to the regulator. The policy also includes technology neutrality, a feature that will be proposed in Nepal during this project.

Nevertheless, as a whole India's development in terms of penetration has been faster than in Nepal. Still India is not alone a good reference, as India's overall performance has not been that good.

As a result of a policy change in the late 1990's, **Nepal** has introduced a concept of "competition in the margins" similar to Sri Lanka, issuing a number of minor licences, but not extending competition to the main areas, fixed telephony, mobile telephony, and international telephony. Internet telephony has arrived in Nepal as well, offering substantially reduced international call charges for users, even if "unofficial", not officially approved. The population anyway benefited from cost reductions. Nepal appears to have followed Sri Lanka with a delay of 7 - 10 years. In 2001 Nepal still had a fixed telephone connection waiting list (around 250,000) roughly equal to the number of connected subscribers, suggesting an average waiting time of 4 - 6 years (note that any calculation based on a waiting list is very unreliable).

The tax-type fees in Nepal are the highest in this comparison.

Nepal has made some attempts to licence new operators, mobile, rural as well as WLL, but several of these attempts have failed. The first competing operator, a WLL operator with limited mobility, has been licensed and is due to start operations in May 2003.

As a whole the Nepalese performance appears to be the lowest in this South Asian comparison, even if still more poor performance can bee seen elsewhere in Asia. This is valid for all sectors, but is most apparent in mobile and rural services. Selected smaller services could perhaps show better performance.

5.2.3 ITU World Telecommunication Development Report

In its annual World Telecommunication Development Report 2002 (named Reinventing Telecoms) the ITU describes how Uganda has developed its rural telecommunications services by allowing three mobile operators to compete, as well as two fixed operators. The

outcome was that growth occurred in mobile, not fixed. 323 000 mobile and 64 000 fixed subscribers were connected at the end of 2001, in a country with a GDP of USD 250[4] and a population of 23 million, both about the same as Nepal. Uganda has some 93 persons per sq. km while Nepal has 167. A large portion of the subscribers in Uganda is rural.

Having described Uganda, the ITU states: *There is no longer any excuse for a country not to be able to replicate what has happened in Uganda. All it takes is the political will to make it happen.*

In 2001 the average LDC (Least Developed Country) had an equal number of fixed and mobile connections (source ITU). 24 LDCs had more mobile than fixed connections. The preferred telephone for the poor was mobile pre-paid, even if the call charges were higher. The two main reasons elsewhere appear to be non-availability of fixed telephony, and the low initial cost of pre-paid mobile and the lack of monthly fees. The same reasons are valid in Nepal. Nepal still has the Receiving Party Pays (RPP) regime, where the user pays for incoming calls, also e.g. for calls to wrong number. The world-wide experience of the RPP regime is clear: it is a major hindrance for usage and growth of mobile services.

5.2.4 Ranking

Table 2 shows the ranking list for Asian countries in 1991 and 2001 (only those countries are included that have reported data to the ITU).

	Rank			Rank	
Country Name	**1991**	**2001**	**Country Name**	**1991**	**2001**
Hongkong	33	33	Sri Lanka	12	16
Singapore	29	32	Marshall Islands	15	15
Japan	31	31	Indonesia	11	14
Australia	32	30	Viet Nam	5	13
New Zealand	30	29	DPR of Korea	23	12
Korea (Rep. of)	28	28	India	9	11
Macau	27	27	Vanuatu	17	10
Malaysia	25	26	Pakistan	13	9
French Polynesia	26	25	Cambodia	1	8
China	10	24	Solomon Islands	16	7
Thailand	20	23	Lao P.D.R.	3	6
Fiji	24	22	Nepal	8	5
Philippines	14	21	Bangladesh	4	4
Maldives	22	20	Bhutan	2	3
Mongolia	21	19	Myanmar	6	2
Micronesia	19	18	Afghanistan	7	1
Samoa	18	17			

Table 2. Ranking of Asian countries based on total telephone penetration. Source: ITU.

[4] The ITU report states US$ 310 in the text but US$ 250 in the statistical tables.

Status of Telecoms in Nepal

The two most important telecommunications services are fixed and mobile telephony. These two account for most investments in telecoms. The total telephone penetration (fixed + mobile connections / 100 population) is thus perhaps the best indicator of telecoms development in developing countries.

The ranking list shows that Vietnam, Laos and Cambodia have overtaken Nepal in ten years. In 1991 Nepal challenged India, China and Indonesia, in 2001 they had left Nepal behind and Nepal challenges Laos, Solomon Islands and Cambodia, and is ahead of Bangladesh, Bhutan[5], Myanmar and Afghanistan.

Nepal is still ahead of about 20 countries in sub-Saharan Africa, even if these countries are not shown in the table including only Asian countries.

5.2.5 Potential of telecoms in Nepal

The potential of telecommunications in Nepal can be estimated as shown in Table 3.

	1999	2000	2001
GDP (US$)	US$ 5.0 billion	US$ 5.3 billion	US$ 5.4 billion
Telecom demand US$ (3% of GDP)	US$ 150 million	US$ 159 million	US$ 162 million
Estimated connections (if only fixed connections)	0.50 million	0.53 million	0.54 million
Estimated connections (if only mobile connections)	1.50 million	1.59 million	1.62 million

Table 3. Calculation of estimated demand for telecommunications. The reality would be a combination of technologies, e.g. half of the fixed and mobile connections shown. All figures are per year.

The calculation in Table 3 is done as follows:

- GDP is from ITU statistics;
- Estimated demand (in US$) is assumed as 3% of the GDP, which is about average demand (not average implemented supply), an assessment based on ITU statistics. Nepal may be even higher due to the difficulties of transport;
- Estimated number of fixed connections is calculated assuming that the demand would be only fixed connections, using an average revenue of US $300 / year (the ITU considers US $750 to be a minimum, which may be slightly on the high side); and
- Estimated number of mobile connections is calculated assuming that the demand would be only mobile connections, using an average revenue of US $100 / year[6].

[5] Statistics varies. The latest ITU statistics states that Bhutan is ahead of Nepal.
[6] The figure is based on information on ARPU (Average Revenue Per User) in various countries. US$ 100 appears to be a reasonably safe level on which operators still are profitable.

Status of Telecoms in Nepal

The calculation assumes telecommunications is readily available everywhere at competitive prices. "Available everywhere" means that a vast majority of the population would have easy access to telephones, fixed or mobile, throughout the country, most of them at "shouting distance" to be able to receive a call immediately. Present telephone revenue is about one third of the estimated revenue potential.

The figures above would indicate that Government VAT revenue (10%) would be of the order of US$ 16 million (Rs 1200 million), compared to a total tax collection (including 4% royalty, 10% VAT and the 15% Service Charge) of some US$ 13 million (Rs. 980 million) in fiscal year 2058 - 59 (2001-2002).

A precondition for the above strong development is that several mobile and fixed operators are licensed. Strong development is rare in countries with monopoly or duopoly. The needed investment (assuming no existing network) is shown in Table 4.

Technology	Capacity and cost estimate	Total investment needed
Fixed telephony	0.54 million subscribers, average US$ 1200	US$ 648 million
Mobile telephony	1.62 million subscribers, average US$ 300	US$ 486 million

Table 4. Estimated investments needed for satisfying demand at the level of 2001. The investments would be spread over some 5 years[7].

Fixed telephony would include network investments in broadband Internet, needed in the present world. At present little broadband investments are made, as broadband Internet is not offered in the fixed network (ADSL), only some ISP's offer wireless broadband.

Network construction is more expensive in rural areas than in Kathmandu, in particular in the hill and mountain regions, thus past NTC investment figures are lower.

Mobile investment should be calculated using base station towers as the basis, rather than subscribers. In a plain open terrain one single tower can cover roughly 400 sq km[8], thus the entire Nepalese territory would need roughly 400 towers (base stations), if plain and evenly inhabited. At an average cost of US$ 300 000 per tower[9], some US$ 120 million would be needed. Higher traffic necessitates more towers in high-traffic (urban) areas, thus the figure 400 towers and US$ 120 million is on the low side.

[7] The investment figures are the Consultant's rough estimates, taking into account that Nepal is a mountainous country with major transport difficulties, in particular for those areas that are not yet properly served (no roads exist). Reliable data need more exact information and calculations.

[8] This is based on handset coverage in a reasonably open terrain. If handsets are connected to external antennas, the coverage area may be several tens of times as large, but the mobility is lost. In a forest dominated area the handset coverage radius may be smaller; if half, the number of towers would quadruple.

[9] Some experts mention that an average rural tower with complete base station equipment in a plain area may cost US$ 130 000 to 200 000. The figure in Nepal is higher due to transport difficulties in the hilly and mountainous areas.

Status of Telecoms in Nepal

5.3 OBSERVATIONS

The main impression is that the findings of the international comparisons appear to be valid. The focus of telecoms development appears to be mainly fixed telephony in urban areas. Rural areas and in particular the hill and mountain regions are left far behind. Development of the Terai region is starting, but mainly as a backbone between urban centres. No significant rural development project has been mentioned except the Eastern Development Region licensing project. Installing two connections per VDC cannot be considered sufficient, the demand is ten times that, or more.

During 2003 NTC has extended its mobile coverage to a number of new cities. It is, however, still an approach of creating coverage islands for urban centres rather than a massive roll-out of mobile to cover a large part of the population.

Discussions with some business users in the IT sector confirms that lack of service variety is a major problem, perhaps significantly more important than the price of services. Data services such as xDSL are not offered, leased lines are not readily available, use of leased lines e.g. in corporate network is restricted. A modern IT industry needs these services, and a large range of other data and corporate services. If Nepal wishes to be successful in creating a large IT export industry, such services have to be available on demand. The models for corporate services should be sought in industrialised countries where the companies reside who are the potential partners for the IT industry.

Roaming is a major revenue source for tourist destinations such as Nepal. Foreigners would like to use their own phones in Nepal, using roaming. However, roaming is not available, and thus Nepal does not get roaming revenue (equals export as revenue is in convertible currency from abroad). Another significant revenue source is SMS, which is available only for domestic use. International SMS can be received but not sent, which prevents international use. The limited coverage area is another hindrance for serving the tourists.

The main policy trend should be to allow a variety of services to develop, and thus allow the Nepalese community to choose between the services and thus develop in its own manner. This will happen mainly if users are allowed the possibility to chose between several telecom service providers.

6. Universal Access

Universal Access

6.1 BACKGROUND

This paper describes a number of issues related to Universal Access, when applied to Nepal. It includes an analysis of the Nepalese population (in particular rural), demand for telecommunications, a short description of business plans for very small rural Public Call Offices, etc.

6.2 WHAT IS UNIVERSAL ACCESS?

Telecommunications policy makers often speak about Universal Service and Universal Access. The ITU defines these two as follows:

Universal Service	Universal Access
Refers to availability, non-discriminatory access and widespread affordability of telephone service. The level of Universal Service is measured as the percentage of households with a telephone.	Refers to reasonable telecommunications access for all. Includes Universal Service for those who can afford individual telephone service and widespread provision of public telephones within a reasonable distance for others.

Table 5. Definition of Universal Service and Universal Access. Source: World Telecommunication Development Report 2002, ITU.

The EU (as well as a number of Western countries) use only (or mainly) the term, Universal Service, which includes a small component of shared access (Universal Access in the ITU definition), mainly using public card phones and similar.

No definitions of Universal Service are standardised, each country has its own definitions. Universal Service is for rich countries where virtually all households can afford an own telephone. The ITU definitions appear to be more relevant for poor countries such as Nepal.

Definitions of Universal Access vary still more, in particular the definition of *reasonable distance*. A rich person would not spend 10 minutes on travelling for making a call, but many countries use definitions expecting the rural poor to spend up to one half day or so for travelling in order to make one single call, either successful or not. Such expectations are not realistic, the rural poor is also busy and cannot reasonably spend much time on a telephone call. Independent of income level, the phone should be within "shouting distance" in order to be convenient.

The usual definitions of Universal Access are done for outgoing calls, ignoring incoming. Incoming calls are also important, in particular because the receiver normally does not pay for incoming calls.

The definition of a public telephone also varies. The most easy public telephones to record in statistics are those provided by operators, in particular card phones and similar. Card

phones are expensive, of the order of a few thousand dollars, and not recommended for poor countries, as the purpose of a card phone is to replace a person collecting charges for calls. Nepal needs employment rather than expensive imported phones. Public call offices and other shared phones provide employment.

Users do not care about whether the phone is an operator phone or a private phone. All phones should be shared to the extent reasonable. Sharing means that such phones are in more efficient use, which is good. Easy statistics of shared phones should not be a reason for restricting provision of Universal Access from private phones.

6.3 FEATURES OF RURAL POPULATION IN NEPAL

The main part of the statistical information is from two publications:

- Report on the household consumption survey of rural Nepal 2000 / 2001 (most rural data below); and
- Population census 2001, National report (most data for entire Nepal below).

Both are published by the Central Bureau of Statistics.

6.3.1 Administrative division

Nepal is divided into five Development Regions, the Regions in 75 districts, and further in 3889 localities (58 urban municipalities and about 4000 rural Village Development Committees). For electoral purposes, the localities are further divided into wards. The population is clustered into settlements, the usual English concept of "village". The settlements ease telecommunications coverage, as areas outside the settlements do not need to be covered.

6.3.2 Population features

Table 6 and Table 7 include key population data for entire Nepal.

Region	Population million	Households million	Area sq km	Population density persons / sq km
Eastern	5.344	1.013	28456	188
Central	8.032	1.475	27410	293
Western	4.571	0.863	29398	155
Mid-Western	3.013	0.534	42378	71
Far-Western	2.191	0.367	10539	112
Total	23.151	4.253	138181	157

Table 6. Population, area and population density by region, entire Nepal.

Universal Access

	Mountain	Hill	Terai
Eastern	38	153	454
Central	88	300	422
Western	4	152	333
Mid-Western	14	107	168
Far-Western	50	118	205
Average	33	167	330

Table 7. Population density by region and ecological belt, persons/ sq km, entire Nepal.

Provision of telecommunications is easier in more densely populated areas. The Tables suggest that the Terai is clearly the easiest area, with average density double that of hills and ten times that of mountains. Even Mid-Western Terai (the most sparsely populated Terai area) is more densely populated than the second densest hill area (the Central hill area includes Kathmandu).

Table 8 shows the size distribution of localities (VDCs and municipalities).

Size class (persons)	Localities	% Localities	Households	% households
1-999	70	2	9,915	0.2
1000-4999	2396	62	1,464,790	35.1
5000-9999	1067	27	1,269,428	30.4
10000-19999	285	7	694,216	16.6
20000-	71	2	736,025	17.6
Total	3889	100	4,174,374	100.0

Table 8. Size distribution of localities (VDCs and municipalities), entire Nepal. The number of localities are as given in the Population Census report, Table 15, but the total number differs slightly from other data.

The Table clearly shows that some 89% of VDCs and 65% of the population are in the range of 1000 - 10,000 persons, corresponding to about 160 - 1600 households. The figures do not tell the entire truth for planning purposes, as planning for telecoms would need information on settlements rather than VDCs. Anyway the portion of population that resides in VDCs with less than 1000 persons is negligible.

The most sparsely populated areas, and probably most difficult areas to serve, are in the mountain region, in particular Western and Mid-Western mountain areas. Nepalese authorities are well aware of these difficulties.

Table 9 shows the number and portion of population that is abroad.

Universal Access

	Total	India	Saudi Arabia	Qatar	Total %	India %
Eastern	121,911	67,338	23,179	24,397	2.3	1.3
Central	107,631	63,508	13,873	4,547	1.3	0.8
Western	331,880	263,180	27,775	10,164	7.3	5.8
Mid-W.	94,721	90,006	2,475	376	3.1	3.0
Far-W.	106,035	105,018	158	54	4.8	4.8
Total	762,178	589,050	67,460	39,538	3.3	2.5

Table 9. Number and % of population abroad, entire Nepal.

A total of 0.76 million Nepalese, 3.3% of the population, are abroad, most of them working. By far the most popular country is India, in particular for the Mid-West and Far-West development regions. The largest portion of the population abroad is in the Mid-West, 7%, and (astonishingly) the smallest in Central, 1.3%. About 27,000 Nepalese stay in industrialised countries.

Many of those working or studying abroad are probably interested in staying in contact with friends and family, should a telephone be available in Nepal. The distribution of population abroad suggests that the greatest need is three westernmost regions, and the smallest need in the Central development region, notably Kathmandu.

Figure 5 shows the number of households that operate non-agricultural small-scale economic activities.

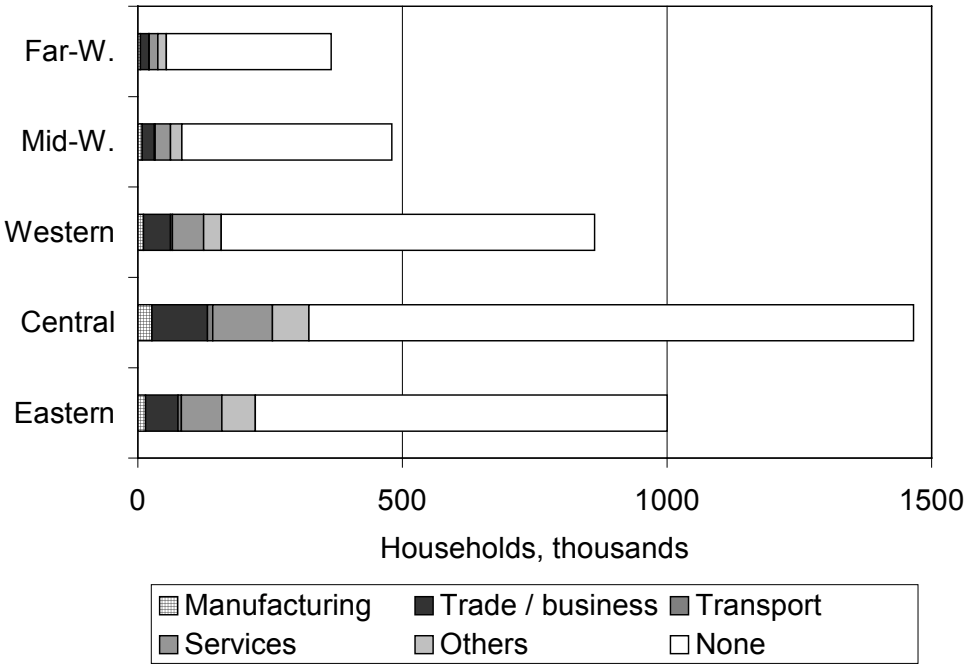

Figure 5. Households with economic activities, entire Nepal.

Universal Access

The majority of the population is involved in agriculture. A total of 840,000 households have non-agricultural economic activities, varying in the range of 15 - 22% of total households. Most of such households probably serve the immediate vicinity, but could perhaps extend their market area if communications were available. The figures do not show any significant difference between the regions.

The most common activities are trade / business and services. Transport is the rarest activity, ranging from 10,000 households (Central) to 1000 households (Far-Western). Transport needs communications, to agree on what, when and where to transport, even for regular transport such as daily routes.

6.3.3 Purchasing power and consumption pattern

Data on purchasing power and consumption patters are for the rural population only, excluding municipalities.

Table 10 shows annual average consumption per capita in rural areas.

	Total	Food	Non-food	Housing	Own account
Eastern	12,994	8,483	3,394	603	514
Central	12,181	7,456	3,435	849	441
Western	13,824	7,779	4,459	935	651
Mid-Western	9,719	5,474	2,986	673	586
Far-Western	8,115	5,056	2,236	500	323
Nepal	11,928	7,221	3,447	749	511
Mountain	12,214	8,089	2,818	710	597
Hill	12,868	7,658	3,714	857	639
Terai	11,085	6,694	3,339	664	388

Table 10. Average per capita consumption by region in rural areas, Rs. per year. Own account means own production of goods and services.

The Table shows that there are no really large differences in consumption. The largest differences are that Mid-Western and Far-Western consumption is below national average (81 and 68% of average), while Central is close to average, and Eastern and Western above average (109 and 116% of average). Average consumption in Far-Western is only 59% of consumption in Western. The ratio between the highest and the lowest figure is 1.7.

The figures should be compared to GDP / capita, which was Rs 16,500 in year 2000. Urban consumption is higher than rural. Average rural consumption per capita was Rs 11,928, corresponding to US$ 170.

Figure 6 shows consumption per decile[10].

[10] Decile means that the population is divided in ten equal parts, in this case in order of consumption.

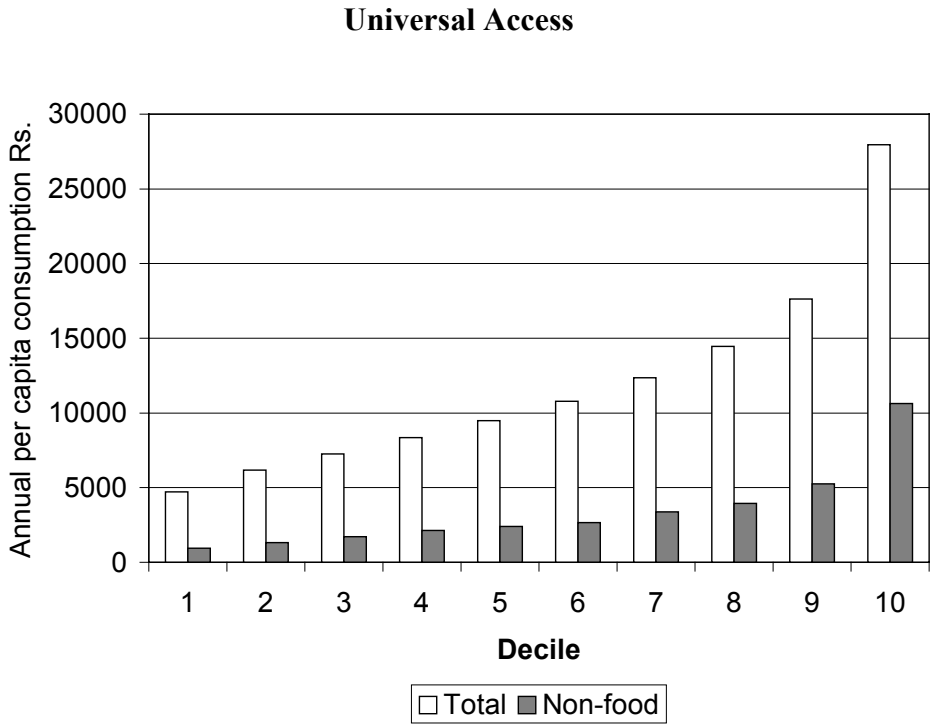

Figure 6. Average consumption per decile, rural Nepal.

The Figure shows that consumption spread by decile is significant, much larger than the spread between regions. The total consumption of the highest decile is six times as much as the consumption of the lowest decile, and eleven times for non-food items. The poorest have to use a higher share for food. All non-food items are purchased or bartered, not own account production.

6.4 ESTIMATED DEMAND FOR TELECOMMUNICATIONS IN RURAL NEPAL

This section is an assessment of demand for telecommunications in rural Nepal. It is to a large extent based on assumptions. Demand means the amount that would be spent if telecommunications were readily available, close and convenient, and society has been accustomed to use telephones and other telecommunications.

The Nepalese consumption statistics does not disclose how much is used on telecommunications. The figures would nevertheless be of little value, as the consumption figures describe actual spending. No consumption or spending can take place when services are not readily available, the normal situation in rural Nepal.

Consumption data from Cambodia shows that the *percentage* of spending on transport and communications together is proportional to total spending. The above portion of non-food items supports this assumption of consumption behaviour. When total spending doubles, the *percent* spent on transport and communications doubles, which means that the *amount* spent quadruples.

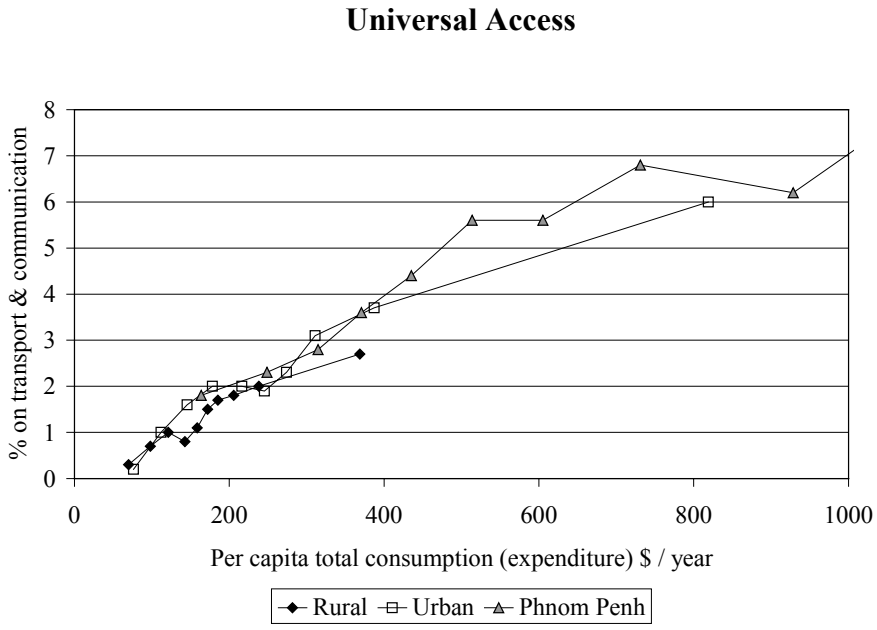

Figure 7. Spending on transport and communications as a function of total spending (consumption). Source: Socio-Economic Survey 1999 (Cambodia), Table H6.

Assuming that an average of 2% would be spent on telecommunications, the Cambodian spending pattern gives possibility to calculate an estimate for demand for telecommunications[11]. The calculation assumes 5.5 persons per household. The calculation of % on telecoms is iterated to result in an overall spending of 2% on telecommunications. The outcome is shown in Table 11.

Decile	Total	% on telecoms	Telecoms per capita	Telecoms per household	% of total demand
1	4731	0.6	29	160	1.2
2	6182	0.8	50	274	2.1
3	7258	0.9	69	378	2.9
4	8344	1.1	91	499	3.8
5	9485	1.2	117	645	4.9
6	10781	1.4	151	833	6.3
7	12358	1.6	199	1094	8.3
8	14459	1.9	272	1498	11.3
9	17628	2.3	405	2227	16.9
10	27959	3.6	1019	5602	42.4
Average	11919	2.0	240	1320	

Table 11. Estimate for spending on telecommunications based on the average consumption in rural Nepal.

[11] The percentage per decile shown in Table 11 is based on an iteration, assuming that the average telecoms consumption is 2%, and the percentage for each decile is proportional to the total consumption. The assumption 2% of total consumption is based on ITU statistics for average telecommunications revenue as portion of GDP in low income countries, varying roughly in the range of 1 - 5%. The assumptions takes into account that most countries have a large unmet demand (waiting lists, official and unofficial), and that mobile revenue in many cases is not included in national reporting, only the revenue of the incumbent. The 2% assumption is conservative rather than optimistic.

Universal Access

The estimate suggests that the highest decile would spend Rs. 1019 per year per person on telecoms, while the lowest decile of the rural population would spend some Rs. 29 per year per person. The ratio is significant, relation 30 times, comparable to eleven times for all non-food items.

The estimate for household demand is interesting. The newly introduced pre-paid mobile card has a minimum annual cost of Rs. 3000, including a small amount of calls (e.g. 500 - 1000 minutes of local calls per year), which is similar to the minimum annual cost of a fixed phone, when available. This would suggest that perhaps 10 - 15% of households in principle could afford a pre-paid mobile (or a fixed phone when available). The minimum cost of a fixed phone is of the same order of magnitude, but fixed phone lines are not relevant, as they are usually not readily available in rural areas.

A more cautious approach would be that maybe 5 - 10% of the households would take a mobile connection within some 5 - 10 years, if and when available. It takes years for a society to change behaviour to get used to using phones.

If the wealthiest 10% of households can afford own phones, the other have to use shared phones. The top 10% wealthiest households (decile 10) represents some 40% of demand, the rest 90% of households some 60% of demand, if the above estimate is about correct. This means that some 60% of the demand can be satisfied only using shared phones and similar.

The total number of rural population is 19.9 million. With an average spending of 2% on telecommunications (means 2% of Rs 11928, equals Rs 240 per person), the total rural demand for telecommunications would be of the order of Rs. 4.7 billion, corresponding to US$ 63 million, about three quarters of the present revenue of NTC. 2% is a conservative figure, higher figures can be seen elsewhere.

This demand estimate is what the rural households would pay themselves. In addition comes the revenue from Nepalese persons abroad calling home. With a total of 0.76 million persons abroad, assuming termination charges[12] paid for incoming calls into Nepal at a rate of Rs. 1000 per person abroad per year, additional revenue from incoming calls would be Rs. 760 million, equalling US$ 10.6 million. The additional revenue does not need any significant additional investments. However, they call only if there is a telephone available nearby the person that they call, and they know the number. The calling frequency is most likely lower if the receiver has to pay significant amounts for the incoming call.

A similar pattern may exist for family members that have moved to urban areas in Nepal. They would call back home if telephones were readily available almost everywhere.

[12] Out of the call charges that a person in another country pays, some part will be paid from abroad to the Nepalese operator for covering the cost of terminating the call in Nepal. That payment is called termination charge. Such charges will not be paid in the future if applying receiving party pays (payment for incoming calls), to avoid double payment for termination.

The above figures do not include business use, such as donors and larger companies as well as HMG own use. No estimate is made for such use.

As a whole it appears realistic to expect that part of the rural coverage would be profitable, provided that the operator has the skills and the will to promote large scale use of shared phones to collect also the revenue from lower income persons and households. A business concept based on only higher income persons with own phones would not that easily result in profitable service as it would tap only less than half of the demand.

6.5 BUSINESS PLANS FOR SHARED PHONES AND PCO'S

6.5.1 Types of shared phone and PCO businesses

A shared phone or PCO[13] can be run in different ways as shown in Table 12.

Alternative	Description	Minimum cost
Co-operative shared phone	A VDC enters into agreement to jointly run a shared phone with one mobile phone mainly for incoming calls, sharing investment and cost	Invest Rs 10,000 annually Rs 3000+
Private shared phone	A person runs a shared phone as a micro enterprise, with own investment, risk and profit, one mobile phone, offering outgoing and incoming calls	Invest Rs 10,000 annually Rs 3000+
Multi-phone PCO	A person runs a PCO as a small enterprise, with own location and staff, several fixed and mobile phones and fax	Invest Rs 50,000+ annually 20,000+
Internet café	A PCO is equipped with fixed and mobile telephones and computers with access to Internet	Invest Rs 200,000+ annually Rs 50,000+

Table 12. Summary of alternatives for commercial shared phones and PCOs.

The alternatives are described in more detail below. The two first alternatives are designed for very low annual cost, for low or very low usage.

If and when the business of a shared phone grows, the main alternatives are:

- in a co-operative, adjust tariffs (margins) downwards to prevent accumulation of profit;
- a new phone is procured and located in another part of the VDC (expansion);
- split and create a new co-operative or company for a new phone (divestiture);
- the business of a co-operative is sold at a profit to a private person (CEO?) taking over the business and co-operative members share the sales proceeds;
- grow to a multi-phone PCO;
- introduce Internet; and

[13] This chapter distinguishes between shared phones (one shared phone, usually not a stand-alone business, only a phone in a home, shop or in the pocket) and PCOs, run as stand-alone businesses with an own facilities and staff, and offering other related services.

- establish a small rural telephone operator with an own network from the switch to users, and possibly an own switch[14].

If business is good, there is always a possibility that some person in the VDC starts an own private shared phone or PCO business, competing with the co-operative.

Replacement investments can include new battery or charger (minor, CEO decides) or new telephone or antenna (major, meeting decides).

If the shared phone business expands in a VDC, one possibility is a combination of several incoming phones in the settlements, and a fixed phone for cheaper outgoing calls. That would combine easy answering of incoming calls with cheaper tariffs for outgoing calls.

The largest step would be to establish a fixed rural operator. The operator would operate at least an own network with cables from the switch (or concentrator) to the users. The switch could either be a switch of a larger operator, or an own switch.

6.5.2 Co-operative for shared phone

Inhabitants in a VDC or settlement, or even in a small group of families, agree on jointly setting up a shared phone for serving the VDC or settlement. The purpose is not to generate profit but to serve the population[15].

The business is entirely based on the present NTC pre-paid tariff: Upfront fee Rs. 1,700 + additional Rs. 1,000 every 150 days (or more frequently if high usage).

Investment budget:

- a new mobile phone Rs 6,000 with a charger, either for electricity outlet to connect to motorcycle or car battery if no electricity available;
- if at the outskirts of mobile coverage, an external antenna, around Rs 7,000;
- a pre-paid mobile connection, Rs. 1,700;
- a call reseller franchise agreement and training, no cost; and
- total Rs. 8,000 - 15,000.

Minimum annual cost after initial investments is about Rs. 3,000 (+ reserve Rs. 1,000 - 2,000 for handset replacement etc.).

The co-operative will set the tariffs to cover running costs and reserves for replacement investments. The initial tariff structure could be:

[14] The small rural operator could benefit from tax and fee exemptions proposed elsewhere.

[15] The proposed co-operative model is an applied miniature of the way telephony was introduced in Finland from 1882 to present. The number of such co-operatives (and some commercial companies) was 815 in year 1938. Many of the co-operatives are still existing, even if mergers have reduced the number to some 40.

Universal Access

Service	Member price	Non-member price
Received call	Rs. 5 / call	Rs 10 / call
Receive and store incoming message for pick-up later	Rs 3 / message	Rs. 5 / message
Forward incoming message	Rs. 3, + Rs. 3 / kilometre (to messenger)	Rs. 5, + Rs. 3 / kilometre (to messenger)
Send text message	Rs. 3 / message	Rs. 5 / message
Receive text message, no storage or forwarding	Rs. 1 / message	Rs. 3 / message
Outgoing calls	Call charge + Rs. 10 / call	Call charge + Rs. 15 / call
Use antenna (if existing) with own handset	n/a	Rs 15 / call

Table 13. Example of tariff structure for a co-operative for a shared phone. The amounts should be revised to correspond to cost structure and local circumstances.

Four incoming calls per day, at Rs. 5 each, or 20 incoming calls at Rs. 1 per call, generate Rs. 7,000 / year. The business is viable with 2 - 20 incoming calls per day, even without a single outgoing call.

Initial financing can be arranged e.g. so that members of the co-operative each contribute Rs. 100+, or e.g. timber or work for an antenna tower if needed. The required additional financing source could be e.g. micro-credit, relatives in Kathmandu or abroad, or an NGO providing the initial finance or donating a handset and an antenna if needed, or a very small part of a donor project. The co-operative shall be open to all VDC inhabitants or households that wish to participate.

One person is selected to take care of the co-operative's business and the phone. In a legal sense the person will be Chief Executive Officer (CEO), President, or Managing Director.

The CEO shall be reliable and respect secrecy, as he / she will forward personal messages, orally or using SMS. The arrangement will roughly correspond to the manual switch operator in the previous old manual telephony system. The CEO should preferably be literate and know basics of the Western letters in order to use the telephone address book, text messages and assist other users.

The CEO should be remunerated, preferably based on the service level.

The co-operative should have a members' meeting annually and other meetings when needed. The annual meeting sets tariffs and approves the annual report and accounts, even if only orally presented. Other meetings decide on urgent major matters, e.g. on replacement of telephone or antenna, or sale of antenna if not anymore needed.

The CEO has the right to accept non-cash payment (e.g. rice, fish, meat, or similar) if it can be sold locally.

If the shared phone needs an external antenna, this means that no other mobile handset can work either without an antenna. A minor business possibility is to lease antenna use or antenna mast space to persons with own telephones (donor projects, NGO's, Government officials, etc.). If sharing an antenna, some adapters may be needed.

Such a co-operative is self-regulatory in the sense that the members regulate the tariffs and avoid charging excessive charges to member-users.

Members also decide whether the shared phone should be stationary (always in one house), walk-around (could be scheduled, one settlement in the morning and another settlement in the afternoon), or combined.

The CEO shall also organise forwarding of messages to persons far from the phone.

6.5.3 Private shared phone

A more traditional alternative running a shared phone is that a private person or family starts it as an own business, possibly in connection with a shop or similar. It is much easier to administer than a co-operative. A private shared phone normally aims at maximising profits, thus the prices may be higher than in a properly working co-operative.

Initial investments would be very similar to the co-operative described above. Development alternatives if business is good are also similar, but probably aim at expansion rather than at reducing prices or dividing.

A private shared phone can also be a (management) buy-out of an existing co-operative.

Most foreign examples of Universal Access (PCO's and payphones) start with the private full-size PCO level, often even as a multi-phone PCO with its own facilities and staff. A very common approach is also to rely on only fixed telephones, without exploring the possibilities of mobile phones. A notable and widely publicised exception based on the smaller shared phone approach are the Grameen mobile phones in Bangladesh[16]. However, also Grameen appears to focus mainly on outgoing calls.

6.5.4 Multi-phone PCO

When business grows, a natural expansion step is to add more phones (fixed as well as mobile) and perhaps a fax, a computer, copy machine, or similar. A multi-phone PCO may also need own facilities and perhaps employed staff etc. A multi-phone PCO is recommended only after success with the smaller business models above.

[16] See http://www.digitaldividend.org/action_agenda/action_agenda_01_grameen.htm.

Universal Access

6.5.5 Internet café

If a multi-phone PCO owner with a fixed phone sees a market, he can expand his business to also cover Internet. At present Internet cafés exist only in some urban areas. Commercial demand is virtually non-existent, but will certainly increase. Internet in a really rural VDC is most likely not a realistic business for the foreseeable future, unless HMG or some development project establishes itself as a user.

The first expansion step could be one computer with dial-up Internet access, to be used mainly for e-mail and computer training and other computer use.

6.5.6 Training

If the shared phone or PCO concept is to be introduced in an efficient way, serving residents as well as operators, a uniform approach is required. This needs systematic training and follow-up. The main party responsible for training is the telecom operator. Also rural administration has a clear role to monitor the situation and take initiatives. For this purpose rural administration should also be trained.

Training of a manager for a shared phone or PCO should include a number of aspects:

- advise customers on how to use a telephone and benefit from communications;
- use the telephone and its features and how to speak on the phone;
- charge the battery and maximise life time of batteries;
- make calls;
- send and receive text messages;
- check that an external antenna works properly;
- advise customers on charges and charge customers correctly;
- find numbers for customers;
- advise relatives of customers on calling the shared phone from abroad;
- handle and forward incoming messages;
- run a co-operative and a private shared phone business;
- how and when to expand a PCO;
- etc.

Rural administration training should include other aspects:

- advise residents on co-operatives and private alternatives for shared phones and PCOs;
- select manager;
- advise residents to require good service;
- how residents can use the phone to get better price for products;
- ensure that the shared phone is included in a suitable telephone directory;
- advise operators that an existing or new shared phone needs better radio coverage;
- provide feedback to improve overall country-wide arrangements for shared phones and PCOs;
- etc.

Universal Access

6.5.7 Shared phones in national telecommunications policy

The shared phones described above are based on normal user tariffs. This principle sets all shared phones at the same level. If some shared phones were subsidised, other shared phones would not compete on a level playing field. No subsidies should be paid, possibly with exceptions in extremely remote areas where the first phone is very expensive.

The number of rural shared rural phones may exceed the number of non-shared rural phones. It is simply not realistic to subsidise every second phone, except in very remote areas where normal coverage is not realistic.

Shared phones are not telecommunications operators, they are purely call resellers, similar to any hotel, family or shop reselling calls. No resale of calls should require a licence. A licensing requirement would only restrict supply of services, and would not bring any additional value.

7. Options for Liberalisation and Privatisation

Options for Liberalisation and Privatisation

7.1 GENERAL

This paper describes options for liberalisation of the telecommunications sector in Nepal, as well as commercialisation and privatisation of NTC.

7.2 BACKGROUND

The three main components of a telecommunications sector reform are:

- **liberalisation** (means allowing new operators to construct networks and provide service);
- **privatisation** (means selling part or all of the ownership of a state owned entity, in this case NTC, including the initial step, commercialisation, converting NTC to a company with full HMG ownership); and
- **regulation** (means establishing a regulatory framework and a regulator to establish the rules and oversee functioning of the sector).

This paper discusses the two first components; regulation is already established in the form of NTA, the Telecommunications Act and a set of rules and regulations (which need amendment).

Nepal has already entered on the liberalisation road by licensing a number of small operators. Nepal has tried to license several major operators, but most attempts have been unsuccessful. The most successful is a WLL operator that has started to implement its network. A least subsidy tender is on-going for the Eastern Development Region, to implement rural services.

A thorough study has been conducted on privatisation of NTC (Andersen Management International A/S, BMP International, May 1999). The study is a few years old, but the main messages appear to remain relevant.

7.3 OBJECTIVES

7.3.1 Objectives for liberalisation

The main objectives for liberalisation are mentioned in the Telecommunications Policy of 1999:

> *to make the various types of high standard and reliable telecommunications services easily available to all in all areas of the Kingdom at a reasonable service charge in a fair competitive atmosphere also with the participation of private sector by implementing the policy of liberalization in the telecommunications sector also in harmony with the concept of economic liberalization and openness adopted by the country, and to develop telecommunications as a main pre-requisite for national development.*

Options for Liberalisation and Privatisation

Liberalisation is mentioned as a tool for achieving the overall objective of making services available. Liberalisation is not mentioned as an objective itself. In the draft Policy developed in this project, liberalisation is included in policies and strategies but not in the overall objective.

International comparison of the telecommunications situation, the experience in Nepal, and estimates of demand suggest that NTC appears not to be able to provide the required services in the foreseeable future. A monopoly does not deliver, and the scope of the demand is beyond the resources of NTC. Thus there is ample space for major new operators.

7.3.2 Objectives for commercialisation and privatisation

HMG's objectives for its in-principle decision on privatisation are spelled out in the Andersen report:

- *NTC's close association with Government is impeding it from developing along commercial lines;*
- *NTC needs experienced assistance to improve efficiency, develop new services and become equipped to respond to competition;*
- *if NTC taps the private financial resources that are available for profitable telecommunications companies, scarce donor funds can be directed to sectors that do not have alternative sources of finance; and*
- *Government intends to pull back from direct supervision of telecommunication operations as owner and, instead, to regulate the sector in the interest of the users.*

These objectives are still valid, for commercialisation as well as for privatisation. The main purpose of commercialisation and privatisation is to improve the performance of NTC, in service provision as well as financial performance. Commercialisation and ultimately privatisation are not objectives themselves.

These objectives may be somewhat more at the level of rationale than objectives. The main objectives for the future may be to improve service provision by making NTC more competitive and efficient, and streamline decision processes.

Not to commercialise (no decision, to retain the corporation, either as a legal entity, or retain the present decision power with HMG and continue the somewhat slow and laborious government procedures) is also a decision. Such a decision may result in Nepal continuing to lag behind other countries in development, and in NTC (and HMG) losing money compared to commercialisation. The first step, to convert NTC to a company, is urgently recommended to be implemented.

Options for Liberalisation and Privatisation

7.4 LIBERALISATION

7.4.1 Overall situation

As a whole Nepal already has experience of liberalisation in a number of small services. The experience is similar to other countries: competition increases supply and choice. Nepal needs introduction of new operators in the mobile, rural and corporate sectors as well as international communications.

A review of the status of telecommunications services in Nepal indicates that Nepal is lagging increasingly behind other countries. Total supply of telephone connection (fixed + mobile) per 100 inhabitants in 2001 was the fifth lowest in Asia (source ITU statistics), only Afghanistan, Myanmar, Bhutan and Bangladesh were behind (Bhutan may even be ahead, data vary). The obvious reason is that Nepal has not licensed other major operators and thus created a competitive sector. Mobile is the fastest growing major telecoms sector in the world, and the number of mobile connections surpassed the number of fixed in the entire world as well as in the LDC's in year 2001 (source: ITU), thus mobile licensing is perhaps the most important.

The review also shows that the overall need for service by far exceeds NTC's capacity. The market for telecommunications services is estimated to about three times the present telecoms revenue. Nepal should license several new mobile and other operators without delay, primarily to give a boost to overall economic development.

No exclusivity should be granted. The present problems are to a large extent due to the exclusivity of NTC and others, either in existing or promised licences, or simply by not granting competing licences.

7.4.2 Mobile services

Nepal needs much more mobile service. Experience from elsewhere is that several operators are needed. Two is usually not enough, the best results are achieved with three or more operators.

The best practice for selecting mobile operators is to use competitive tendering, not first-come-first-served. Tendering can be done based on coverage to maximise rural coverage from the outset. Nepal's difficulties in getting new major new operators seem to be due to using maximum licence fees for selection of licensee.

Nepal should tender for at least two, preferably three, additional mobile operators in addition to NTC, to achieve the needed competitive situation.

7.4.3 Rural services and subsidies

Rural service supply in Nepal is the lowest in comparison with a selection of Asian countries. The policy objective to supply two fixed connections to each VDC is far below the need, and should be replaced with a policy to supply fixed and mobile services in

parallel so that users have a choice between alternatives. New operators are needed, in particular mobile operators. Licensing of such operators should be done using competitive tenders speeding up coverage, thus rural coverage should be either the sole or the main selection criterion.

Once such licensing has been done, the commercial coverage potential of Nepal can be defined with some degree of certainty. Coverage of uncovered parts of the country may be conducted using competitive tenders similar to the on-going tender in the Eastern Development Region.

Rural subsidies should be granted based on competitive tendering. Only minor subsidies should be granted based on applications. Such applications should be done based on rules or regulations.

Lack of telecoms services in rural areas is a contributing reason for migration to urban centres, in particular to Kathmandu. Adequate supply of telecoms in rural areas may contribute to reducing migration and related major national level problems.

7.4.4 Corporate services

Nepal appears to have a severe lack of corporate services needed for banks, industries and other enterprises. The situation deters planned development of a strong IT export industry. Nepal should licence at least some new operators focussed on corporate services.

Internet is a crucial technology for business in today's world. Internet for professional use needs broadband access and large international transmission capacity. The leading technology for broadband Internet access for small and medium size enterprises is ADSL, which has to be provided using fixed telephone network access lines. NTC does not provide ADSL, which is likely to deter overall development of business in Nepal. ADSL provision should be started without delay. Larger enterprises need leased lines of higher capacity for access, and such leased lines should also be supplied.

In industrialised countries several incumbents were slow in introducing ADSL. For that reason governments enacted legislation forcing these incumbents to offer either ADSL bitstream or ADSL spectrum (on existing copper loops) to any other operator at cost related prices. The main outcome has been that incumbents started to offer ADSL at reasonable prices.

Cable television operators should be licensed to provide telecommunications services if they so desire. In particular broadband Internet access can be offered. Cable modems are the main alternative for residential broadband access[17].

[17] News in the Internet report that about one quarter of residential Internet customers in USA and EU have broadband access, either ADSL or cable modems. Other technologies (wireless) are also used.

Options for Liberalisation and Privatisation

7.4.5 International services

The cost for international services has been dramatically reduced over the last 10 - 15 years. The reason is cheaper satellite and optical fibre cable technologies. The corresponding reduction has not been fully incorporated in official user charges in countries that have not introduced competition in international access. Unofficial user charges (using Internet for international telephone calls) do include most of the cost reduction.

In order to recognise the situation and give users the benefit of cost reductions, Nepal has decided to fully liberalise international communications from the beginning of 2004. The move is welcome and can be expected to give a boost to the Nepalese economy.

7.5 COMMERCIALISATION

Commercialisation is used for making an incumbent more commercially oriented and thus strengthening it for increased competition. Some of the main features of commercialisation are:

- decision power and procedures;
- funding; and
- corporate structure.

From a policy point of view the most important is improved service provision.

7.5.1 Decision power and procedures

One of the main reasons for commercialisation is to change the decision power from a corporation depending on government decisions on individual cases to the structured distribution of power that is used in the private sector. The owners appoint a Board at shareholders' meeting, and the Board has almost full power of decision. The Board reports annually to the shareholders' meeting for approval of the report, but the shareholders do not intervene otherwise. Major shareholders may have Board members, but Board members should generally be selected based on their personal qualifications and not represent owner interests.

The Board decides on strategies and major issues at meetings (e.g. monthly), and the General Manager implements these decisions and decides on other matters. Board decision include budgets, major procurement, organisation, appointment and dismissal of the General Manager and to some extent other senior staff, long term strategies, etc.

The decision procedures - including procurement - should be changed from the formality focussed and slow governmental procedures to those in use in the private sector based on business rationale. In a competitive environment business decisions must be fast and flexible, otherwise NTC will be left behind.

Options for Liberalisation and Privatisation

The changes of decision power and decision procedures are a prerequisite for the commercialisation to be effective. Without the changes the main objectives will not be achieved.

7.5.2 Funding

NTC needs funds for investment if it is to improve service provision competing with private companies with access to private capital. As a corporation it receives the funds either from its own revenue or from HMG, either from HMG's own funds or from donor sources. Major donor sources are drying up, as the main telecommunications sector is considered a profitable business, and as a main rule donor funding shall not be granted to such sectors. Donors may be interested in marginal areas, such as rural, or support for a regulator. HMG does not have sufficient sources for the massive expansion needed.

If NTC is converted to a company, it may borrow money from commercial banks. As a company it should also be more free to make business decisions, with less political level involvement in day-to-day decisions. As a company NTC will no longer borrow money from HMG. The only contribution from HMG would be share capital, if and when needed.

7.5.3 Corporate structure

A conversion to a company can be done in two main ways:

- all functions in one company, similar to the present situation; or
- split the functions into several companies, e.g. an overseeing holding company focussing on strategies and group structure, and a number of subsidiaries for actual operations.

The first alternative is simpler, a rather straightforward continuation of the present status. The required change towards a more commercial approach may not take place to a sufficient extent.

The following company structure could be possible:

Options for Liberalisation and Privatisation

Company	Main objective	Comments
Parent company NTC Holding	Overall strategy for the group, ensure that all major business areas are covered, group financing, supervision, licence holder, relations to NTA and other government agencies	Must focus on policy and strategy and avoid day-to-day interference in subsidiary matters
NTC Mobile	Sell mobile services, handsets and accessories to users, partly using resellers, competing with fixed, WLL and new mobile operators, roaming	Objective to remain the major mobile operator in Nepal
NTC fixed	Sell national fixed telephony services to users, competing with WLL and all mobile operators, also terminal equipment sale	Objective to remain the major fixed operator in Nepal
NTC Int'l	Sale of international services direct to users, and wholesale to all fixed, WLL and mobile operators	Objective to remain the major international operator in Nepal
NTC Business	Sell all kinds of corporate services, voice, data, equipment & maintenance, to the business community and Government agencies	Objective to remain supplier of first choice to Nepalese businesses providing quality services
NTC Internet	Sell Internet services to users competing with other ISP's, also radio based Internet access networks	Objective to be the largest ISP in Nepal
NTC Networks	Sell national and international network capacity to NTC companies and to external operators	Objective to remain the largest network operator in Nepal
NTC World	Establish and run subsidiaries and Joint Ventures abroad, contracting work in Nepal and abroad, consulting and leasing staff in Nepal and abroad	A completely new area of activities for NTC, risky, but potentially rewarding

Table 14. One possible division of NTC into subsidiaries.

Splitting the present NTC into several operating subsidiaries, each with a narrower scope and with its own objectives, is a more substantial change and will need external guidance. The required changes (towards a more commercial way of operating, as well as providing more diverse services rather than only the main services) are much more likely to happen.

The detailed division of tasks between the companies would need management expertise. A key issue is that corporate management (NTC Holding) should focus on strategic matters, group structure and on tasks relevant to the entire group. Corporate management should accept, and in fact create, a reasonable competitive type tension between the subsidiaries, so that the developing force of competition comes into use.

The parent company NTC Holding would focus on selection of business areas, corporate structure (division in companies) and corporate relations, appointment of Boards and General Managers of subsidiaries, common issues such as financing, official relations to NTA, etc.

All subsidiaries would have their own Boards and General Managers, and have significant decision power in day-to-day decisions, independent from NTC Holding. This structure would increase the immediate cost, which has to be balanced against improved cost

awareness and efficiency in the various subsidiaries, and improved supply of other services than the present fixed services. Such other services may at least include corporate services, leased lines, capacity to other operators, broadband services, etc.

All service subsidiaries would have the right to buy network capacity from outside if not available from NTC Networks at reasonable rates, applying pressure on NTC Networks to keep costs reasonable and quality high. This is a method to create positive competitive tension to make the operations more efficient. The actual cost and profitability of various main functions will become much more clear and understandable, which is important for internal efficiency, but also for regulatory purposes.

When service subsidiaries buy only necessary network capacity, unnecessary investments will be avoided, as NTC Networks will not create unnecessary reserves. If leasing network capacity to other operators and thus expanding business significantly, NTC Networks will also need to construct sufficient capacity in the whole country, otherwise new operators will provide their own networks.

Opening the telecoms sector for foreigners (the main basis for the existence of WTO) should be understood as a two-way undertaking, Nepalese companies should also go abroad, when possible and if profitable, and generate export business. Nepalese professionals already work abroad. Leasing professional and other staff to foreign companies and projects could be the starting point of NTC World, and could possibly also be part of restructuring of staff. Possible surplus staff could be transferred to NTC World, which also could undertake turn-key installation of networks of new operators and other similar business. Creating other international business depends on management skills.

Other subsidiaries may be created, such as a retail chain for selling e.g. computers, mobile handsets and connections, etc. However, as long as a major waiting list remains in the country, the main focus should be on meeting demand rather than a strong focus on new business areas.

7.5.4 Dividend policy

A key area in commercialisation is a dividend policy. The policy is a balance between growth (requiring profits to be retained in the company), and dividends (distribution of profit to the owner). A dividend policy cannot be static, it has to reflect the situation in the sector, the need of capital for expansion, and the needs of the owner to get return on its investment.

7.6 PRIVATISATION

7.6.1 Overview

A major source of information on privatisation of NTC is included in the report *Detailed Appraisal, Privatisation of NTC*, done by Andersen Management A/S (Denmark) and BMP International (UK) in 1999. The report may be a few years old, but it is still mainly valid.

Options for Liberalisation and Privatisation

Privatisation of NTC has many different aspects, such as:

Who are the buyers?	• Nepalese public, to be traded on stock exchange • strategic investor, active in management, possibly foreign • one or more strategic investors • staff
What to privatise?	• NTC as a whole • part or subsidiaries, e.g. mobile
How much to sell to the major buyer?	• minority, e.g. 33% • small majority, e.g. 51% • most or all
What shares to sell?	• existing shares, sale proceed to HMG • new shares, sale proceeds to NTC for investments • combination

Table 15. Aspects of privatisation of NTC.

There is no international best practice for privatisation, the choices depend on the situation in each case. Some comments on the various aspects follow.

7.6.2 Different buyers

Selling to the public may - perhaps - result in a higher sale price than to a strategic buyer. It will not add required management skills, but it will retain ownership in Nepalese hands. The general public is called *passive investor*, which means that it is not involved in management, only to some extent in annual shareholder meetings. Selling to the public is, however, also a public relations operation: Nepalese persons and companies consider it a Nepalese company rather than a foreign company. Also, company information would be more easily available through the annual reports.

Selling to a *strategic investor* means selling to a foreign telecommunications operator. Such an investor usually wants a higher return on his investment, thus the sale price may be lower. The strategic investor would, on the other hand, contribute with management expertise and thus improve the business potential, which increases the sale price. A strategic investor may abuse its management position[18], which should be prevented to the extent possible.

Selling shares to *employees* is common practice in privatisation. One reason for such practice is to reduce resistance, as some employees usually resist privatisation. Receiving personal benefits may change attitudes. Another, more important, aspect is to tie the

[18] One method that is used is to overprice international communication routed through the management partner's international hubs. Another is to pay management fees abroad, a third to buy equipment at inflated prices from the investor or his partner. Such overpricing is common, but may be kept at reasonable levels if e.g. international traffic is competitive, management contracts are controlled, and procurement is not completely in the investor's hands. Stock exchange listing usually needs careful auditing, which may prevent part of the abuse.

employees more tightly to the company. Company success gives personal benefit. However, it is difficult for staff to sell their shares if the shares are not listed.

Employees are somewhere between passive and strategic investors. Many participate in management, but they do not have a major ownership share and thus do not have a strong say at shareholders' meeting.

The balance between passive and active investors and employees is difficult, and needs careful consideration.

7.6.3 Privatising the entire company or subsidiaries

Another difficult choice is privatising the entire company or one or more subsidiaries (e.g. mobile). Privatising only some subsidiaries would leave the other subsidiaries in state ownership. On the other hand, the most valuable subsidiaries (e.g. mobile) may generate almost as much sale proceeds as the entire company.

Selling the most profitable parts would leave HMG with the less profitable parts, and most likely with other areas needing attention, such as the majority of staff, etc.

Privatising smaller parts may result in pure Nepalese companies, as domestic investors may have sufficient resources. One method of privatising smaller parts is also MBO, Management Buy-Out, when management agrees to buy smaller parts. This method is sometimes used to get rid of smaller parts that are non-profitable (or non-desirable) as parts of a larger company, but may be made profitable as separate companies. In such cases the sale price is usually low.

A common practice is also that companies running into temporary financial difficulties sell some parts to solve the problem. This may not be the case for the present NTC.

7.6.4 Minority, majority or all?

A quite difficult question is how much to privatise.

The long-term objective may be to privatise all, but in steps. One main reason for stepwise privatisation is that the value of the remaining shares increases as an outcome of the improvement in operation. Stepwise privatisation also means that a possible step from a fully Nepalese owned company to a foreign subsidiary is postponed.

A cautious step of privatising a minor part, e.g. one third, has been used in many countries. A minority part sold to a strategic investor often gives the investor almost full power, in particular if accompanied with a management contract. Getting full power with a rather small investment is an opportunity for an investor, but on the other hand a risk for the selling government losing most of its direct control. The risk for abuse increases.

Options for Liberalisation and Privatisation

Selling a minority of the shares to passive investors retains the government control, but this also means that management improvement may be little, and the desired results (improved service provision and improved efficiency) may be rather slow.

The following step after seeing the outcome of a partial privatisation may be to sell a second batch to the strategic investor. The price of the second batch is difficult to establish, as the value of the company hopefully has increased significantly. There is only one seller and one buyer. The price could be easier to set if the initial privatisation is a combination of sale to a strategic investor (say, one third), and an Initial Public Offering (say, 10% of the shares).

The second batch may also be a sale to passive investors, for listing on the stock exchange. After listing, the value of the shares is set on a free market, and the value of a following batch is easier to set. A major risk is that the strategic investor is satisfied with the minority ownership, in practice giving full control of the company, and does not wish to buy more.

The sale of the last batch of state ownership may be postponed until a suitable time.

Sale of a small majority of shares (say, 51%) to a strategic investor means that the investor would assume a larger degree of responsibility of the company, with long-term commitment to development of Nepal's communications. The sale price per share may be higher than for a minority.

Immediate sale of the entire company may mean converting the company to foreign ownership, a step that cannot be reversed. It is a politically difficult step. The initial sale price per share may, however, be the highest, and the improvement in management and service provision the best.

One more possibility exists, the Golden Share. It means a special share equipped with certain specified special rights (usually veto rights), such as opposing certain tariff changes, opposing sale of subsidiaries or business, or any other politically important rights.

One of the major difficulties for a majority privatisation, either 51% or 100%, is the requirement in the Telecommunications Act to hand over the plant at the end of the licence period. It is probably a major obstacle for the interest of foreign investors.

The choices are difficult. No decision, or a decision not to privatise, is also a choice, but may result in NTC losing market share and / or its best staff.

7.6.5 Old or new shares?

HMG may sell its existing shares to the private sector. In this case the proceeds of the sale go to HMG, and NTC does not get more capital. This alternative is relevant if NTC can generate sufficient funds for investment from its own operations and borrowing from banks.

The alternative is that NTC issues new shares. In this case all proceeds go to NTC. This alternative is relevant if NTC needs an increase of equity for expansion.

The two may also be combined, either in parallel during the initial privatisation, or so that NTC issues new shares later, if and when needed.

7.6.6 Issues

A privatisation usually includes issues that need attention.

Some **donors** have restrictions for ownership transfer of donated equipment etc., which needs to be taken into account. The role of donors is likely to change in connection with a privatisation. Donors may focus on areas that are not profitable, such as rural areas, or support e.g. regulation or policy formulation rather than supporting the mainstream telecommunications sector.

It is customary that strategic owners demand **exclusivity**, in one way or the other. International exclusivity offers the possibility to charge users well above cost, which means that users do not get the benefit of lower costs. Above cost charges also offer some possibilities for abuse by overpricing the owner's own international services.

Exclusivity sometimes results in a higher sale price in a privatisation. If the sale price is the sole objective, exclusivity is a good tool. If the privatisation also includes improved service provision, better coverage and more reasonable prices through improved efficiency, then exclusivity is usually not the best means.

Privatisation usually also includes obligations for the buyer to implement certain obligations such as improved **rural coverage, tariff levels**, etc. These are part of the total privatisation package and needs to be elaborated on due time.

One of the key areas in a privatisation is personnel. While NTC may have some excess staff related to the present size, a faster growing sector would need additional staff rather than fewer staff. The main problem is usually that staff capabilities and structure differ from the needed. Personnel matters need to be addressed in the privatisation process.

7.7 OVERALL SEQUENCING AND TIMING

7.7.1 Liberalisation

Liberalisation is the most important action, more important than commercialisation and privatisation. Liberalisation should continue, but focus on major operators and a wider range or services. It is obvious that NTC alone cannot satisfy the demand in Nepal. For that reason new operators are needed. Licensing should be carried out independent of possible delays in commercialisation and privatisation of NTC.

Three operators in addition to NTC should be licensed for mobile networks and services. Licensing for mobile operators should be carried out using tendering, and the Consultant's recommendation is to use the tendering for maximising coverage rather than maximising the upfront licence fee. Normal taxation ensures a continuous revenue stream to HMG.

Options for Liberalisation and Privatisation

Some new operators should also be licensed for corporate networks and services, without delay. Such operators require a Standard Licence, unless using scarce spectrum, and the number of such operators is not limited. Promotion may be needed to introduce at least one such operator (one previous attempt has failed). Cable television operators should be licensed to provide telecommunications services, in particular broadband Internet access.

Full liberalisation of all services should be implemented by 2004 as stated in the Telecommunications Policy of 1999.

7.7.2 Commercialisation

The two main steps are

- conversion to a normal limited company, and
- restructuring of the operations in subsidiaries.

The Consultant's understanding is that the first step is urgent and **NTC should be converted to a commercial company without delay**. The conversion should result in private sector practices, replacing present government rules. HMG should instead establish overall objectives for NTC such as profitability and certain coverage and service provision requirements, and appoint the new Board using private sector expertise. The decision should include a dividend policy.

The second step, restructuring in subsidiaries, should be carried out after conversion to ensure that NTC is competitive and flexible. Restructuring need careful consideration and planning, including appointment of management for subsidiaries and preparation of internal rules for management of the group and for relations between the holding company and subsidiaries, and between subsidiaries. A management consultant should be appointed without delay to guide NTC management in the process.

The initial restructuring is recommended to be finalised within the fiscal year 2003 - 2004. In fact, restructuring is a continuous process, with repeated changes in the group structure.

7.7.3 Privatisation

The following step, privatisation, needs more time. The Consultant's understanding is that a good partner is needed for NTC to remain the major operator. The present achievements as such are good, but clearly not sufficient for providing Nepal with the required services, in terms of quantity and diversity.

Privatisation has been studied in the report by Andersen Management International and BMP International. The report is still valid. Some additional alternatives have been mentioned in this paper.

A decision and action plan on privatisation is recommended to be made during years 2004 - 2005, in parallel to and after restructuring of NTC. The schedule allows for using the

experience of restructuring. Implementation will be done in due time after that, perhaps in 2006 - 2007.

7.7.4 Overall plan

An overall plan for liberalisation and privatisation, including related activities, is included as an annex to the draft National Telecommunications Policy.

7.8 DONORS

About ten years ago the donor community agreed to stop most financing of profitable sectors, including telecommunications. Exceptions are non-profitable areas outside commercial coverage, support for sector restructuring and regulation, and other similar areas. Some donors continue minor financing of normal telecoms investment in Least Developed Countries, but the magnitude is anyway small and in no way sufficient for overall development.

This means that Nepal cannot rely on donor funding for most telecommunications. It is possible that a clear definition of commercially non-viable areas would help getting support for these areas. A successful tender aiming at maximising rural coverage would clarify which areas are commercially viable, and thus negotiations with donors for the remaining areas would be easier.

8. Report on Ownership Tax and Service Charge

REPORT ON OWNERSHIP TAX AND SERVICE CHARGE

8.1 BACKGROUND

The purpose of the paper is to provide HMG / MOIC and the Ministry of Finance with background information on taxation of telecommunications and in particular on taxation in Nepal. The paper is originally done in April-May 2003, as a basis for considering removal of the Ownership Tax for pre-paid services. The paper is not fully updated, but some remarks are added at the end.

NTC has not yet published information on plans for mobile pre-paid cards for low-users and the corresponding tariffs. This study is thus based on international information and on the assumption that a pre-paid card costs about Rs 2000 (not including ownership tax). The present mobile subscriptions are in fact pre-paid, as users have to deposit money in advance, and usage is interrupted when the deposited amount is reached.

Some information has been received on plans to connect additional fixed, WLL as well as mobile customers. The information, however, appears to be too unreliable for being used a basis for tax calculations.

8.2 PRESENT TELECOMMUNICATIONS TAXATION IN NEPAL

This is a summary of taxes and related charges for telecommunications services in Nepal.

The **ownership tax** is a direct tax to be paid by each new telephone user, Rs 1500. The total tax collected in FY 2058 - 2059 (2001-2002) was Rs. 83 million.

Taxes on usage charges are as follows:

Item	Amount	Total tax	Collected tax
Operator net charge	1000		
Royalty 4%	40	40	142
Rural Telecom Development Fund 2% (not tax)	20		
Service Charge 15% (tax)	150	150	533
Subtotal before VAT	1210		
VAT 10%	121	121	448
Total after VAT	1331		
Total tax to Government		311	1123

Table 16. Calculation of tax on telecommunications. Collected tax (service charge and VAT) is as reported by NTC for FY 2058 - 2059 (2001-2002), Rs. million. Royalty is calculated.

Total Government tax added on net usage charges set by the operator is thus 31.1%.

In this summary the Rural Telecom Development Fund charge (2%) is not understood as a tax, as it is returned to the sector as subsidy. Also licence fees are not understood as taxes, as licence fees are intended to cover the expenses of the NTA for regulating the sector.

A distribution of collected taxes is shown in Figure 8.

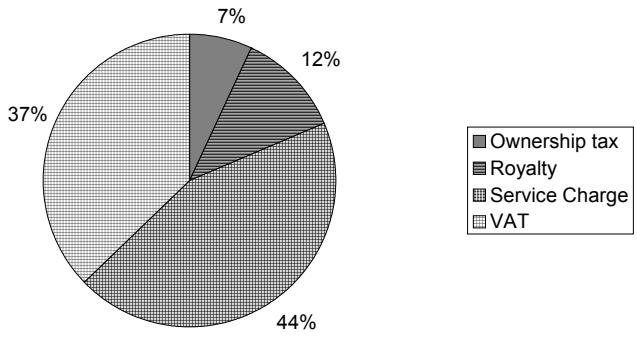

Figure 8. Distribution of collected taxes. Source: NTC.

The Service Charge and VAT are clearly the most important taxes.

The history of the Service Charge includes a 20% sales tax on telecommunications before introduction of the 10% VAT. After introduction of VAT, the Service Charge was initially 10%, but has since been increased to 15%.

8.3 GENERAL TAXATION PRINCIPLES

In a modern society taxation is a kind of membership fee, providing the government with funds needed for its operation. The main principle includes an overall approach of neutrality, all tax-payers pay tax based on the same rules.

Tax and similar charges are usually paid based on consumption (Value Added Tax), income (personal income and company profit tax), property (e.g. tax for land), import (duty) and some other minor taxes and fees. These taxes are basically equal for all.

In some cases governments deviate from the main equality rule, for political reasons. Governments want to promote or prevent use of some products or services. Such deviations can be seen in both directions. Examples of higher taxation may include:

- cars, tobacco, alcohol, fuel, luxury type items and services, import, etc.

The Ministry of Finance made a remark during discussions that telecommunications is still considered a kind of luxury in Nepal.

Examples of lower taxation may include:

- food, medicine, books, transport charges, fuel, agricultural products, etc.

Lower taxation is sometimes also used as a vehicle for subsidies.

Higher taxation can also be indirect, overpricing certain products when offered by state owned, monopoly type entities. A typical example has been, and still is in some countries, excess prices for international communications.

Both lower and higher taxation usually result in loopholes and abuse, and the outcome can be partially unwanted. One of the features of different taxation is that enterprises make efforts to avoid taxes instead of focussing on development of business.

High taxation may be based on an understanding that the product (e.g. tobacco) is detrimental to the population. It is understandable and politically acceptable.

High taxes are sometimes also applied in cases when tax is easy to collect. This is often the case in developing countries with large companies using developed accounting. Small companies may be able to avoid tax. Also industrialised countries pay attention to ease of collecting taxes. The present above normal taxation in Nepal on telecommunications is partially imposed because it is easy to collect.

In a modern society taxation has significant impact on economic development. High taxes, e.g. on transport, force people and companies to minimise transport. High taxation on telecommunications forces users to minimise use of telecommunications. In both cases the impact on the overall economy may be negative, hampering general business and resulting in less overall tax revenue. High transport costs may prevent sale of products at a higher price. High telecommunications cost may prevent establishing new businesses, or finding the best buyers for products. Both are valid for small local businesses as well as large international businesses. Users should have the choice between telephones, letters, transport etc. based on equal taxation for all of these.

8.4 BEST PRACTICE ON TAXATION OF TELECOMMUNICATIONS

8.4.1 Direct taxation

A clear majority of countries treat telecommunications as a normal business, with no additional taxes or any tax exemptions. A rather comprehensive source[19], even if old, shows that out of 68 countries listed only five applied other taxes than normal business (VAT). These countries and the tax % were: Canada 10%, Malaysia 5%, Nepal 10%, USA 8.25%, and Zimbabwe 10%. All of these taxes are % of revenue, a continuous revenue stream to Government.

The Consultant knows from other sources that Finland applied a 9% telecoms tax for a few years during the 1990's. States in the USA have imposed special taxes on mobile telecommunications in the 2000's. Indonesia is said to have imposed a luxury tax on mobile telecommunications equipment and handsets, but not on services[20]. Nepal imposes

[19] 1993 National Telephone Tariffs, Worldwide study including detailed comparison, Siemens 1993.

[20] A luxury tax on mobile is opposite to the world-wide experience that mobile can be the cheapest telephone service for the poor (low usage). The luxury tax hampers development of pro-poor services.

three direct taxes on all telecommunications services: ownership tax, service charge and royalty.

Furthermore some countries do apply investor tax exemptions also for some (but apparently not all) telecommunications operators or telecommunications projects. Tax exemptions are used as "carrots" when inviting investors. An example is Sri Lanka, where some telecoms investment project are BOI (Board of Investment) approved and thus qualify for tax and import duty exemptions. Section 34 of the Telecommunications Act allows for tax exemptions also in Nepal.

A number of countries try to expand the telecommunications network in rural areas using direct subsidies in one form or another. Nepal has an on-going project for rural telecommunications services in the Eastern Development Region based on subsidies financed from a World Bank credit. Simultaneous application of subsidies & tax exemptions and higher taxes than for normal business is perhaps not logical.

Search for information on Internet on taxation of telecommunications gave almost no result. Telecommunications taxation is not a major issue, as no reports were found.

The EU has a stated objective of converting telecommunications into a normal competitive business sector, with normal taxation like any other business.

8.4.2 Indirect taxation

Indirect special taxation is more common. Perhaps the most common is high prices for, or auctioning of, radio spectrum. The outcome is often revenue to government. The famous UMTS (European third generation mobile) licences resulted in high income, in particular in Germany and UK (in part due to auction arrangements), but the operators winning the auctions almost all run into financial difficulties. Several operators (e.g. France Telecom and Sonera, Finland) have required government support in the form of increase of equity (share capital).

Network implementation will be postponed due to the financial difficulties. When operators cannot afford building networks, manufacturers do not get orders, and have also run into difficulties. Germany received substantial income from the auctions, but lost much more in value of the incumbent German Telecom. The outcome has contributed to a world-wide recession.

In brief the outcome has been that, after the winning operators paid their auction fees to governments, governments pay money to several of the operators to avoid bankruptcies and do not receive profit tax due to losses resulting from the auctions. Neither is dividend paid.

The USA has used auctions extensively for spectrum management, as other methods either resulted in court cases (when beauty contests were used), or unwanted arbitrary results (when spectrum lottery winners anyway arranged auctions). The outcome has been a number of bankruptcies and other financial disturbances. India and Nepal have also tried auctions on maximum licence fees for licences, and the outcome is not encouraging.

Auctions can be arranged in many ways. The European auctions were designed to maximise auction price (cash-in auctions) rather than maximising service provision. Cash-in auctions do not ensure good coverage. Nepal's main problem in telecoms is supply and coverage, and cash-in auctions and similar are not likely to assist in contributing to solve these problems. Nepal has tried cash-in auctions e.g. in mobile, without any outcome.

Revenue sharing is applied in some Asian countries, in particular in connection to the BTO licences in Thailand. Such revenue sharing is realistic only in an undersupplied market with long waiting lists and limited number of operators.

8.4.3 Regulatory fees and similar

A number of countries impose fees for financing of regulation and for contribution to rural development funds for financing infrastructure in areas that are otherwise underserved. These fees are not normal tax in the sense that the funds remain in the sector and are not used for general financing of government expenditure.

Various fees are imposed on utilisation of resources such as roads, radio spectrum, numbering, etc.

8.4.4 Overview

As a whole the type of taxation or the name of the fee is not important. Telecommunications can pay normal taxes as any other business. Simultaneous use of normal taxation together with focussed and transparent subsidies for certain rural projects is logical and need not be avoided.

Generally governments should promote smooth development and avoid abrupt changes. Auctions, when prices escalate to high levels, are abrupt changes. For that reason continuous payments (VAT type) should be preferred to one-time charges.

Different taxation, based on geographical areas (e.g. rural), should preferably be avoided for the sake of clarity. It is partially possible for fixed telephony but almost impossible to arrange for mobile services, satellite services and similar. Uniform taxation is recommended. Differences invite abuse.

Nepal already has many tens of operators, even if so far all private operators are small. Perhaps the most important criterion for new investors, domestic or foreign, is a stable and predictable business environment, in particular a tax regime. Major investors, foreign as well as domestic, will most likely demand tax exemptions. Such exemptions should be avoided. New investors will compete with existing operators, and all should have the same tax rules. Government also needs revenue; thus normal business taxation should apply.

The best practice is clearly to apply normal business taxation, including duty, no special taxes, and no tax exemptions. In the long run this is likely to be the optimal solution in Nepal, once the situation in telecoms has been developed towards normal business.

8.5 PRICE ELASTICITY AND IMPACT ON DEMAND AND TAX

8.5.1 General

Price elasticity essentially means that a reduction in price increases demand: more calls, more lines, etc.

Price elasticity can be divided into three types:

Type	Value	Example
Inelastic	between 0 and -1	-0.5: a 1% reduction of price results in 0.5% increase of demand, lower sale revenue
Unitary	-1.0	a 1% reduction of price results in 1% increase of demand, same sale revenue
Elastic demand	below -1	-1.5: a 1% reduction of price results in 1.5% increase of demand, higher sale revenue

Table 17. Different price elasticity types. Source: Telecommunications Regulation Handbook[21], Appendix B, page B8.

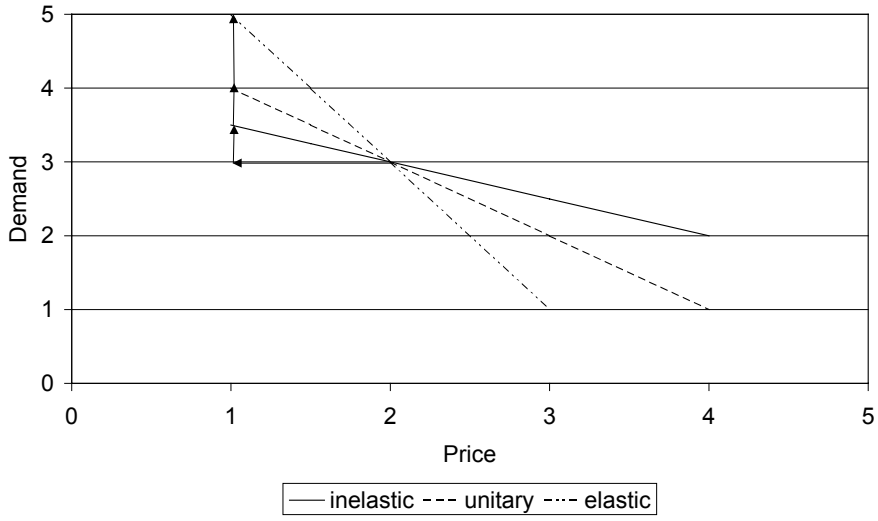

Figure 9. Different elasticities as a graph.

A similar elasticity principle is valid for income (higher income increases demand).

Price elasticity is relevant for sales revenue ONLY if there is no restriction in supply. This means that if prices are lowered due to reduced taxation, users have the possibility to get more lines and more calls at the lower rates without delay.

[21] www.infodev.org/projects/314regulationhandbook.

In the present situation with a long waiting list for fixed telephony, elasticity is not working for fixed telecommunications. Even if demand would be there, customers would not get more connections as a result of tax reduction. NTC is anyway installing as many connections as it can.

Mobile telecommunications is available on demand, in a very limited part of the country. Thus elasticity is relevant for mobile. Customers can get connections when they want. The reductions in deposit in May, however, resulted in a rush for new connections and at least temporarily waiting lists were introduced also for mobile services[22].

8.5.2 Elasticity aspects in telecoms

Price elasticity aspects in telecoms are researched, but mainly in industrialised countries, for fixed telephony, and some studies are rather old. Elasticity for connection charge and for subscription (rental) are very low (-0.1 ... -0.2), and somewhat higher for long distance calls and international calls (-0.4 ... -0.9). All are inelastic, meaning that a reduction in price is not fully compensated by increased demand.

Income elasticity for connection and subscription is about 0.5, for local calls 1.0, and between 1.15 and 1.70 for long distance and international calls. Thus a price reduction in long distance and international is usually overcompensated by increase of demand.

Elasticity in **developing countries** is most likely to be much higher. Price elasticity figures might be twice the figures in industrialised countries. Unitary elasticity (-1.0) can be assumed for the total bill for fixed telephony, for usage charges, but not including connection charge.

Price elasticity for **business usage** is usually lower than for residential usage. Many business users use telecoms as much as they need to, almost irrespective of cost. In Western countries telecoms expenditure in business is of the order of less than one per cent to a few per cent of total expenditure. This is in principle valid for large business in developing countries as well.

Price elasticity for **residential usage** is higher, in particular for the lower income groups. The cheap pre-paid cards are the preferred means for telephones for the poor in many countries.

8.5.3 Competition with Indian operators

One feature of elasticity is based on competition. When an operator changes its price level, users switch to cheaper operators. This type of elasticity is higher than overall demand elasticity. But it does not depend only on prices.

Competition exists in Nepal, even if not official. In Terai, along the border with India, the Nepalese population has the technical possibility to use Indian mobile services. Cross-border service can be used in particular for calls to and from India, but also for calls to and

[22] Source: Kathmandu Post (on-line) 25 May 2003.

from other countries, also to Nepal and for calls between Nepalese users with Indian phones. It is not possible to estimate the magnitude of such cross-border service provision.

The outcome is that all call charges, including government tax, is paid to India. For calls to Nepal, the Indian mobile operators would pay some charges for terminating incoming calls, otherwise the usage does not leave any monies in Nepal.

The situation is somewhat absurd. It is not possible to prevent this competition, but it is certainly possible to improve Nepalese mobile service provision so that a smaller amount of money flows out of the country. It would be a natural part of overall improvement of service provision in Nepal, and most likely immediately stop domestic telephone calls (within Nepal) to be routed via India.

Better provision also means that Nepalese mobile service would be available in Indian areas adjacent to the border, and then some Indian users may use Nepalese service and pay their invoices to Nepalese operators, including Nepalese tax.

The situation is well known in other countries along land borders.

8.6 IMPACT OF REMOVAL OF OWNERSHIP CHARGE

Price elasticity for **prepaid** cards for low-users to be introduced in Nepal depends on the proposed tariffs and, in particular, on the length of the period that an expired account is allowed to receive calls. Such periods are common elsewhere, and can be several months[23]. The Consultant's estimate is that the elasticity is high, maybe of the order of -1.5, but has to include the total price of the SIM card (including tax) and the price of a cheap handset.

	Total initial cost with tax	**Total initial cost without tax**
Handset	Rs 5000	Rs 5000
SIM card	Rs 3500	Rs 2000
Total	Rs 8500	Rs 7000
Cards sold	100	100+(-1.5*-1500/8500)=126

Table 18. Estimate of sales of prepaid cards with and without ownership tax.

Sales of pre-paid cards would thus increase by 26% as an outcome of removing the ownership tax.

Call charges include a 15% telecommunications service charge and 10% VAT. This means a total of 26.5% tax to be added on NTC call prices (internal prices *before* addition of tax). Calculated from the total user price *including* tax, the tax component is 26.5/126.5 = 21%.

[23] E.g. in Cambodia the period for receiving calls free of charge, after the pre-paid account expired, varied from 30 days (largest operator) to 180 days (aggressive competitor) in early 2002. This means that the minimum cost of having a phone for receiving calls (no call charges included) from the largest operator is about US$ 42, and from the aggressive competitor US$ 10.

REPORT ON OWNERSHIP TAX AND SERVICE CHARGE

Two calculations of the impact of total tax revenue are shown below. Table 17 shows a calculation of total tax revenue for mobile telecoms, based on the above estimate that removal of the tax would result in 26% more pre-paid cards.

	tax	**no tax**
Sold accounts	100	126
Total ownership tax Rs	150 000	0
Call charges Rs. / year&user incl. tax	8 000	8 000
Total call charges Rs / year incl. tax	800 000	1008 000
of which tax Rs / year	168 000	211 680
Total tax revenue first year	318 000	211 680
Total tax revenue first two years	486 000	423 360
Total tax revenue first three years	654 000	635 040
Total tax revenue first four years	822 000	846 720

Table 19. Estimated total tax revenue with and without ownership tax.

The calculation above estimates that the loss of ownership tax revenue would be compensated by increased tax on call revenue in four years. After that the total tax revenue would be higher. If using the average call revenue for NTC's present mobile customers, (Rs 19000 per user), the loss of ownership tax revenue would be compensated in less than two years.

The assumption above (call charge Rs. 8000 / year and user, roughly US$ 100) is cautious. It includes the traffic per additional mobile pre-paid user in both directions. If the pre-paid user is poor, the incoming traffic is likely to be larger than the outgoing. The operator gets revenue from both calling directions, provided that interconnection arrangements are appropriate.

Another calculation is on total tax revenue. The estimated number of connections and telecoms revenue are shown in Table 20. Mobile connections are estimated to increase by 26% after removal of ownership tax, whereas fixed connections remain the same. The assumed revenue per year is Rs 19000 per fixed and Rs 8000 per mobile connection.

	fixed		**mobile, with tax**		**mobile, no tax**		**total tax revenue**	
years	**conn.**	**revenue**	**conn.**	**revenue**	**conn.**	**revenue**	**tax**	**no tax**
	'000	**Rs mill**	**'000**	**Rs mill**	**'000**	**Rs mill**	**Rs mill**	**Rs mill**
2003	400	7600	50	400	63	504	8000	8104
2004	450	8550	200	1600	252	2016	10150	10566
2005	500	9500	350	2800	441	3528	12300	13028
2006	550	10450	500	4000	630	5040	14450	15490
2007	600	11400	650	5200	819	6552	16600	17952
2008	650	12350	800	6400	1008	8064	18750	20414
2009	700	13300	950	7600	1197	9576	20900	22876
2010	750	14250	1100	8800	1386	11088	23050	25338

Table 20. Connections and telecoms revenue before tax, with and without ownership tax.

REPORT ON OWNERSHIP TAX AND SERVICE CHARGE

Calculating HMG's tax revenue based on ownership tax Rs 1500 per new connection, 4% royalty, 15% service charge and upon these 10% tax gives the annual tax revenue shown in Figure 10.

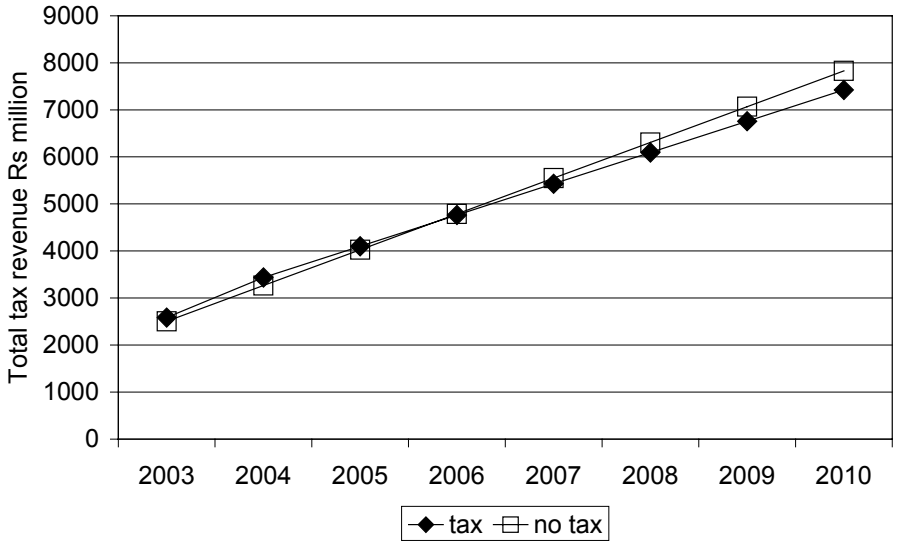

Figure 10. Total tax from telecoms with and without ownership tax.

Figure 10 shows the total collected tax from all telecoms. The calculation includes removal of the ownership tax from fixed telecoms as well. In the long run tax revenue would increase, but the difference is so small that the impact is almost negligible.

Removing the ownership charge would make the initial cost of prepaid accounts significantly cheaper. The poor can receive cheaper service anywhere in the coverage area, either own or shared. The total cost, of course, depends on the tariffs (see also Chapter 8.6 and Footnote 23). In a competitive environment pro-poor tariffs usually emerge. This increases their possibility to higher income and better participation in the economy and reduces isolation. When normal taxation is applied on usage, tax revenue increases.

Removing the ownership charge would not change delivery of fixed telephone connections, as NTC is anyway installing all the connections that they can. The waiting list is long. The same would be valid for the WLL operator until fixed network connections are available on demand. Taking into account the present waiting list (250 000), this is expected to take years.

A practical indication of price elasticity was seen 19 May 2003. NTC announced deposit reductions for mobile connections at the previous weekend, and on Monday the NTC mobile office was crowded with customers (probably hundreds at a time). No major price reductions were announced, a lower deposit was sufficient. Kathmandu Post reported 25 May that the number of new connections increased from 5 - 10 per day to 600 per day. The number exceeds the capacity of NTC to connect new subscribers (max 150 per day), and waiting lists have been introduced even for mobile, which is an exceptional situation.

8.7 IMPACT OF REMOVAL OF SERVICE CHARGE

The 15% service charge is imposed on the total of (net of tax) call charges and rental. VAT is imposed on top of this. Removal of the service charge would lower the total telephone bill by 13% (calculated from the bill total including tax).

The elasticity data suggest about unitary price elasticity. This means that demand would increase equally to the reduction in price. Demand would be divided between more calls per connection, and more connections. Lacking more accurate information, increase of demand can be assumed equally divided between the two. The calculation below is based on 7.5% increase of usage for existing connections (waiting list situation), and 15% increase of usage for existing and new connections (assuming no waiting list).

The impact based on one existing fixed connection would be the following, calculated separately for a situation with a waiting list and without:

	waiting list	**no waiting list**
User bill per year before service charge removal Rs	19000	19000
Total tax included (21%)	3990	3990
User bill after service charge removal Rs	16530	16530
Increase in usage due to elasticity	7.5%	15%
Increased bill after increase in use Rs	17770	19010
Total tax included (9.1%)	1617	1730
Tax reduction	2373	2260

Table 21. Calculation of impact of removal of service charge on tax revenue due to price elasticity for fixed telephony.

The calculation is done as follows (waiting list column):

- the bill for one user before tax reduction is Rs 19 000;
- total tax included in the Rs 19 000 bill is Rs 3990;
- the bill for the same user after tax reduction is Rs 16 530;
- the user increases his usage due to cheaper call charges by 7.5%;
- the bill for the same user after increase of usage is Rs 17 770;
- total tax included in the Rs 17 770 bill is Rs 1617.

The calculation shows a 56 - 59% reduction in total tax revenue. This calculation is valid only for NTC. The situation changes if new operators are licensed, offering new services that NTC does not supply (much more mobile and corporate services). The new operators would pay tax.

8.8 IMPACT ON ECONOMY AND POVERTY

8.8.1 Impact on economy

Telecommunications has a positive impact on economy. The magnitude is difficult to estimate. Some international reports have established a rule of thumb: "one dollar invested in telecoms gives five dollars in return". Such estimates are valid for a situation with lack of supply, but very difficult to verify.

A more pragmatic reasoning would be to understand that increased telecommunications usage in a business generates more sales, most likely several times the total amount of paid telecommunications charges. That business is taxed, and thus tax revenue increases. However, small businesses do not always pays tax, and residential usage does not result in additional tax-paying business.

Loss in tax revenue due to removal of the service charge needs to be replaced by additional taxed business, generated by increased telecommunications usage. The order of magnitude is the following (see also Chapter 8.7):

	waiting list	**no waiting list**
User bill per year before service charge removal Rs	19000	19000
Decrease of tax (from Table 21)	2373	2260
Needed additional business net of VAT	23730	22601

Table 22. Calculation of required additional business due to removal of service charge to compensate for reduced tax revenue from telecommunications.

The calculation shows that the required increase in taxable business is slightly higher than the total operator revenue. Such an impact is likely, even much larger, but it requires that telecommunications services are readily available, in quantity, quality and required variety. This is not the case today, as NTC does not supply domestic leased lines and e.g. various data services.

The planned IT export business depends heavily on good telecommunications services at reasonable cost, including variety of services. Nepal is likely to compete with India and other countries, most of which have normal business taxation for telecoms. However, availability of services is of equal importance as taxation, and availability is not good.

8.8.2 Impact on poverty

Impact on poverty is very difficult to prove, and in particular to measure. Examples may clarify the impact.

If telecommunications services are available, rural farmers can get better prices for their products if they can obtain information on prices and can agree on sale and delivery by

phone. The result is poverty reduction, perhaps small, but immediate, and available to all those who live near a phone and can afford to make use of it.

With cheap telecommunications also urban poor persons can get better access to work, business and social contacts than without. Remittances from abroad are also easier to arrange with proper telecommunications. Examples from other countries suggest that appropriate pre-paid mobile services are the best. Such pro-poor services seem to develop much better in a competitive environment. The first indications of planned terms and conditions for Nepalese mobile pre-paid service suggest that the service tariff may not be pro-poor.

8.9 PROFIT TAX AND DIVIDEND

The TOR for this study did not cover revenue tax and dividend to the state owner. As the Ministry of Finance pointed out, these are also important matters. From a stable revenue stream point of view both vary, however, much more than tax based on gross revenue. Annual profits depend on temporary events such as charges, economic growth, competitive actions, etc. Thus the Consultant's recommendation would be to focus more on VAT type taxes than on more temporary profit based taxes.

Dividend policy is important when NTC is converted to a company, and further possibly privatised. Dividend policy needs to be included in the plans for commercialisation and privatisation.

The annual reports state that the net profit and proposed dividend are:

	1999-2000	2000-2001
Net profit Rs million (after tax)	2051	2328
Provision for income tax Rs million	702	794
Provision for income tax % of net profit	34%	34%
Proposed dividend Rs	164	144
Proposed dividend % of net profit	8.0%	6.2%

Table 23. Net profit and proposed dividend. Source: NTC annual report.

The proposed dividend is modest compared to the profit. Such dividend policy is, however, not unusual in capital intensive industries during a period of fast growth.

8.10 OBSERVATIONS

The Consultant's initial overall observation is that telecommunications services are not available as required. The main areas with severe deficiencies appear to be mobile and rural services, and corporate services for urban business users. In addition there is a long waiting list for fixed telephony, and waiting lists have been (temporarily?) introduced also for mobile. Leased lines (including ADSL services) and reliable data communications

services are essential for major business, the best tax-payers. Such services are either not at all available or not sufficiently available.

By far the most **important means** of increasing tax revenue from telecom is to **increase supply**, including variety of services. A consistent world-wide trend in telecommunications is that mobile services have grown beyond fixed services, in terms of users but also in terms of revenue.

Mobile services need, however, strong competition to develop. Mobile also appear to be better suited for the poor part of the population, as user charges for the cheapest connections can be much lower than for fixed telephony. Mobile - or possibly fixed WLL - may also be more suitable for rural areas than fixed wired telephony. Nepal is an example of a country with very slow development of mobile communications, hampering economic development, overall and in rural areas. Availability of infrastructure, e.g. telecommunications, may reduce in-country migration to urban areas.

Telecommunications services develop new business that also generates tax revenue.

8.11 RECOMMENDATIONS

8.11.1 Ownership tax

The study suggests that a removal of the ownership tax increases usage, which will compensate for the "lost" mobile pre-paid services within 2 - 4 years, even without taking into account the expected improvement in general business due to such services. For this reason **an immediate removal of the ownership tax is recommended**.

8.11.2 Service Charge and Royalty

The study indicates that a removal of the Service Charge and Royalty would be in line with international best practice, to tax telecommunications in the same way as any other business. However, increased demand would not immediately generate compensating VAT revenue from telecommunications. This is partially due to the existing waiting list and the lack of fixed and mobile services in Nepal. If services are not available, increased demand is not met and users do not get service even if they are ready to pay.

A removal of the Service Charge and Royalty lowers immediate tax revenue, but the additional telecommunications usage may result in compensation of the loss due to increased overall business, as other business pays VAT and other taxes.

Clearly the most efficient means to increase tax revenue would be to licence several additional operators (mobile and corporate services) with normal taxation. Additional mobile licences are recommended also for services to the poor and for rural areas. This policy project includes a proposal for such licensing. However, high taxation is a hindrance for introduction of new operators - domestic or foreign - to invest in Nepal.

REPORT ON OWNERSHIP TAX AND SERVICE CHARGE

A stepwise removal of the Service Charge and the Royalty is recommended in connection to licensing more operators. The steps could be related to increased sector revenue, to ensure that tax revenue remains essentially the same.

8.11.3 Proposed tax reduction scheme

One model for a tax reduction scheme would be to reduce tax depending on the growth of the sector revenue as a result of licensing new operators. The following is one possible stepwise model, ensuring roughly the same tax revenue to HMG[24]:

- the present Service Charge, a 15% tax on all telecommunications usage, and the present royalty, 4%, will be decreased in steps as follows:
- the first step occurs when total telecommunications revenue in Nepal exceeds Rs 9 billion, resulting in abolition of the royalty;
- the second step occurs when total telecommunications revenue in Nepal exceeds 12 billion, resulting in lowering the Service Charge to 10%;
- the third step occurs when total telecommunications revenue in Nepal exceeds Rs 15 billion, resulting in lowering the Service Charge to 6%;
- the fourth step occurs when total telecommunications revenue in Nepal exceeds Rs 18 billion, resulting in lowering the Service Charge to 3%;
- the fifth step occurs when total telecommunications revenue in Nepal exceeds Rs 21 billion, resulting in full abolishment of the Service Charge; and
- each reduction of tax shall be implemented in the fiscal year following the fiscal year when the relevant step is achieved.

The steps and the collected revenue are shown in Figure 11.

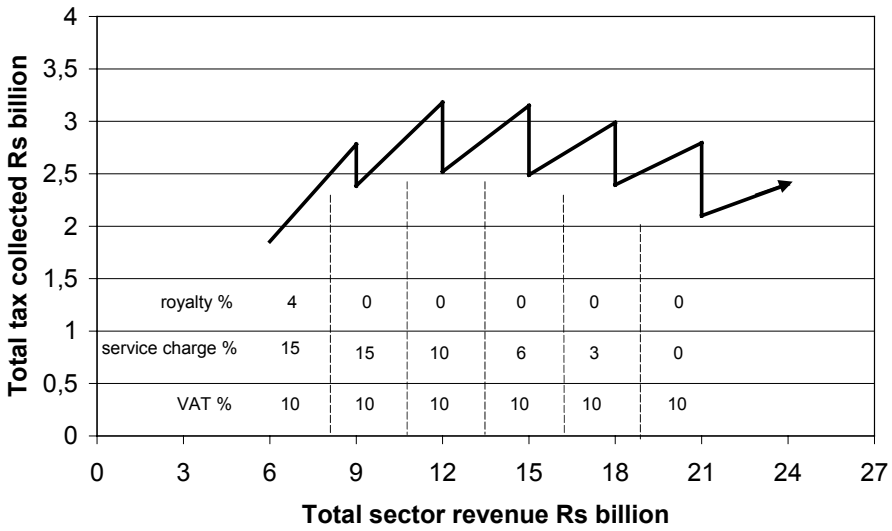

Figure 11. Graphic presentation of tax reduction model.

[24] The intention of the steps is to decrease the excess taxation level of telecommunications, but on the other hand retain HMG's tax revenue on about the same level related to GDP.

8.11.4 Regulatory charges

Licence fees and radio spectrum fees should be reasonable. The purpose of the fees is to cover regulatory cost. Such fees should not be used for taxation.

8.11.5 Tax and duty exemptions

The present Telecommunications Act (section 34) allows for tax and duty exemptions. Tax and duty exemptions are not recommended, normal taxation should apply. The main means to invite investors (domestic as well as international as the case may be) is to establish a stable and predictable business environment. Tax exemptions are contrary to the present excess taxation.

8.11.6 Dividend policy

Objectives for profitability as well as dividend policy should be taken into account when converting NTC to a company. Present Government focus on procedures should be replaced by such objectives.

8.12 OUTCOME

This paper was written in April and May 2003, and submitted to the Ministry of Finance. The paper may have contributed to the decision to reduce the Ownership Tax from Rs. 1500 to Rs. 50 for pre-paid mobile connections.

It is questionable whether a one time tax of the amount of Rs. 50 is sensible. The cost of administrating and collecting that tax may exceed the tax revenue, which has been of the order of Rs. one million during the first weeks after introduction of pre-paid mobile service.

NTC subsequently introduced pre-paid cards in part of its mobile network, initially essentially Kathmandu. Despite the very small coverage area of pre-paid service, the response in the market was strong, and supports the above recommendation. The impact on tax revenue cannot be estimated yet, but may be more positive than estimated in this paper.

By November 2003 the total number of mobile connection was 95,000, tripling in 10 months. The outcome supports the recommended approach: keep initial cost low, focus taxation on usage, creating a permanent tax revenue stream.

One more possible issue has surfaced: virtually all handsets so far have been smuggled. HMG has not got customs duty or VAT on sold handsets. HMG has ordered NTC to require new mobile customers to show VAT receipt for their handsets, to ensure that customs duty and VAT are paid. If the number of new customers slows down, it may be advisable to lower customs duty to ensure the continuous tax revenue stream.

9. Open and Technology-neutral Licensing

OPEN AND TECHNOLOGY-NEUTRAL LICENSING

9.1 GENERAL

This paper describes a proposed major licensing regime reform for telecommunications in Nepal. It is designed as a rather large step, similar to the proposed reform in India. It does not go as far as some EU countries (e.g. fixed telephone operators in Denmark do not need to even notify the relevant ministry that they exist and offer service).

The new regime is named Open and Technology Neutral Licensing, or abbreviated Open Licensing.

The principles are intended to be fully included in a new Telecommunications Policy and a Telecommunications Act replacing the present Policy and Act, and a corresponding revision of the Telecommunications Regulation.

The immediately required short term actions to enable full liberalisation by 2004, as stated in the 1999 Telecommunications Policy, are included in another paper, *Action Plan for Open Licensing*. The short term actions in the Action Plan are designed as a minimum set of changes. The short term actions can be carried out using temporary amendments to the Act (ordinances), amendments to the Telecommunications Regulation, as well as NTA decisions and actions.

9.2 MAIN PROBLEMS

Despite significant development, Nepal's telecommunications development is increasingly lagging behind other developing countries in Asia and Africa, measured by total telephone penetration[25] in the entire country. Rural service provision (outside the capital and major cities) is one of the least developed in South Asia. NTC is still the only large player, with monopoly in fixed wireline telephony as well as mobile network and services, even if UTL (United Telecom Limited, a WLL operator) has commenced service in the capital region. NTC also holds a monopoly on international telephone services, except for VSAT service used mainly by ISP's. The main reason for other countries surpassing Nepal is that they have adopted a multi-operator structure.

Nepal also has a deficiency in variety of services, in particular mobile and corporate services. The more advanced part of the society needs broadband for Internet, e.g. ADSL. Leased lines appear to be in scarce supply, advanced data services (e.g. router based public networks for connections between LANs) are not available, etc. Advanced and reasonably priced corporate services are a prerequisite if Nepal is to create a major IT-based export industry.

The 1999 Telecommunications Policy states that all telecommunications services will be fully liberalised by 2004. In this report full liberalisation is named ***Open Licensing,*** with ***Individual Licences*** and ***Standard Licences***. When applying Open Licensing, a licence is no longer a special right, it is more of a formality, similar to a driving licence. An Individual Licence is tendered, the number of licences is restricted, and is thus still a kind of special right. The tendering procedures will result in commitments in return.

[25] Total telephone penetration means fixed + mobile connections per 100 inhabitants.

OPEN AND TECHNOLOGY-NEUTRAL LICENSING

In Open Licensing there is no need to restrict licences to certain services and technologies. If restricted, it automatically excludes other services and technologies not mentioned. In Open Licensing any operator can offer virtually any service. The remaining restrictions would be due to scarce resources such as radio spectrum.

An underlying reason for many of the problems when licensing is based on technology is convergence, with services and networks increasingly overlapping. Nepal has experience of disputes about which technologies are licensed and which technologies are not. **Technology neutral** licensing removes most reasons for disputes regarding use of technology.

Technology as a basis for licences has become outdated, as service and network definitions do not any more correspond to development in technology. E.g. India and the EU have designed their new licensing regimes based on a technology neutral approach. This proposal is based on a fully technology neutral approach.

The existing licensing regime also includes a number of problems of administrative type, with many different approvals etc, some of which could be improved or even removed (see Legal annex). Examples are:

- approval of all tariffs, even for small players and insignificant tariffs[26];
- spectrum licensing which is slow and detailed;
- approval of network equipment, resulting in the regulator assuming partial responsibility for quality[27]; and
- proposed licensing (not exemption of licensing) of resale of calls[28] which hampers creation of call resale outlets and thus public access to services for the poor.

Interconnection is a world-wide problem, no lasting self-regulatory solution has emerged. It is likely to remain a problem also in Nepal for the foreseeable future, independent of licensing regime. Interconnection may be expected to be easier in a multi-operator environment than in an environment with two or three major players.

The above description is mainly for operators offering services to the general public. Standard Licences for corporate services (internal use) and closed user groups may perhaps be somewhat more restrictive.

[26] Approval of all tariffs is prescribed in the present regime. However, the implementation has been pragmatic, focussed on the main tariffs, paying little attention to minor tariffs, which is a good approach. In 2004 NTA will introduce price cap regulation, another step towards more flexible regulation.

[27] If the regulator approves network technology, the operator can use the approval as an excuse for not improving quality of service or for other purposes, which has occurred in Nepal. The regulator should not approve network technology as such, but may require equipment to be new (not used), and to meet specifications of e.g. ITU, ETSI or FCC.

[28] Resale of calls (shared telephones and the similar) does not need licences at present, and is exempted from licensing in the 1999 policy. Still, introduction of licensing of resale is included in the Terms of Reference (see B.1.2: ...licensing Tele-centers, and privately operated pay-phones...). Promoting would be a better term.

9.3 TRANSITION: EITHER BIG BANG OR DUAL REGIME

A new licensing regime appears needed. The conventional solution would be to create a new regime and convert all existing licences at the same time (a Big Bang approach). This is certainly possible.

However, some operators may prefer the present regime, or at least try to benefit as much as possible from the transition. A negotiation process to convert each and every existing licence may last long, as each operator is likely to defend its large and small advantages in the present licences. The operators would have the upper hand, including the possibility to "drag their feet", a very common method used in this kind of situations. The outcome would be a multitude of compromises rather than a clear-cut new regime.

An unconventional solution would be to have a dual licensing regime for a transitional period. Existing licences remain in force, unchanged, but new entrants will be granted Individual Licences and Standard Licences based on the new regime. Present operators would have the option to voluntarily apply for transition to the new regime. The dual regime approach, if successful, would result in much less compromises in the new regime than a traditional transition. The new regime should be created using a green field approach, so that the desired long-term objectives are achieved.

9.4 TRANSITION PRINCIPLES

The new regime should be carefully designed to be attractive, so that transition to the new regime would be beneficial for every operator. The transition should require that operators give up most of their remaining possible special rights, exclusivity, some spectrum assignments, and similar. The transition should give the operator at least the same rights, with some exceptions for exclusivity and other similar details.

The transition model with dual regimes includes risks. It relies heavily on the NTA to apply a two-style approach: the present somewhat restrictive regulatory style towards licensees in the old regime, and a liberal approach towards operators in the new regime.

The Consultants' expectation is that even the last existing operators would convert into the new regime within one or a few years, provided that the new regime is sufficiently attractive.

9.5 BASIC STRUCTURE OF NEW REGIME

The main structure of the proposed new regime is shown in Figure 12.

OPEN AND TECHNOLOGY-NEUTRAL LICENSING

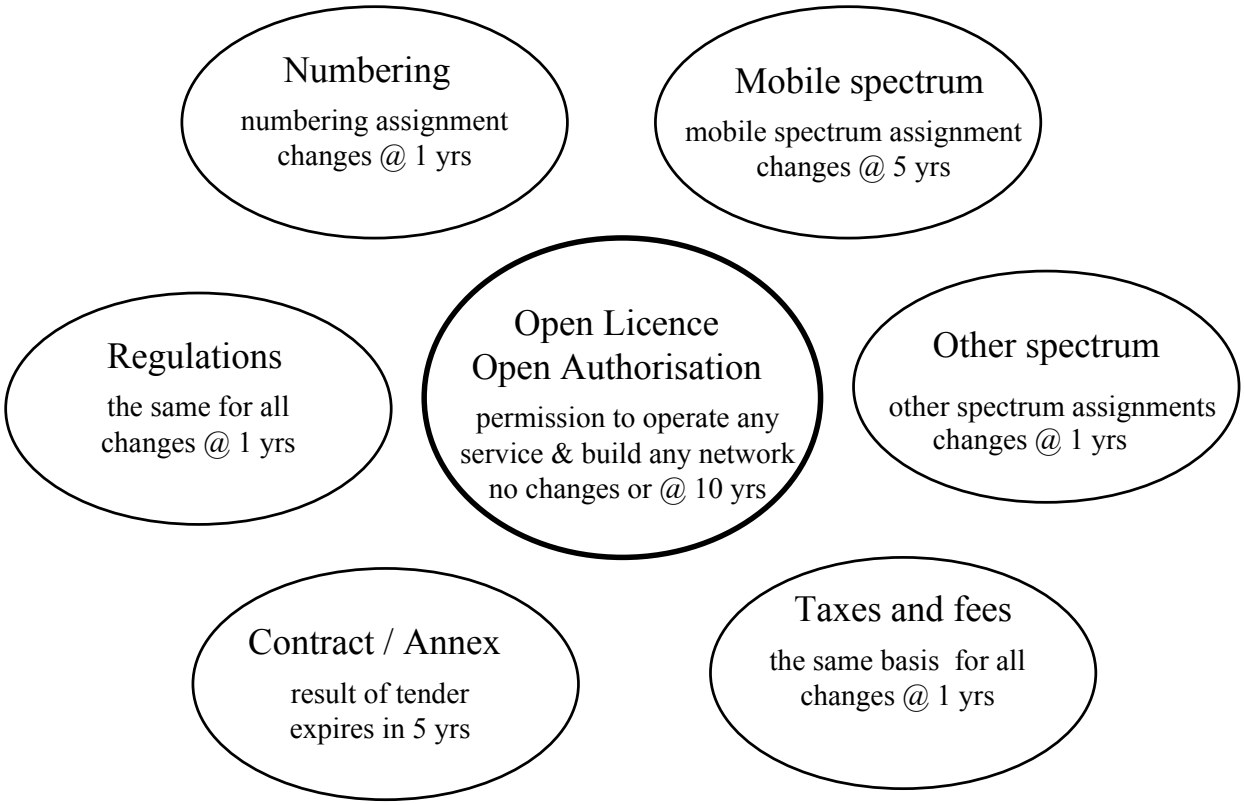

Figure 12. Proposed new licensing regime with indications of typical changing frequency. For description see below.

The new regime would have two types of permits: **Individual Licences** and **Standard Licences**. Both are rather stable permits, do not change at all or possibly at intervals of some 10 years or even longer, and should not include components that change frequently.

An **Individual Licence** would be the outcome of a tender. A tender would be used when an unlimited number of operators is not possible, e.g. when scarcity of spectrum limits the number of operators, or when NTC is privatised, or a tender for subsidies. In those cases the winners will get special rights, such as spectrum for mobile services, a dominant business based on a long monopoly, or subsidies. These special rights would be combined with certain obligations. The outcome of a tendering process would be final and not negotiable, except for minor clarifications. NTA should not have the right to deviate from the tender and the successful application.

Tendering would typically include the following main components:

- preparation (mainly consultations between MOIC, including the FMD, and NTA);
- running the tender (NTA); and
- issuing the Individual Licence and related permits and assignments (NTA and FMD).

The official decision to issue a tender (e.g. mobile tender) should include *timing*, the *scope* of the tender, the *number* of new operators, and the *criteria* for selecting operators (e.g. largest coverage, or least requested subsidy).

OPEN AND TECHNOLOGY-NEUTRAL LICENSING

A **Standard Licence** would be issued to anybody meeting prescribed minimum requirements. A Standard Licence would be a formality or routine. Refusal to issue a Standard Licence would need exceptional specific reasons, but no political discretion would be allowed. A Standard Licence should be issued - or denied - within a specified period (e.g. 30 days). Issuing a Standard Licence is a regulatory process and should be smooth. Reporting on the efficiency of the process should be included in NTA normal reporting.

Certain HMG internal services (e.g. security) as well as minor networks and services would be exempted from licensing, but still be subject to applicable rules and regulations. It is not practical to require a permit for a telephone set, a PABX or Local Area Network, or resale of calls from an existing telephone (including PCO's). Exemptions are also discussed in the annex *Action Plan for Open Licensing by 2004*.

Individual Licences and Standard Licences (and exemptions) need certain other permits, assignments and other terms and conditions, changing more frequently, which will be issued separately. The processes to issue these need to be smooth. The most important ones are included in Figure 12 and described in more detail in Table 24.

Permits, terms and conditions	**Description**
Numbering	Most licensees need numbering capacity, which has to be assigned based on a national numbering plan. Numbering assignments evolve on a continuous basis, and should thus be a flexible process.
Mobile spectrum	Mobile spectrum is assigned to mobile operators. Spectrum allocation (to mobile services as a whole) and assignment (to operators) changes over time, with major changes about every 5 years, faster than operator licences.
Other spectrum	Other spectrum assignment to operator (e.g. for microwave links) is a continuous process. Assignments should be flexible.
Taxes and fees	Taxation and regulatory fees should be neutral to operators. See Chapter 9.8.
Regulations	The best way to ensure a level playing field is to use common rules and regulations instead of inclusion in licences. See Chapter 9.9. Development of rules and regulations is a continuous process.
Contract or annex	Tenders for individual licences result in certain rights and obligations for winners. Such rights and obligations are usually limited in time, and can thus be separated in a contract or an annex to a licence, which rarely change before expiry. See Chapter 9.10.

Table 24. Other permits, assignments, and other terms and conditions related to Individual Licences and Standard Licences.

The licensing regime would be included in a regulation, only the principles and essentials in primary legislation. The regulation should also include specifics of networks and services exempted from licensing. The structure is similar to what is used in many other countries.

When common terms and conditions are included in regulations, and key (and changing) other permits and assignments are issued separately, an Individual Licence or Standard

Licence may not even need limited duration, it can be issued until further notice[29]. Rules for termination of a licence should be prescribed.

The various components of a licensing regime have different requirements for confidentiality.

Permits, terms and conditions	**Confidentiality requirements**
Individual Licence or Standard Licence	Should be public, no need for confidentiality
Numbering	The national numbering plan is public and assignments to operators should also be public, as other operators need that information for routing calls
Mobile spectrum	Mobile spectrum should be public
Other spectrum	The national radio spectrum plan should be public, but assignments to individual users need not be, as they may reveal some business secrets
Taxes and fees	Taxation legislation is public
Regulations	Regulations and other rules are lower level legislation and should be public
Contract or annex	The documents should be public except for possible business secrets

Table 25. Confidentiality requirements of various licensing regime components.

9.6 STRUCTURE OF LICENCES

The new regime would be based on brief licences and a set of regulations and rules, common for all[30]. Such a structure automatically results in level playing field.

The idea of long licences originated in countries in the early stages of liberalisation, when only one or a few unique licences were issued, and the regulatory regime was not properly developed and regulation was performed using licences rather than regulations. Once one licence was issued, the subsequent licences followed the structure of the first, until copying terms and conditions to each and every new licence became impractical. Experience eventually showed the value of short licences.

An Individual Licence or Standard Licence would not be specific with regard to technology or service types. Spectrum assignments, not operation licences, would determine the right to use spectrum. Thus a mobile operator would need an individual licence and a spectrum assignment for the mobile spectrum, and in addition e.g. numbering assignments and spectrum assignments for e.g. microwave links.

[29] A successful operator serves the society, and interruption of its operation by terminating the licence is unrealistic. Termination would harm the society more than the operator. Changes to terms and conditions is usually restricted to change of spectrum and numbering allocations, licence fees, obligations, Quality of Service, general rules for interconnection and fair competition, etc. These changes can be done in regulations or in other permits and resource allocations (spectrum, numbering, Right of Way, etc.) rather than the main licence. An unsuccessful operator will terminate its operation itself in one or the other way, and thus forfeit the licence. There is therefore no obvious need for limited duration of the main licence.

[30] The concept of short licences is also included in the World Bank sponsored Telecommunications Regulation Handbook (www.infodev.org/projects/314regulationhandbook), e.g. Chapter 2.5.

Individual Licences and Standard Licences would essentially include only those very general rights and obligations and such terms and conditions that differ between operators / service providers.

An Individual Licence or Standard would thus include the following (see Table 26):

Individual Licence	**Standard Licence**
name and contact data, business licence number or corresponding	
coverage area entire Nepal except for corporate licences or corresponding	
statement that numbering and spectrum require separate assignments or permits	
right to use any technology	
right to offer the licensed service	public operators have right to offer any service but corporate licences may have restrictions
reference to annex or separate contract	N/A
duration (indefinite, until further notice, or limited in some special cases)	
date and seal	

Table 26. Main content of Individual Licence and Standard Licence. Corporate licence means a licence granted to a corporation for internal use.

Note that neither includes an explicit obligation to abide by existing legislation including rules and regulations. Such obligations are already included in legislation, do not need to be repeated, and cannot be changed or strengthened using a lower level legal instrument such as a licence.

9.7 RIGHTS OF WAY

Rights of Way are discussed in annex *Action Plan for Open Licensing by 2004*.

Discussions about Rights of Way have indicated that it is a difficult and sensitive topic in Nepal, worth its own small clarification project. Solutions have been created elsewhere, also in developing countries. One proposal put forward was to restrict Rights of Way to NTC, which would solve the problem but undermine the proposed liberalisation. Another was to limit the number of operators with Rights of Way, but that would have been a step backwards from the present legislation with all operators having Rights of Way (see Chapter 7 in the present Telecommunications Act). Despite the present wide-open approach for Rights of Way, no significant difficulties have emerged.

A project on clarification of Rights of Way should include other users of streets, roads and other public areas, as well as other relevant stakeholders. Rights of Way are not a pure telecommunications problem, it is also related to electricity, water, sewers, cable television, and other users.

9.8 TAXES AND FEES

9.8.1 General

Fees and taxes should be separate from each other. Taxes are general Government revenue, and fee revenues should only be used for regulatory purposes, not as general Government revenue. This distinction is considered best international practice and improves transparency. Using regulatory fees for taxation purposes would result in double taxation, which is generally not acceptable. In the Nepalese present environment, telecommunications taxation already includes elements of double taxation, and regulatory fees used as taxation would mean triple taxation.

The entire fee and taxation structure and its level need thorough discussion and careful design. It is part of the main approach: is Nepal going for

- a small, limited coverage, high price and high taxed sector, or
- a large, high volume, large coverage and moderately taxed sector?

Taxation and fees are part of a larger policy environment shown in Figure 13

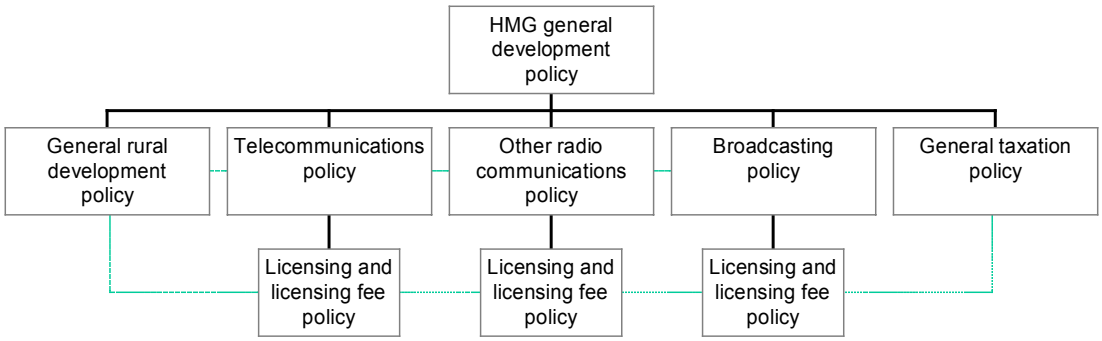

Figure 13. Licensing fee policies as part of HMG policies.

The following conclusions can be drawn:

- within the poverty alleviation programme, HMG aims at developing rural areas, thus regulatory fees should favour rural services;
- the telecommunications policy aims at developing rural areas, thus regulatory fees should favour rural services;
- telecoms is a normal business and should pay normal business taxes; and
- telecoms is already subject to special taxation, thus telecoms and radio spectrum fees should not double those special taxes.

Taxation is discussed in a separate annex *Report on ownership tax and service charges*. This chapter deals with regulatory fees.

The simple licensing structure described above needs a carefully designed structure for regulatory fees, in the form of an annual decision based on NTA budget. A multi-operator

sector needs a level playing field, and thus the same fee principles apply for all operators. Otherwise the fee structure would be biased in one or the other way.

The following fee types are in use elsewhere (see Table 27):

Types of regulatory fees	Comments
Licence fees	Upfront fees + annual fees are common
Spectrum fees	Upfront fees + annual fees are common (sometimes combined with licence fees)
Numbering capacity fees	Not everywhere, mainly annual fees
Universal Service fees (includes rural)	Annual fees for financing of Universal Service, Universal Access and e.g. rural service subsidies
Other fees	

Table 27. Regulatory fees. See below for discussion.

The descriptions below are only one possibility, describing the Consultant's understanding how international best practice could be applied in Nepal. Also other alternatives exist, also in line with international best practice.

9.8.2 Licence fees

Licence fees are paid to cover the NTA's cost of overseeing the sector and perform regulatory functions, including e.g. capacity building and international representation defending Nepalese interests. The fees should not be used for other purposes, such as Government revenue, administration of radio spectrum, subsidisation of rural services, etc.

In an Open Licensing regime all operators pay licence fees based on the same principles, independent of size and scope. The fees are one time fees and annual fees.

A small one time administrative fee should be charged for issuing a Standard Licence. The initial fee for an Individual Licence is higher, and the fee and e.g. sales proceeds from selling tender documents should together cover the cost for the particular tender.

The most appropriate annual fee basis is the overall revenue for licensed activities (X% of revenue). The most neutral method is to set the "X" the same for all Individual Licences and Standard Licences. One possibility is to exempt some revenue in order to support very small operators (x% of total revenue exceeding Rs. [2,000,000]). The exception should be for all operators in a concern (group of companies), to avoid abuse.

A revenue based fee requires that NTA receives accurate information on revenue from licensed activities. In order to ensure that, each operator could be required to submit a certification from a reliable auditor that the revenue statement is correct.

The revenue based fee system should be of value added type and allow for reduction of expenses paid to other fee paying operators to avoid double fees.

9.8.3 Spectrum fees

Radio spectrum fees are charged for the right to use spectrum capacity. Spectrum fees should cover the cost of all aspects of radio spectrum administration, including monitoring and representing the country internationally.

Radio spectrum fees can be structured in different ways, as pointed out in parallel FMDS consultant reports. The basis for the fees for telecom related networks (mobile telephony and similar) can be e.g. as follows:

Fee basis	Discussion
Assigned radio spectrum capacity (per MHz for mobile)	Good basis, as the capacity cannot be assigned to anybody else, paid fully also if not used efficiently
Covered portion of population	Punishes operators for covering rural areas, not good
Geographical areas (for mobile)	One fee for the entire country is better for typically country-wide services, otherwise the fee punishes for going rural. A slight rebate for good rural service may be discussed
Generated revenue	Punishes operators for efficient usage of spectrum, not good
Source of revenue for HMG	Telecom is already subject to above normal business taxation, which should not be increased, not good for telecoms
Radio equipment (number of transmitters)	Does not promote efficient use of spectrum, better to use methods promoting efficient use of spectrum
Combined with operation licence fees	Not transparent, better to have separate fees as the different fees should fund different organisations
Exemptions	Better avoided as a general rule

Table 28. Different principles for setting radio spectrum fees for mobile telephony and similar telecom networks.

Combination of an operating licence and a spectrum permit may be practical to ensure fast licensing and roll-out. However, the fees can be set according to accepted practice and thus avoid "special solutions" to the extent possible.

International best practice is not always followed. Spectrum allocations in industrialised countries can be - and are - used to generate revenue for governments. The famous auctions for third generation mobile licences are a major example. Some governments did succeed, but the overall outcome was more or less a disaster and a warning example.

The comments above are valid only for spectrum allocations related to telecommunications and are not valid for other purposes of spectrum usage.

9.8.4 Numbering capacity fees

Some countries charge for assigned numbering capacity, some not. Numbering charges are essentially an alternative to licence fees. No international best practice has been developed.

An extreme example can be found in some countries (e.g. Finland) where no licence fees are charged, and numbering fees and the similar were the bulk of the non-radio fee revenue of the regulator.

Some examples can be seen (even in South Asia) where the incumbent intentionally has occupied the entire numbering scheme making it difficult to assign suitable numbering capacity for entrants. Charging for assigned numbering capacity may slow down such abusive capacity occupation. The overall numbering capacity can be increased by increasing number length (done in Nepal in 2003, from six to seven digits).

The Consultants recommend that numbering capacity fees are introduced, up to, say, 20 - 30% of the budget of NTA.

9.8.5 Universal Service fees (includes rural)

Nepal has established a fund for rural telecommunications development, and charges a 2% fee of the overall revenue to be used for rural development. The fee and use of the fee are discussed in the annex *Universal Service and Universal Access*.

9.8.6 Other fees

NTA may charge other fees for various services.

9.9 RULES AND REGULATIONS

In an old-fashioned licensing regime with long and detailed licences, virtually all terms and conditions were the same or similar for all operators. Over time understanding developed, and some terms and conditions were changed for new operators. This created a situation with somewhat different terms and conditions in old and new licences.

In a more modern and developed licensing regime the best way to ensure a level playing field is to use common rules and regulations instead of inclusion in licences. In addition, regulations can be changed over time as required, while licences are difficult to change.

All rules and regulations should be mandatory as relevant. Any new rules and regulations as well as changes to existing rules and regulations should be subject to comment, preferably an easier procedure than a full official public hearing.

9.10 CONTRACT OR SCHEDULE

Public tendering usually results in some specific commitments. The Consultant's proposal is to separate licences (understood as unilateral decisions to give right to operate) from specific commitments (understood as agreements between parties).

OPEN AND TECHNOLOGY-NEUTRAL LICENSING

Commitments would be included in a bilateral contract between the successful applicant and Government, with commitments, roll-out plans, enforcement (e.g. bank guarantees), etc. The contract or schedule would usually expire well before the licence.

A contract may be the most practical solution if the successful applicant already having the licence. Then the licence need not be amended, and remains the same.

10. Mobile Licensing with Maximum Rural Coverage

Mobile Licensing with Maximum Rural Coverage

10.1 GENERAL

The purpose of this paper is to provide HMG / MOIC with information, alternatives and possibilities on a number of features relevant for licensing mobile operators in Nepal.

The paper is based on the conclusion that mobile and rural are the largest telecommunications subsectors in Nepal that are not properly developed. As limited spectrum prevents unlimited licensing, a tender competition is needed. The tender should be designed to ensure maximum benefit to Nepal, which means rural mobile coverage. Once coverage is achieved, service provision will take place to all those who wish.

The nature of the paper is a broad outline, and the intention is to show how a tender could be constructed differently from previous tenders. The tender should anyway be drafted separately, perhaps with the assistance of a consultant.

10.2 MAIN OBJECTIVES

Tendering for a licence is a one-time competition, an opportunity that should be utilised for the benefit of the country. Mobile is potentially a very profitable business. Above normal profits can be used in the following way:

- the operator keeps the excess profit;
- the excess profit is invested in improved coverage; or
- the excess profit is transferred to Government using excess taxation.

The overall experience of one time excess taxation (high licence fees) is that such an approach appears to hamper service development. The main problem in Nepal is service provision and coverage. This paper tries to address that main problem.

Licensing for maximum rural coverage includes two steps:

- step 1: to maximise rural coverage when tendering for mobile licences; and

- step 2: once commercial coverage is determined with reasonable certainty, organise least subsidy tenders for extending coverage to remaining areas (on-going in the Eastern Development Region).

This means that competition using tenders is used twice, to maximise the benefits to the country.

The Consultant's understanding is that the proposed tender should result in at least 400 000 mobile subscribers in Nepal within two years, which would increase the sector revenue by some Rs 3000 million and an additional VAT revenue to HMG in the order of Rs 300 million, in addition to possible other tax revenue.

It should be noted that NTC already has a mobile licence. NTC is in an excellent position to gain a major part of the increasing market, but it has not used that position. It has created

a small service in the most inhabited urban areas rather than a major country-wide service. It is obvious that competition is needed to make NTC's mobile coverage and service provision more efficient.

10.3 NUMBER OF OPERATORS

The number of operators can be discussed based on technical limitations (radio spectrum), and overall policy and business basis.

10.3.1 Radio spectrum features (non-technical presentation)

Mobile networks operate in three radio spectrum bands:

Radio spectrum	typical use	typical reach from antenna tower	technologies available	Operators
400 MHz, not standardised	rural, few users per sq km	over 100 km, may need user antenna	CDMA (GSM not in production)	1 (2?)
800 MHz (CDMA) / 900 MHz (GSM)	rural and urban, not metropoles	10 km for handsets, 35 km maximum	CDMA and GSM, both mainstream	Three
1800 MHz (GSM) / 1900 MHz (CDMA)	urban	a few km for handsets	CDMA and GSM, both mainstream	Four or five

Table 29. Basic features of radio spectrum bands. CDMA is the US standard, GSM the European. NTC operates GSM 900. GSM is more widespread, and has rather universal roaming, important for tourists.

The limited radio spectrum allocated to mobile services allows for only a few operators. Some countries have preferred to give spectrum in the 800/900 band to some operators and spectrum in the 1800/1900 band to other operators. In practice this solution means that some operators are nation-wide, and other operators are urban only. This is not a neutral principle. In other countries a dual-band principle is used: each operator has some spectrum in the 800/900 band and also in the 1800/1900 band, all operators are equal, and all operators can also provide rural service. The dual band principle is recommended for Nepal. Most modern GSM handsets are dual-band, and can be used in either solution. A more technical presentation of dual-band spectrum assignment is presented in the Annex.

The radio spectrum should be planned for four operators. It is possible to convert from four to three operators later, should it be needed. If the initial planning (spectrum assignment) is for three operators, it is almost impossible to increase the number of operators to four later.

GSM is recommended as the preferred technology. GSM is important for tourists and visiting businesspersons from most parts of the world, as they may use roaming and thus spend more money in the country. Nepal may also introduce CDMA, which increases the number of possible operators, but the Consultants do not expect CDMA to be a similar success.

Mobile Licensing with Maximum Rural Coverage

The preferred technology has already been an issue in the WTO negotiations, and the USA has required Nepal to be technology neutral when selecting mobile operators. The tender may be issued, and the licence granted, specifying the radio spectrum for GSM but without explicitly specifying the technology.

10.3.2 Experience elsewhere

Many countries have attempted to start competition by licensing only two mobile operators. Almost without exemptions, the outcome has been less service provision than with e.g. four.

In a country of the size of Nepal, the country size in terms of population is no limitation. Countries of the same size and smaller have four operators, e.g. Sri Lanka has four operators, and Cambodia has licensed seven, of which some have gone out of business. Still Cambodia is a world leader in mobile penetration, having more than 10 mobile phones for each fixed. Cambodia is a poorer country than Nepal, but its 12 million inhabitants had about one half million mobiles at the end of 2002. The real limitation is in fact not population but purchasing power density (GDP / sq km or similar), and in this respect Nepal should be reasonably attractive as it is not a sparsely populated country such as Mongolia or a number of African countries.

An ITU report[31] states that, by the end of year 2001, more than 24 LDC's had more mobile than fixed subscribers. In many cases the transition took a little over a year.

The long term overall experience of the EU is that two operators are too little in any subsector, fixed, mobile and international. A larger number gives stronger competition and better service. India also attempted two operators in each area, but the experience is similar, two are not sufficient. The outcome of the duopoly review in the UK in the early 1990's also came to the conclusion that more competitors are needed.

Nobody can pick the best operators in advance, based on applications, offers, etc. For that reason a larger number is needed, so that the best are found based on actual performance. In the few cases when operators cease operations, the subscriber base is normally sold to another operator and thus service provision continues.

Those countries that have tried monopolies have generally not succeeded in efficient service provision. Nepal is an example.

10.4 PROCEDURES AND CRITERIA FOR SELECTING LICENSEES

Licensees (operators) can be selected using different procedures and criteria. The main groups of procedures are:

[31] World Telecommunication Development Report 2002, ITU 2002.

Mobile Licensing with Maximum Rural Coverage

- first come first served;
- negotiated based on selected invitations; and
- public tender.

First come first served has been used in the past in many countries, when mobile was still considered a minor value-added service. It is an appropriate procedure when every applicant will get a licence and there is no limitation on the number of operators. For mobile, however, radio spectrum is a limitation, and first come first served is likely to result in lost opportunities to reap benefits from competitive tenders. First come first served is against the basic principles of the WTO, and is not recommended anymore for any country when scarce resources are limit the number of licences.

Negotiated deals are not transparent, and normally result in less favourable result than an open competitive tender. Negotiated deals are against the basic principles of the WTO, and are not recommended for any country.

Public tendering can be done in different ways. The public discussion has been based on only two alternatives: auctions on maximum licence fees and so called beauty contests, subjective comparisons of applicants. Neither of these address service provision directly, both focus on the potential and resources of the operators. Table 30 gives a more complete picture of available alternatives.

Procedure	Description	Remarks
Auctioning on money	Prescribed licence conditions, selection based only on highest offered licence fee, public procedure, rounds repeated until nobody increases bid	Widely used, sometimes results in excessive fees, possibly high up-front Government revenue, small risk for court cases, geographical coverage difficult to control, numerous failures
Bidding on money	Tender, bid opening public, the initial offer cannot be changed, highest licence fee wins	Similar to public tendering, sometimes high Government revenue, small risk for court cases, geographical coverage difficult to control
Bidding on coverage	Tender, bid opening public, the bid cannot be changed, largest coverage wins	Reasonable licence fee specified in tender, rather low up-front Govt revenue, maximum coverage and fast roll-out, court cases depend on how well tenders are specified
Tendering with scores for several criteria	Selection of licensee using several easily measured criteria (scores e.g.: coverage 70%, roll-out speed 30%)	Reasonable licence fee specified in tender, coverage depends on scores, not very prone to court cases if scores are specified without interpretation possibilities
Beauty contest using assessment	Selection of licensee using several criteria. Criteria are not easily measured (e.g. scores for promising business plan and tariffs)	Reasonable licence fee specified in tender, rather low Govt revenue, coverage depends on scores, often prone to court cases as promises are difficult to measure

Table 30. Licensee selection procedures for individual licences.

Mobile Licensing with Maximum Rural Coverage

A general requirement is that the selection procedure is transparent and not prone to be disputed in courts. Experience from several countries indicates that such disputes, if successful, may cause the process to be restarted. Delays have been roughly a couple of years. Nepal has experience of such delays.

By far the largest problem in telecoms in Nepal is coverage and rural service. For that reason **bidding on coverage** addresses that problem for the mobile subsector. If combined with normal taxation (the same taxation as other operators), HMG would get significant and continuous tax revenue.

Many of the above alternatives include a pre-qualification round, or pre-qualification is included in the tender. Only those who fully meet pre-qualification criteria can participate. Pre-qualification means that applicants either qualify or they don't, but there is no difference between qualified participants. The main purposes of pre-qualification are:

- participants are serious and of highest possible quality;
- certain minimum requirements can be introduced (such as Nepalese ownership); and
- the number of participants is smaller than without, less work on tendering.

Long exclusivity periods may be risky. In case the situation changes, the risk is that the Government may need to buy back the exclusivity (has happened in Singapore and Hong Kong). The present and promised exclusivity included in licences in Nepal has been a major obstacle for finding implementable policy solutions for Nepal. **Exclusivity should be avoided.**

High fees (up-front or otherwise high) are common, governments try to cash-in. The experience of high fees is to a large extent negative. India, Nepal and e.g. the EU have experience of operators who win tenders but do not start operations. The fees may be named licence fees, tax or anything else. The outcome is also that start of service has been delayed for years, and the slow-down of telecom development is contributing to the overall recession in the entire world. **Selection based on maximum licence fee should be avoided in Nepal**.

10.5 FIRST STEP: MOBILE TENDER FOR THREE NEW OPERATORS

The following tender principles are designed for maximising coverage. A tender for three new mobile operators Nepal (in addition to NTC) is proposed.

The tender could be designed as follows:

Scope of licences:

- all licences will ultimately be valid for the entire country, but selection of licensee is based on a smaller area;
- none of the licences will be valid in the Eastern Development Region until expiry of the five year exclusivity period in the areas covered by the exclusivity to be granted in the on-going least subsidy tender;

Mobile Licensing with Maximum Rural Coverage

- all licences will have the right to international communications including satellite and optical fibre;
- all licences will have about equal right to dual-band spectrum for GSM (part of GSM 900 and part of GSM 1800);

Selection principles:

- three different country-wide licences (One, Two, Three) will be offered[32];
- licence One will be awarded based on largest coverage in the Far Western Development Region;
- licence Two will be awarded based on largest coverage in the Mid Western Development Region;
- licence Three will be awarded based on largest coverage in the Western and Central Development Regions;

Selection procedure:

- coverage will be measured by number of Score Towers (base station antenna towers) based on the following rules:
  - the location of each Score Tower shall be clearly specified in the application;
  - one point will be awarded for each offered Score Tower meeting the rules;
  - one negative point will be given for each offered Score Tower not meeting the rules (to ensure that applicants follow the rules);
  - the minimum distance between any two offered Score Towers must be not less than [17] km (additional towers may be installed as needed, but do not count in the evaluation);
  - no points will be given for towers in Kathmandu Valley, including the surrounding hills and hilltops;
  - each Score Tower shall be either not less than 25 metres high or located on a hilltop;
- no other selection criteria shall be used;

Pre-qualification and applicants:

- pre-qualification will be applied, with criteria such as minimum 20% Nepalese strategic ownership, y% of shares to be listed on the Nepalese stock exchange, etc.[33];
- one consortium member may participate in only one application for any one licence, specified so that a consortium member includes all enterprises with the same majority owner;
- each applicant consortium may submit an application for any or all licences, but one applicant consortium can get only one licence;

[32] The definition of the areas should be revised to make the three licences as equal as possible. The geographical areas are a first proposal for discussion. The purpose of splitting the country into parts is to ensure service provision in each part. The Consultant proposes that the tender does not include mandatory areas, those mandatory areas can be addressed in the second step.

[33] The strategic Nepalese owner ensures that some control remains in Nepalese hands. A stock exchange listing usually results in that major data is published correctly.

Mobile Licensing with Maximum Rural Coverage

Licence fee and performance bond:

- the licence fee is Rs. [80] million for each licence, to be paid within [14] days of announcement of the winner before issuing the licence;
- a performance bond of Rs. [800] million shall be submitted within [14] days of announcement of the winner before issuing the licence;
- the licence (including spectrum licences) shall be issued to a Nepalese company created by the winning consortium within [90] days of submitting the performance bond and the licence fee;
- the promised coverage, the performance bond and similar issues will be included in a contract between the applicant and HMG, separate from the licence. The contract will expire before the licence;

Definition of performance and release of performance bond:

- the promised coverage (tower location) shall be clearly defined in the application, including map and detailed definition of each and every tower, and implemented within two years from issuing the licence;
- two separate Internet service points, in different wards, shall be operational in connection to each Score Tower, offering public Internet access and Government information at least 10 hours per day, at commercial rates, for a period of 5 years from opening the service point, and also offer recharging of mobile handset batteries;
- the performance bond will be returned in four equal steps, when 40, 60, 80 and 100% of the promised towers and related Internet service points are operational (towers erected, mobile service using that tower works, Internet access points work). The coverage shall be certified by NTA within one month after request, and its reports on coverage shall be publicly available for one month before the decision;
- if full coverage implementation is not done within [24] months, the remaining performance bond is forfeited;

Operational requirements:

- the licensee shall / may apply uniform pricing in the entire country independent of location[34];
- the charging regime shall be calling party pays[35];
- no discounts shall be applied to shared telephones (call shops etc.)[36], but the operator shall promote resale and train shared telephones for the purpose of efficient Universal Access. Such shared telephones shall include connections shared by villages and operating as small businesses;
- handsets and connections shall be provided separately and must not be bundled (sold together);

[34] NTC charges local call charges also for mobile. Local call charges in rural areas are not based on cost, as the call is anyway routed via Kathmandu (the switch is in Kathmandu). The issue is whether such charging requirements should be enforced or left to the market to decide.

[35] Calling Party Pays (CPP) means that even poor people can receive calls without payment. CPP also means that the foreign caller pays end-to-end for incoming international calls instead of the receiver, as is the case in Receiving Party Pays.

[36] If discounts are applied, some shared phones receive the discount, some don't, which is against equal treatment.

Mobile Licensing with Maximum Rural Coverage

- in order to speed up usage, each licensee shall maintain a list of public mobile telephones (shared phones) on its Internet site, so that Nepalese persons living abroad can call relatives and friends close to the phone (or all operators shall run a common site);
- each licensee shall promote use of fixed user antennas to extend coverage to locations with line of sight to the nearest tower, but outside handset coverage[37];

Price regulation:

- no price regulation[38] will apply for any mobile operator (applies also to NTC) until the largest mobile operator has 300 000 active users, after which NTA shall conduct a public hearing regarding the need for price regulation of mobile services;

Taxation and fees:

- taxation of all telecommunications operators will be uniform, and all future changes will be applied to all operators;
- VAT will apply for all operators, as well as operator and spectrum licence fees to finance the regulator NTA, and the Rural Telecommunications Development Fund charge;

Sale of network and customer base:

- in the case where a licence is repealed or the licensee wishes to withdraw from Nepal, he may sell his customer base and his network (either together or separately) to a licensed operator, but shall return his radio spectrum to HMG.

The above is intended to be a basis for discussion, and will be finalised during preparation of the tender.

The selection criteria are proposed to be very simple and extremely transparent in order to ensure interest in the licences and ensure that no court cases delay the procedure. For that reason giving scores by towers is proposed. Coverage based e.g. on population is much easier disputable.

The expected outcome is that all applicants anyway will cover Kathmandu valley and the main part of the Terai region. Thus these parts of the country will not have an impact on the selection; all applicants will offer similar coverage in their applications. The difference comes in the hill and mountain regions, in which the applicants will offer different coverage, based on their different estimates for business.

A major difference will arise from the operators' skills to create resale of mobile services. An operator who succeeds in creating more shared telephones in villages is likely to generate more services for the population and thus more income for himself, and is likely

[37] Such antennas are connected to the handset by a cable, and operate using the normal handset battery. The antenna prevents mobility of the handset, but anyway provides communication. Antennnas can be transported, e.g. a shared phone with an antenna and a 3 - 4 metre portable mast is reported to be in use.

[38] Mandatory price regulation is included in the present Act. No price regulation can be implemented so that NTA commits itself to approve any proposed prices.

to promise the largest coverage in the relevant area. The Consultant's initial estimate is that more than half of the demand (in total revenue) is from persons who cannot afford their own connection and have to rely on shared connections (resale).

It should be noted that no business plan is part of the evaluation. A business plan cannot be enforced, and only easily enforceable selection criteria should be used. A business plan can be submitted as a descriptive part of the application.

NTC would still have a country-wide licence and is free to compete with the new operators, without coverage commitments based on this tender.

10.6 SECOND STEP: LEAST SUBSIDY TENDER FOR RURAL COVERAGE

The outcome of this tender, if successful, is that HMG knows which part of the country will be served in one way or the other, fixed or mobile. Once the licences are issued, HMG will start planning for the second step, a least subsidy tender for coverage in areas where rural coverage is not provided by any operator (NTC, WLL, the winner of the Eastern Development Area tender, mobile).

The second step is likely to be more successful if applicants are already working in the country. These operators offer to extend their existing network to a new area. A new operator serving only the rural area has to include the cost of establishment in the country, e.g. headquarters etc., and does not have the benefit of serving e.g. Kathmandu.

The following principles are proposed for discussion:

- each tender specifies an area (e.g. development region) and a number of points in that area in which telephone service shall be offered, either fixed or mobile;
- the tender also specifies a number of points in which Internet service shall be offered, similar to the mobile tenders;
- the tender shall not specify technology, e.g. mobile or fixed or a combination are valid;
- the tariffs to be applied are the mobile tariffs, to be defined in one way or the other (e.g. reference to mobile tariffs), independent of offered technology, fixed or mobile;
- the service shall be operational within [2] years of awarding the licence and the corresponding contract;
- the selection criterion for each tender is the least required subsidy; and
- otherwise the principles of the Eastern Development Area least subsidy tender will apply.

Uniform tariffs are important, to ensure technology neutrality. The areas are expensive to serve, thus the users can be expected to pay higher charges than in Kathmandu for fixed telephony. Most calls will anyway be long distance calls. The choice is between the present situation (no service) and service at a price. Too low prices may result in little or no applications, if applicants consider the revenue insufficient to cover even running costs. The outcome of the Eastern Development Area least subsidy tender will give valuable information on how to proceed.

10.7 ANNEX: DUAL BAND FREQUENCY ASSIGNMENT FOR GSM

All frequency data are MHz (megahertz). The example below is somewhat simplified, and may include some technical errors, as the author is not a radio professional.

The GSM 900 frequency band consists of the uplink part 880 - 914 (handset > base station), and the downlink part 925 - 959 (base station > handset). These frequencies shall be paired, with constant separation 45 MHz (e.g. 890 - 891 paired with 935 - 936). Each part is 34 MHz wide. GSM 900 is suitable for rural and urban operation, except for sparsely populated rural areas and very densely operated urban areas.

All GSM 900 equipment is manufactured only for these frequency bands. This is valid for handsets as well as base stations. The network controls which frequencies can be used for a particular call, and thus also controls the handsets.

The way to accommodate more than one GSM 900 operator is to split the band into several sub-bands, and assign exclusive rights to such sub-bands to these operators. Two operators cannot use the same sub-bands. The GSM 900 band is sufficient for two or three operators, if used alone. Sufficient means that a network of sufficient capacity can be built without additional cost due to insufficient bandwidth.

GSM 1800 is another similar frequency band, with parts 1710 - 1785 MHz and 1805 - 1880 MHz. Each part is 75 MHz. The band is suitable for urban areas. The band is sufficient for 4 - 5 operators.

A common means to accommodate four operators, so that all operators have rural and urban services, is dual-band assignment. This means that each operator gets one sub-band in the 900 band and another sub-band in the 1800 band. Each operator can then optimise its network using these bands, and the outcome is overall lower investment cost than e.g. only a sub-band in the 900 band. Most handsets are anyway dual-band.

A graphical presentation of the spectrum assignment for four operators using the dual-band principle is shown in Figure 14.

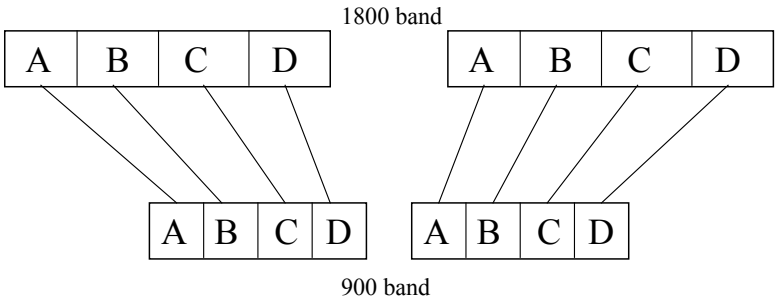

Figure 14. GSM dual band spectrum assignment for four operators (A, B, C and D).

11. WTO Telecom Offer

WTO telecom offer

11.1 GENERAL

This paper includes comments on the WTO offer and a proposed response to the questions raised by EU, Japan and USA on the previous offer.

The purpose of the paper is to explain the underlying reasons for the revised schedule (offer) to the WTO. The paper can be used by the NTA, or also be forwarded to the WTO negotiation team, to be used as a background paper.

11.2 PRINCIPLES

The WTO offer - when finalised for a member - is a minimum type commitment with judicial status. Further liberalisation (opening of the sector) is OK, but nothing can be reduced. Other countries have the right to require the country to implement the stated market access and other issues. For that reason the contents should be based on legislation and other official decisions such as policy.

If negotiators agree on commitments not included in the present legislation or policy, the commitment is binding on HMG, and HMG is then obliged to implement such commitment, either in legislation or only in practice, as the case may be.

The terminology has a special meaning in WTO offers, differing from normal language. Term *Unbound* means that liberalisation is offered, but is subject to negotiations. Term *None* means that the country has made a permanent decision on no limitations on market access or national treatment, depending on the column. Both terms can be used either alone or with some limitations (e.g. *unbound, except .....),* which is already used in the Nepalese offer.

Basic telecommunications in the WTO has a different meaning than in Nepal. Thus the Nepalese definitions should be left out from the WTO offer. The WTO meaning covers voice as well as data, and includes any telecommunications "transport services".

The horizontal section should be reviewed, as it is valid also for telecoms. The Consultant has not yet had the possibility to review the horizontal section.

Some countries make modified offers so that the removed text is shown, using strikethrough font. This makes it much easier for readers to assess the changes.

11.3 COVERING LETTER

Several countries add a covering letter including e.g. the following text:

HMG reserves the right to modify or withdraw the attached offer, in whole or in part, in light of the on-going Trade in Services negotiations under the Doha development agenda. HMG also reserves the right to make any technical changes or corrections to this initial conditional offer and any subsequent conditional offer that could follow.

11.4 DRAFT

A draft Offer for telecommunications is submitted separately.

The draft Offer is based on the legislation as of May 2003, and takes into account the 1999 Telecommunications Policy, in particular the statement that all telecommunications will be open for full competition by 2004. When included, opening for full competition has to be implemented.

The draft Offer includes the Reference Paper in full. The Reference Paper is a summary of the minimum best practice in the world on telecommunications regulation. Few countries have deviated from the offer, and the Consultant does not see a reason why Nepal should deviate. Inclusion of the Reference Paper requires some amendments of the Telecommunications Regulation and in NTA work, but the amendments are rather small and should nevertheless be implemented.

11.5 RESPONSES TO QUESTIONS

The previous offer resulted in a number of questions from the EU, Japan and the USA. Proposed actions and responses are included below.

The questions are part of the negotiation process. Thus the questions should not be understood as absolute requirements. The responses and the revised draft Offer are based on the present situation including the 1999 policy statement on full competition, the on-going revision of the policy, and retain the possibility that negotiators make some additional commitment if required. This formulation should show that liberalisation is at work and details of the existing situation described in the previous offer as well as the new offer may not need to be submitted.

11.5.1 Questions from the EU

On technical aspects:

1. The Reference Paper is only mentioned in the column of additional commitments but has not been included in the schedule: when will it be included?

Proposed response is to include the Reference Paper in the offer.

2. The schedule contains a number of references to the licensing system (role of the regulator, duration of licences): these do not affect market access, thus they should not be scheduled. In addition, it is important to note that they could be interpreted to prevent Nepal from modifying its licensing system in the future, whereas there is barely one country around the world that has not changed its licensing system in the telecom sector in the past ten years. Thus it is really not in Nepal's interest to include those provisions in the schedule.

WTO telecom offer

Proposed response is to remove the references to the licensing system, in line with the EU suggestion.

3. Why has Nepal not included the notes of the Basic Telecom negotiations on technological neutrality and scarcity of spectrum (S/GBT/W/2/Rev1 and S/GBT/W/3)?

Proposed response is to state in Additional Commitments that notes will be taken into account in preparation of the new policy. The notes (exact references including the document numbers) appear not to be included e.g. in the offers from India and Sri Lanka, thus Nepal may not need to include the exact references either.

4. Nepal uses notions of basic and value-added service, however the GATS definition of basic telecom, which covers any "telecom transport service" seems to be different (for instance "basic services" do not cover data services in Nepal's schedule). It is unclear also how these two categories relate to one another (apparently voice services, which are classified as basic, can also be provided under VSAT in the category of value-added services). Wouldn't it be possible thus to simply remove those titles (basic and value-added) which are confusing and simply maintain the rest of the schedule?

Proposed response: remove the titles in line with the EU suggestion.

5. Can Nepal provide its definition of "trunked mobile", "fax-mail", "Global Mobile System"? And does "telephone" cover only "voice services" and if yes, where are mobile data services classified?

Proposed response: rather than go into definitions, include the statement in the 1999 policy on opening up the sector for full competition by 2004, and refer to a new and more liberal policy being prepared. If GSM should be mentioned, the open acronym is *Global System for Mobile Communications*.

6. Why include the sentence on interconnection with NTC in the market access column since interconnection provisions are dealt with in the reference paper?

Proposed response: remove the sentence, in line with the EU suggestion, and include the Reference Paper in the offer.

7. What are the requirements to become a member of relevant Nepalese professional organisations in the telecom sector and what are these organisations?

Proposed response: change the requirements from the previous paper (only for foreign nationals) to cover foreign as well as national professionals. A reference to the relevant legislation could perhaps be added, but the Consultant does not have the reference available.

On substance:

why has Nepal not committed facsimile, data services (international, long distance and mobile) and leased lines services? Notably, data services are key for Nepalese citizens to

access information, education, etc. and for small Nepalese businesses to reach their customers and suppliers. And leased lines are key for lowering prices.

Proposed response: include the statement in the 1999 policy on opening up the sector for full competition by 2004, and refer to a new and more liberal policy under work.

Leased lines are a key issue, in Nepal as well as elsewhere. The actions needed to oblige NTC (and other operators) to supply leased lines at reasonable cost needs to be discussed in the new policy. At this stage the proposal is to remain quiet on leased lines in the schedule, but leased lines may be included if other countries are tough on inclusion.

why is Nepal only authorising two operators in the fixed market? Wouldn't it be possible for Nepal to let operators apply for an unlimited number of licences (after a given date that may be later than 2003) and ensure expansion of the network through obligations on operators in the market?

Proposed response: include the statement in the 1999 policy on opening up the sector for full competition by 2004, and refer to a new and more liberal policy being prepared.

Why is Nepal preventing the second licensee from leasing lines from NTC to provide international services to its customers?

The reason for the question is not understood. Proposed response: include the statement in the 1999 policy on opening up the sector for full competition by 2004, and refer to a new and more liberal policy being prepared. The outcome of the policy is most likely that the second licensee may construct own facilities or lease capacity from NTC.

why are VSAT operators not allowed to provide both voice and data services?

Proposed response: remove the limitation and include the statement in the 1999 policy on opening up the sector for full competition by 2004, and refer to a new and more liberal policy being prepared.

11.5.2 Questions from Japan

(1) Japan still hopes that Nepal will phase out limitations on the number or terms of licences, and on the foreign capital participation imposed throughout these services.

Proposed response: include the statement in the 1999 policy on opening up the sector for full competition by 2004, and refer to a new and more liberal policy being prepared. The ownership limit (up to 80% foreign) is rather high, some other countries have lower limits, and no formal decision exists on increasing the limit to 100%.

(2) Japan also requests Nepal to make clear how each scheduled service corresponds to classifications stipulated under the document W/120.

WTO telecom offer

Proposed response: include the statement in the 1999 policy on opening up the sector for full competition by 2004, and refer to a new and more liberal policy being prepared. (The Consultant could not open the document W/120 on the WTO site).

(3) Please explain in detail additional limitations on mode 4 market access, the requirements for all foreign professionals working in Nepal to have membership of relevant Nepalese professional organization.

Proposed response: change the requirements from the previous paper (only for foreign nationals) to cover foreign as well as national professionals. A reference to the relevant legislation could perhaps be added, but the Consultant does not have the reference available.

11.5.3 Questions from the United States of America

The United States also requests Nepal include as part of its horizontal commitments for Telecommunications, "Commitments are scheduled in accordance with 'Notes for Scheduling Basic Telecom Services Commitments' (S/GBT/W/2/Rev1); and 'Market Access Limitations on Spectrum Availability' (S/GBT/W/3).

Proposed response is to state in Additional Commitments that notes will be taken into account in preparation of the new policy. The notes (exact references including the document numbers) appear not to be included e.g. in the offers from India and Sri Lanka, thus Nepal may not need to include the exact references either.

The United States renews its request to remove numerical limitations on fixed line, or other operators (i.e., lift duopoly limitation). We are flexible as to when this restriction is phased out, and suggest full liberalisation by 2008.

Proposed response: include the statement in the 1999 policy on opening up the sector for full competition by 2004, and refer to a new and more liberal policy being prepared.

We request Nepal change the sector description for "Mobile Telephone Services" to "Mobile Telecommunications Services". The United States also requests assurance that Nepal's licensing regime is "technology neutral". We suggest including "Mobile technology will not be prescribed but will be left to the choice of the operator" within the market access column; and modifying the additional commitment to read: "By 2004 ... operators will be licensed to operate mobile wireless services on a technology neutral basis".

The request for technology neutral licensing regime is aimed at preventing Nepal from specifying GSM and thus leave the field open also for the US based CDMA technology. When issuing mobile tenders, the offered radio spectrum band determines in practice anyway the technology.

Proposed response: The change to Mobile Telecommunications Services is OK and done. Remove the technology specification for future mobile licensing. Mention CDMA as the technology for the second operator (the WLL operator). Mention the new policy, and that the policy is aimed at technology neutral licensing.

WTO telecom offer

On value added services, the United States requests modification of (j) to read, "local, long distance, and international data communications". Regarding the annotation listed under additional commitments, please clarify what will be possible by 2004 (i.e. will data be possible? Or voice? Or both? Who chooses which one will be possible, and what implications this has on a provider?)

Proposed response: include the statement in the 1999 policy on opening up the sector for full competition by 2004, and refer to a new and more liberal policy under work.

12. WTO Telecom Offer - Schedule

NEPAL- SCHEDULE OF SPECIFIC COMMITMENTS

Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons			
Sector or Sub-sector	**Limitations on Market Access**	**Limitations on National Treatment**	**Additional Commitments**
COMMUNICATION SERVICES Telecommunication Services			
(a) Local telephone service (b) Domestic telephone service (c) International telephone service (d) Telex service (e) Domestic and international telegraph service	1) Unbound 2) Unbound 3) Unbound, except The licence to operate any telecommunications service is issued by the Nepal Telecommunications Authority (NTA) A licence has been issued to one operator, using CDMA technology, in addition to Nepal Telecommunications Corporation (NTC). Foreign participation permitted through a joint venture with up to 80% equity participation. The present Telecommunications	1) Unbound 2) Unbound 3) Unbound, except the majority of the members of the Board of Directors of a joint venture should be Nepalese nationals.	Nepal undertakes additional commitments as contained in the Telecommunication Reference Paper attached to this Schedule of specific commitments Nepal has initiated work on a more liberal policy. Notes on technology neutrality and scarcity of spectrum will be taken into account during preparation of the policy.

Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons			
Sector or Sub-sector	**Limitations on Market Access**	**Limitations on National Treatment**	**Additional Commitments**
	Policy (1999) states that full competition in all telecommunications services will be introduced in 2004. 4) Unbound, except as indicated in the horizontal section. All professionals (national and foreign) working in Nepal require membership of relevant Nepalese professional organization	4) Unbound, except as indicated in the horizontal section.	

Sector or Sub-sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
Mobile Telecommunications Service	1) Unbound 2) Unbound 3) Unbound, except The licence to operate any telecommunications service is issued by the Nepal Telecommunications Authority (NTA) Foreign participation permitted through a joint venture with up to 80% equity participation. The present Telecommunications Policy (1999) states that full competition in all telecommunications services will be introduced in 2004. 4) Unbound, except as indicated in the horizontal section. All professionals (national and foreign) working in Nepal require membership of relevant Nepalese professional organization	1) Unbound 2) Unbound 3) Unbound, except the majority of the members of the Board of Directors of a joint venture should be Nepalese nationals. 4) Unbound, except as indicated in the horizontal section.	Nepal undertakes additional commitments as contained in the Telecommunication Reference Paper attached to this Schedule of specific commitments Nepal has initiated work on a more liberal policy. Notes on technology neutrality and scarcity of spectrum will be taken into account during preparation of the policy. The policy work may also result in additional mobile licences.

Sector or Sub-sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
(a) Internet including e-mail (b) E-mail (c) Voice mail (d) Videotext (e) Fax mail (f) VSAT (g) Audio Conference (h) Payphone (i) Pre-paid calling card (j) Local data communication (k) Radio paging (l) Trunked mobile	1) Unbound 2) Unbound 3) Unbound, except The licence to operate any telecommunications service is issued by the Nepal Telecommunications Authority (NTA) Foreign participation permitted through a joint venture with up to 80% equity participation. The present Telecommunications Policy (1999) states that full competition in all telecommunications services will be introduced in 2004. 4) Unbound, except as indicated in the horizontal section. All professionals (national and foreign) working in Nepal require membership of relevant Nepalese professional organization	1) Unbound 2) Unbound 3) Unbound, except the majority of the members of the Board of Directors of a joint venture should be Nepalese nationals. 4) Unbound, except as indicated in the horizontal section.	Nepal undertakes additional commitments as contained in the Telecommunication Reference Paper attached to this Schedule of specific commitments Nepal has initiated work on a more liberal policy. Notes on technology neutrality and scarcity of spectrum will be taken into account during preparation of the policy.

REFERENCE PAPER

Scope

The following are definitions and principles on the regulatory framework for the basic telecommunications services.

Definitions

Users mean service consumers and service suppliers.

Essential facilities mean facilities of a public telecommunications transport network or service that

(a) are exclusively or predominantly provided by a single or limited number of suppliers; and

(b) cannot feasibly be economically or technically substituted in order to provide a service.

A major supplier is a supplier which has the ability to materially affect the terms of participation (having regard to price and supply) in the relevant market for basic telecommunications services as a result of:

(a) control over essential facilities; or

(b) use of its position in the market.

1. Competitive safeguards

1.1 Prevention of anti-competitive practices in telecommunications

Appropriate measures shall be maintained for the purpose of preventing suppliers who, alone or together, are a major supplier from engaging in or continuing anti-competitive practices.

1.2 Safeguards

The anti-competitive practices referred to above shall include in particular:

(a) engaging in anti-competitive cross-subsidization;

(b) using information obtained from competitors with anti-competitive results; and

(c) not making available to other services suppliers on a timely basis technical information about essential facilities and commercially relevant information which are necessary for them to provide services.

2. Interconnection

2.1 This section applies to linking with suppliers providing public telecommunications transport networks or services in order to allow the users of one supplier to communicate with users of another supplier and to access services provided by another supplier, where specific commitments are undertaken.

2.2 Interconnection to be ensured

Interconnection with a major supplier will be ensured at any technically feasible point in the network. Such interconnection is provided.

(a) under non-discriminatory terms, conditions (including technical standards and specifications) and rates and of a quality no less favourable than that provided for its own like services or for like services of non-affiliated service suppliers or for its subsidiaries or other affiliates;

(b) in a timely fashion, on terms, conditions (including technical standards and specifications) and cost-oriented rates that are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided; and

(c) upon request, at points in addition to the network termination points offered to the majority of users, subject to charges that reflect the cost of construction of necessary additional facilities.

2.3 Public availability of the procedures for interconnection negotiations

The procedures applicable for interconnection to a major supplier will be made publicly available.

2.4 Transparency of interconnection arrangements

It is ensured that a major supplier will make publicly available either its interconnection agreements or a reference interconnection offer.

2.5 Interconnection: dispute settlement

A service supplier requesting interconnection with a major supplier will have recourse, either:

(a) at any time or

(b) after a reasonable period of time which has been made publicly known

to an independent domestic body, which may be a regulatory body as referred to in paragraph 5 below, to resolve disputes regarding appropriate terms, conditions and rates

for interconnection within a reasonable period of time, to the extent that these have not been established previously.

3. Universal service

Any Member has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive *per se*, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the Member.

4. Public availability of licensing criteria

Where a licence is required, the following will be made publicly available:

(a) all the licensing criteria and the period of time normally required to reach a decision concerning an application for a licence and

(b) the terms and conditions of individual licences.

The reasons for the denial of a licence will be made known to the applicant upon request.

5. Independent regulators

The regulatory body is separate from, and not accountable to, any supplier of basic telecommunications services. The decisions of and the procedures used by regulators shall be impartial with respect to all market participants.

6. Allocation and use of scarce resources

Any procedures for the allocation and use of scarce resources, including frequencies, numbers and rights of way, will be carried out in an objective, timely, transparent and non-discriminatory manner. The current state of allocated frequency bands will be made publicly available, but detailed identification of frequencies allocated for specific government uses is not required.

13. Short Term Action Plan for Open Licensing by 2004

Short Term Action Plan for Open Licensing by 2004

13.1 BACKGROUND

The 1999 Telecommunications Policy aims at Open Licensing by year 2004 for most telecommunications services (section 5.1 a 3). The purpose of this paper is to assist MOIC and NTA in implementing the Open Licensing, by proposing an Action Plan.

The Action Plan will include some amendments to the Telecommunications Act, as well as policy decisions by MOIC and a range of activities by NTA to implement these policies. The Action Plan is also the first phase in implementing the new telecommunications policy. This Action Plan does not deal with radio spectrum permits.

When licensing is eased, the likely immediate outcome is a rush for applications. The rush can be easier handled with proper advance planning.

13.2 MAIN OBJECTIVES OF THE ACTION PLAN

The main objectives of the Action Plan are:

- issue licences on demand, abandon discretion;
- apply technology neutral licensing;
- prepare for Open Licensing so that operators can start operation as soon as possible;
- simplify and streamline licensing, e.g. prepare short licences, and exempt users and simple resale of services as well as minor applications from licensing; and
- initiate tendering of three additional mobile operator licences aiming at maximum rural coverage.

13.3 PRINCIPLES FOR OPEN LICENSING

13.3.1 General principles

Open Licensing means that any applicant should be granted a licence. Exceptions are licences for networks requiring scarce resources such as significant radio spectrum (e.g. mobile networks, but not microwave links), which should be tendered.

Technology neutral licensing applies. Licences should not include any restrictions regarding contents or use of technology.

In Open Licensing an application for a licence should be as easy as possible. The proposed changes to telecommunications legislation are based on that principle.

Short Term Action Plan for Open Licensing by 2004

13.3.2 Exemptions from licensing

The Act specifically exempts HMG from licensing for own operations (essentially the army and the police. For public services HMG should have a normal licence to ensure level playing field with other operators.

Users (customers to licensed operators obtaining services for own use) should not need licences, not even a VSAT user (VSAT users today require a licence). A VSAT operator is already licensed, it pays licence fees and taxes, and its customers should not need a separate licence.

Table 31 is intended to clarify which services need a licence and which services should be exempted. The main rule should be that telecommunications services sold for a fee require a licence, except within the same group / concern. An exemption does not mean that no rules apply. NTA has the right to establish rules also for exempted services.

A licence is needed	No licence is needed
Closed user group for telecommunications services sold to users outside own company or group (concern), even if sold on a non-profit basis	Terminal equipment (e.g. telephones, faxes, PABXs, modems and other IT devices, VSAT terminals, radio devices)
User owned cables and microwave links outside own premises (only for cable or link)	Corporate networks when using leased lines between premises, domestic and international
	Calls and data connections from and to public networks to corporate networks, also in and again out of the corporate network, provided that the corporate network owner does not charge for the service but pays normal user charges to public network operators
	Resale of telecommunications services such as shared phones, Public Call Offices, Internet cafés, hotels and shops selling calls, and similar
	Closed user groups (e.g. banks connecting major users) when the telecommunications component is a small integrated part of the overall (bank) service

Table 31. Clarification of requirement for exemption of licensing.

13.3.3 Rights of Way

Rights of Way mean the rights to locate ducts, poles, cables and related structures on and under roads and streets and similar areas, also on private ground. Nepal already has a wide open approach for Rights of Way. The outcome is that virtually no operators have used the rights, and no significant problems have emerged. The present approach should continue.

Short Term Action Plan for Open Licensing by 2004

Rights of Way do not mean unlimited rights. The authority - or owner - responsible for the street, road or other land has to co-ordinate location of various infrastructures, so that installation, maintenance and relocation is reasonable for all and does not unnecessary hamper the main use of the land. Infrastructures include electric cables, water, sewage, possibly oil and gas pipes, cable television, and telecommunications.

Rights of Way means that the local authority or owner does not have the right to refuse location, only the obligation to co-ordinate. Rights of Way also include the obligation to fully restore the land to its previous condition.

Avoidance of damage and compensation for damage is included in present legislation.

Operators should have the right to locate plastic tubes (ducts) or similar when another operator excavates (digs) roads, sharing excavation cost. The purpose of this is to avoid repeated excavations. Such co-ordination is already in practice between different infrastructures.

13.3.4 Numbering and interconnection for new international operators

Opening international services can be done in two main ways:

- operators with telephone customers (fixed or mobile) can be given international access for own customers, but international access is not opened up as a separate business. In this alternative, customers cannot select international operator separately; or
- international access is opened up as a separate business so that any telephone subscriber can use international operators separately.

In the first alternative no particular arrangements are needed. Operators can choose whether they run international themselves, alone, or jointly with some other operator. In this case no particular arrangements are needed for outgoing traffic, only for incoming traffic. The choice is entirely with the operator.

In the second alternative, subscribers are given the choice, they can use any available operator. Two main methods for selecting operator exist:

- preselection (permanent operator selection for each subscriber in the local switch); and
- call-by-call selection.

Preselection requires that all local switches (switches with subscribers) have a possibility for setting the selected international operator for each subscriber. The setting means that the subscriber's outgoing international calls are always routed via that operator. NTA needs to ensure that such settings are possible in most or all local switches before opening international traffic. Users will be given the option to select operator before opening international traffic. Users will also have the option to change their choice later on.

Call-by-call selection means that the customer can select international operator on a call-by-call basis. This needs a prefix for selecting operator. The prefix can either be a pure

operator prefix or a combined operator prefix and international access code. Call-by-call routing overrides pre-selection, if set. Examples:

Dialled numbers	Explanation
00 44 20 3333 4444	No operator code, no call-by-call selection possible 00 is international prefix 44 is UK 20 3333 4444 is national number
10X(Y) 00 4420 3333 4444	10X(Y) is operator code other numbers as above
10X(Y) 44 20 3333 4444	10X(Y) is combined operator code and international access code other numbers as above

Table 32. Examples of alternatives for international operator access codes.

10X(Y) can be assigned as three or four digits. 10X would give space for ten international operators, 10XY would give space for one hundred international operators. Longer prefixes (e.g. 10XYZ) are also possible, giving space for more international operators (one thousand, ten thousand, etc.), but not realistic. Operator prefixes of different length can be mixed. NTA should charge for such access codes, with higher price for shorter prefix.

Calls will be routed as shown in Figure 15.

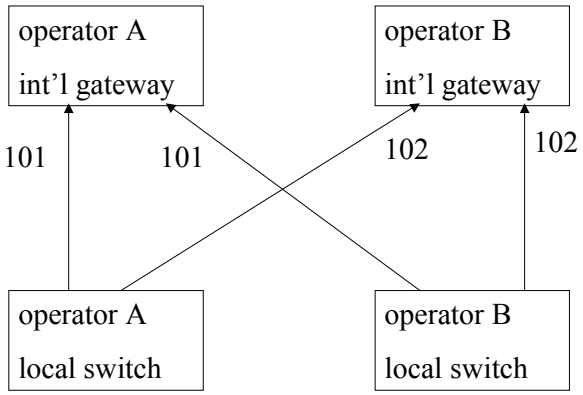

Figure 15. Routing of calls on a call-by-call basis using prefixes (101 and 102). The local switch can be fixed or mobile.

Similar call routing is needed for incoming international calls, as international operators in other countries do not necessarily need to know national numbering, i.e. to which operator to route a call. Each international gateway will receive calls to all national networks. See Figure 16.

Short Term Action Plan for Open Licensing by 2004

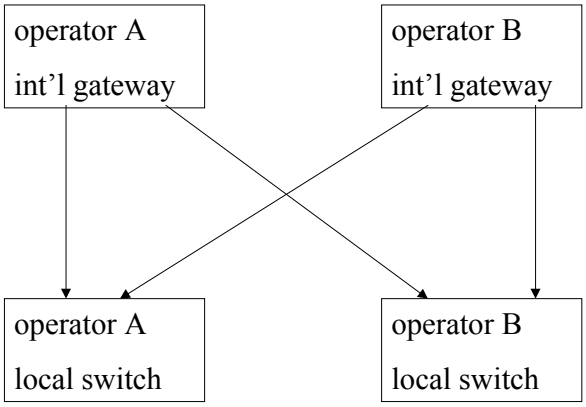

Figure 16. Routing of incoming international calls. The local switch can be fixed or mobile.

Routing of incoming international calls is needed irrespective of how outgoing international call routing is arranged. Each Nepalese operator (A and B in the examples) can agree with its international partners on routing of incoming calls. If call routing is agreed with different international termination charges (settlement charges) for fixed and mobile, the foreign international operator must know Nepalese numbering to a sufficient extent.

All call routing needs national interconnection agreements, otherwise call routing to the receiving subscriber is not possible. Details have to be agreed in normal interconnection agreements. Best international practice is that national termination charges in any network are the same independent of origin of calls.

13.4 ACTION PLAN

The Action Plan (see Table 33) is a summary of actions described in various parts of this report.

The GSM spectrum should be planned as a dual-band solution (900 + 1800 MHz) for four operators, with a transition plan for existing spectrum users to free the band as required. If four operators are deemed not possible, the spectrum should be planned for three operators.

This project PS - 2 has also undertaken a proposal for changes in legislation to facilitate Open Licensing (see Legal report). MOIC should organise for enactment of the proposed changes.

MOIC should start preparation of a new Telecommunications Act to correspond to Open Licensing and to the WTO agreement on basic telecommunications. The amendments to the Act as prepared by PS - 2 are significant, and have resulted in a patchwork, and a new Act appears needed. If the proposed changes are enacted, the new Act is not that urgent.

NTA should decide on how international access should be implemented (preselection and / or call-by-call selection). See Chapter 13.3.4.

Short Term Action Plan for Open Licensing by 2004

NTA should check the numbering plan for international operator access codes (if used), and ensure that all relevant operators are prepared for using such access codes.

The required interconnection agreements need to be in place. Operators have to agree on interconnection in the same way as other interconnection. NTA should intervene if necessary. Timing depends on operators. NTA may notify the operators on numbering and interconnection.

NTA and its consultants should prepare a mobile tender based on maximum coverage.

NTA and its consultants have already started preparation for the Open Licensing regime. Once the regime is done and the amendments to the legislation are enacted, NTA should publish a one time notice inviting applications for Standard Licences at any time.

NTA should prepare for the proposed new licence fee system based on low issuing fees and annual licence fees (uniform percent of revenue). A new budget should be prepared, including a transition from the old to the new licence fee system. The fee system is included in the proposed amendment to the Regulation.

Short Term Action Plan for Open Licensing by 2004

13.5 SUMMARY OF SHORT TERM ACTIONS

Month	MOIC	NTA
Aug 03	• Agreement with MOF on removal of Ownership tax (done for pre-paid)	
Sept 03		
Oct 03	• Consultancy contract for temporary, urgent legislative measures to ensure liberalisation in 2004 (done)	• Start consultancy on Open Licensing Regime (done)
Nov 03	• Draft temporary urgent legislative measures for liberalisation, including Open Licensing and mobile tender (this project) • New draft Policy prepared and translated into Nepalese (this project)	• Decide internally on how international access should be implemented • Numbering plan checked for compliance with Open Licensing and many international operators
Dec 03	• New Policy approved and translated to English • Dual band spectrum plan for GSM • NTC converted to company	• Consultant tender issued for assistance in mobile tendering
Jan 04	• Amendment of legislation by Royal Ordinance and Regulation • Agree with The World Bank on consultancy for major revision of the legislation • Initial agreement with MOF on principles for stepwise decrease of excess taxation of telecoms	• First Standard Licences issued • Order to NTC and UTL to start implementation of international services, numbering and interconnection
Feb 04	• Tender for consultancy for major revision of the legislation	• New budget prepared based on new licence fee principles

Table 33. Summary of actions for Open Licensing and mobile tendering.

14. Proceedings of May Workshop

PROCEEDINGS OF MAY WORKSHOP

14.1 Introduction

Ministry of Information and Communications is Implementing Telecommunications Sector Reform Project under IDA assistance. The project involves several components; Specialised Policy Advice is one of them. The Main objective of this component is to review the telecom policy and provide advice on liberalisation of telecom sector and expansion of rural telecom services including application of ICTs for rural areas. The workshop was held on 15 May 2003. This first of the two planned under this project and designed basically to bring out the points related to the policy for the information of the stakeholders. This was intended to initiate discussion among them and learn about new approaches required in implementation of policy of liberalisation leading to removal of license requirements eventually unless and otherwise limited by the natural resource like spectrum, which may cause severe constrain on the infrastructure.

14.2 Inaugural Proceedings

The Workshop was organised in 4 sessions, the first session was the inaugural one designed to inform the high level policy makers and listen to policy makers as to their thought about the sector. The Secretary Ministry of Information and Communications Mr. Mukunda Sharma Paudyal, chaired the session and Dr. Yuba Raj Khatiwada, Hon. Member of the National Planning Commission was the chief Guest on the occasion. Mr. Sushil Ghimire, Joint Secretary of the MOIC welcomed the guest and participants and informed them that the workshop formed part of the activities planned under Telecom Sector Project and of the workshop and hoped that the workshop will be able to provide valuable and implementable suggestions for policy review from the stakeholders. Arno Wirzenius, the team leader of the Consulting firm engaged in the Policy Review, presented the comparative position of Nepal in telecom sector viz a viz countries in south Asia and some other places to indicate Nepal's status in telecom development and the lessons that could be learnt in implementing right policies to expand telecom services and provide access to people including rural poor. Arno demonstrated the role mobile technology is playing in developing access in the world and in particular in the least developed countries.

Dr. Yuba Raj. Khatiwada in his inaugural speech said that telecommunication played very important role in the growth of the economy. The role of network or ICTs in the development of the all-economic and social sectors was very important. He added that ICTs were being used in different countries in poverty reduction with the applications developed in telemedicine, distant education and health and agriculture in varying degrees. He thought that the NTC's privatisation had been on the agenda for a long time, yet no progress was to be seen. He said "NTA has been in position for some time now but no major operators have surfaced yet. NTCs monopoly is to be removed but should not be replaced with private monopoly." He remarked that Tax levied on the Telecom Sector was quite high and if same status was maintained for long, our industries would not be competitive due to high transactional cost arising from use of high cost ICTs. He further stated: "Though, government may feel difficult to lower taxes under the prevailing conditions, but as the economic situation improves, lowering of taxes on telecom to bring in the level of other countries is going to be an important consideration

for our industries to be able to compete in the liberalisation and globalisation of economy under the trade regime of WTO". As a comment to the Consultant's question of choice between higher prices and lower volume or lower prices with higher volume of services, he thought that definitely the priority should be laid on the principle of lower price and higher volume of services giving large coverage of the country in providing telecom services. The Honourable Member also thought that MOIC and MOST have to work closely in the matters related to ICTs. Mr. Dhakal, Under Secretary, MOIC moved the vote of thanks.

The Chair in his concluding remarks said that 1.5 million villages without access to telephones according to ITU were mainly in the countries like Nepal. He added that therefore, the need to develop telecom in rural areas is quite urgent. The development in telecom technologies is very fast. This service industry has become a very important economic sector in itself. Importance of public and private partnership in development of telecom should be realised. Ministry of Science and Technology and Ministry of Information and Communications have overlapping responsibility, requiring close co-ordination in this field.

14.3 Working Sessions

Three working sessions were planned. The first two included presentations and discussions and the third was planned to be group work on various policy issues including those raised on previous sessions. The groups were intended to come forward with questions discussed and some consensus suggestions.

- The first working session was titled "Sector Development" and was chaired by Mr. Sushil Ghimire, Joint Secretary, and MOIC. The papers presented and the subsequent discussions are summarised below:

  - *"Status of Telecom Sector Liberalisation" by Mr. Ambar Sthapit, NTA*

    - Resmi Raj Pandey, Under Secretary, MOLD -*There is 12-13 ISPs in the country. IT should be friendly to local institutions. Though Palpa district is second in education, yet IT is not successful in Palpa. Access cost of Internet is STD; it should be at local call rate.*

    - *Mr. R.P. Sharma, X GM Telecom, - questions were on Interconnection The answer was that NTA has prepared guidelines for it. Incumbent and new operators have to work it out within themselves, in case of no resolution of problems NTA will intervene.*

    - *Sanjib Raj Bhandari, Mercantile- In 2004 when will more services be opened to private? - Answer- all the services will be opened by the beginning of the year.*

  - *"Licensing–Current and Innovative Approaches" by Mr. Arno Wirzenius, Consultant*

PROCEEDINGS OF MAY WORKSHOP

- Mr. Surendra Joshi, World Bank- You have put the questions to the Ministry to decide. The govt knows nothing. As a Consultant, you have to advise the Govt.-Answer was that these were the questions which are important to be decide for policy and it is presented here for discussion and of course the Consultant will help but the final choice is to be made by the Ministry.

- Chief Guest -Our neighbour has advanced a lot in telecom Why is liberalisation is so late in Nepal. Is it possible to liberalise all in 2004?

- Ratna Kaji Tuladhar -Regarding Indian Mobile in Terai- Our ACT says you need a license to operate. The Act provides for only 2 operators in mobile. How do you look at this situation

- Mr. Resmi Raj Pandey, Under Secretary, MOLD - China is developing 5 million mobile customers per month. Nepal is very far behind. What is the reason?

- Answers to above two questions- Problem of Indian mobile in Terai- better service in Nepalese operator-China did not go maxim fee- India and Nepal went for Maximum fee, so they failed earlier- now India has changed- Europe went for maxim fee in GSM 3 and it failed - GSM3 has not taken off yet.

o *"2 Million Mobile Subs in Nepal by 2010-A Reality? " by Mr. Gajendra Bohra, Consultant ;*

- Sanjeeb Raj Bhandari, Mercantile-In the last ten years we were sleeping. In Mobile there should be radical change. There should be an extremely friendly licensing regime for mobile, otherwise next 10 years we will be sleeping again.

- Surendra Joshi, WB, Environment is changing. If we do not act at once as per Consultants suggestion, after some time, we will be the loser. As suggested by NPC, we are not in a position to lower taxes immediately. But how about starting some token reduction now. Reduction in taxes may create increased business and increased revenue to the govt.

- Ram Prasad Sharma, Ex GM Telecom-We started early. Uganda and Cambodia being about the same size in GDP level as Nepal have progressed, we failed.

- Mr. NP Sen, Advisor, NTA- if court cases were not there we would have succeeded. The operator Khetan group (Mobile) was not able to give bank guarantee, so it has not started.

- Bhup Raj Pandey, Ex Chairman, NTA-Reason for failure govt protection policy-wanted to protect NTC-No timely decision-to get frequency takes 8 months- the process of the Govt is lengthy.

PROCEEDINGS OF MAY WORKSHOP

- *"Road Map for NTC Commercialisation -options and opportunities" by Mr. Bal Ram Pradhanga, DGM, NTC -*

  - Laxman Datta Pradhan, Nepal TV-Many decisions failed, partially motivated decisions-Is this privatisation for reduction of corruption. Most of the places failed because of corruption.

  - Surendra Joshi, WB- World Bank has not pulled out of Telecom sector-WB is supporting TSRP. It is true that Donors are more interested in social sectors than infrastructure. The private sector is interested in telecom. Money is not the problem.

  - RP Sharma- We talked about privatisation of NTC, now we should talk about privatisation of the telecom sector.

  - Mr. Resmi Raj Pandey, Under Secretary, MOLD-we must in FDI for the benefit of the people. It is difficult to commercialise NTC. It is politicised. Its workers union is quite strong. It has initiated a court case. It takes years in court. In telecom sector one year is 100 years.

  - Prem Lal Maharjan- four years back Nepal was ahead of India. Now we are at the bottom of South Asia. Officials in NTC etc do not see problems while they are in organisation, they see problems when leaving. NTC should be immediately privatised.

  - Mr. Bal Ram Pradhananga, NTC-If there is competition, NTC will be efficient. Only a good policy is not sufficient, we need good implementation. Govt's priority is only income, rather than service.

- The second working session was chaired by - Mr. Ram Prasad Sharma, President of Society of Electronic and Communications Engineers and titled "Communication for Rural and Poor". The papers presented, discussions followed are summarised below:

- *"Universal Access- Ways and Means " by Arno Wirzenius Consultant-*

  - Mr. Resmi Raj Pandey, Under Secretary, MOLD- promote mobile in rural areas. Licenses must bear low charges. Computer prices going down rapidly allowing Internet spread. Local access for Internet should be at local charge rate.

  - Nirmal Pradhananga-Whether Cambodia had govt policy for mobile development. Are mobiles cheaper than fixed?

  - Arno- Owning a mobile is cheaper for the poor in Cambodia than fixed, and they can receive calls at no charge.

PROCEEDINGS OF MAY WORKSHOP

- *"Telecom for Poor-Perspective of Development Practitioner"- by Suresh Doij Shrestha, IT Manager, Rural Urban Participatory Programme.*

  - Atma Ram Ghimire, NITC-What are the Access/ Infrastructure problems for the ICT kiosks established under RUPP?

  - Suresh- Access is at local rate, but some places do have problems because NTC is not providing connectivity.

- *"ICTs - Opportunity for rural poor" This paper could not be presented because the -Consultant (Claire Milne) who was to present this paper was indisposed - instead paper titled -" IT/INTERNET Sector Developments –Opportunities and Barriers " by Mr. Atma Ram Ghimire, Executive Director, NITC, MOST was presented during this session as Mr. Ghimire could not present as schedule due to his engagement in other meeting.*

- Third Working Sessions- Group Work and Presentations - chaired by Mr. S.K. Pudasaini, Chairman, NTA. As the number of participants decreased considerably, it was decided that only one group should be formed and the group should summarise and discuss any remaining issues of policy it thought important.

  - Internet access should be at local rate. Some expressed the opinion that it should be even lower than local call rate. It is true that several countries in fact have lower rates for Internet Access.

  - Licensing should not be dependent on high fee. Low fee based on turn over is a good solution.

  - Co-ordination between MOST and MOIC is very necessary. Some even suggested that there should be one Ministry to deal with ICT.

  - There was also an opinion that interconnection should be included in the policy itself.

  - Policy should be customer oriented and implementable.

  - Some suggested that Post Offices could be good places for ICT location and services.

  - If corporate network need licenses then they may require paying license fee.

14.4 Conclusion of the Workshop

At the end of the last session, the Consultant thanked the chairpersons, speakers and participants for their contribution in the workshop. The Consultant thanked all those who have helped in the organisation of the workshop.

15. Proceedings of September Workshop

PROCEEDINGS OF SEPTEMBER WORKSHOP

15.1 BACKGROUND

This workshop on telecommunications policy was organised by the Ministry of Information and Communications under the telecom policy review project (PS-2), which is a part of a larger Telecommunications Sector Reform Project TSRP, financed with the assistance of The World Bank. The objective of the workshop was to discuss the outcome of the review with stakeholders with the intent of finalising the proposed telecom policy to replace the telecom policy 1999. The workshop was held on 24 of September and was inaugurated by Hon. Member of Planning Commission Mr. Hari Krishna Upadhyay. The list of invited participants included representatives of 35 private and government entities. About 60 participants attended the workshop. The workshop consisted of an inaugural and two technical sessions.

15.2 INAUGURAL SESSION

15.2.1 Welcome Speech by Mr. Sushil Ghimire, Joint Secretary MOIC

- Services to be compatible with the needs of the time
- ICT in rural areas must be cost effective, telecentres to be established to serve rural community needs
- Telephone to be shared in rural areas
- Past experience - reports, not possible to implement?
- This workshop is expected to make the policy possible to implement and be practical.

15.2.2 Presentation of Draft Policy by the Consultant - Arno Wirzenius

- Presentation showed the sliding position of Nepal in terms of telecom development over the past 10 years among less developed countries,
- The measures required for expanding telecom services by liberalising the sector (which includes multi-service and multi-operator environment, general authorisation and open licensing regime to ensure that anybody wishing to operate telecom services will easily obtain a license
- the approach to competitive bidding is proposed to be on the basis of maximum coverage of rural areas wherever major licenses require bidding
- much wider coverage of rural areas to facilitate access to telecoms for the rural population. It was indicated that the rural demand in terms of willingness to spend for telecom is close to the present telecom revenue of NTC, which would mean about 50 - 100 phones per VDC.

15.2.3 Remarks by The World Bank - Ritin Singh

- Problem often found as implementation delays
- Success cases are not sufficient in Nepal we have try to improve
- In other countries it is telecom that has moved fast, therefore, we should try move faster here as well

- Whatever support is required, the Bank is there to support if the country is willing to move forward.

15.2.4 Remarks by the NTA chairman - Mr. Suresh Pudasaini

- The 1999 policy was prepared to reflect the Act, now the time has changed
- Licensing was based on three categories of services (i) basic services; (ii) cellular services; (iii) value added services
- Exclusivity was given for some years no similar licence would be issued to other newcomers
- Minister of Finance said: by the end of Poush, a portion of NTC will be sold
- Need to define the role of the regulator
- Policy should clearly spell out the role of the regulator
- Objective of the policy should be clear to all stakeholders
- Ultimate beneficiary of the policy should be the users
- The regulator should not be the controller, it should be the facilitator

15.2.5 Remarks of Secretary, MOST - Mr. Gyanwali

- We have already entered WTO, we need to change our policy accordingly
- We are thinking of new policies in the MOST as well, we are drafting Information Technology Policy
- We have already started ICT sector programmes in 15 places, also UNDP is starting
- MOST is constructing an IT park, preparatory work already complete - business plan is to be prepared for its operation.
- MOIC is important for MOST, the first requirement is telephone for ICT
- We don't have cyber laws
- WTO IPR (Intellectual Property Rights) is important: which Ministry will take the lead role; it is going to be a very important matter to take care of.

15.2.6 Inaugural Remarks - Chief Guest, Dr. Upadhyay, NPC

- The sector must advance in telecom and information technology (ICT), Nepal has not been able to take full advantage of this
- I have briefly gone through the draft Telecom policy. No apparent contradiction is found in the draft policy, and it appears to indicate the right direction.
- It appears that target for rural areas is not unachievable
- There seems to be a considerable rural market for telecom
- We have to link the rural telecom with creating jobs and improving life, it is a challenge
- The private sector has to find how it can play an important role

PROCEEDINGS OF SEPTEMBER WORKSHOP

15.2.7 Concluding remarks by Chairman, Secretary of MOIC, Mr. Mukunda Sharma Poudyal

- The world is changing rapidly
- Rural areas, whether possible or not, considering the socio-economic conditions of the rural areas of Nepal
- Shouting distance is suggested, whether feasible or not it looks plausible.
- It is not necessary to copy other countries
- Ministry has worked with the Consultant, today is not consultants' policy, it is our policy
- How to implement the policy?
- The World Bank is concerned about how to balance between globalisation and socio-economic conditions of rural Nepal
- I think that the WB team is satisfied with our progress
- Your contribution and comments will be helpful in finalising the proposed telecom policy

15.3 FIRST WORKING SESSION - Liberalisation of Telecom Sector-

Chaired by Mr. Sushil Ghimire, Joint Secretary MOIC

15.3.1 Status of Telecom Sector Liberalisation - focus on issues and problems - by Mr. Gajendra Bohra (Consultant) on behalf of NTA

Abstract:

- Brief history of Reform
- Efforts to introduce new mobile operator in 92-93 sector reform study
- Efforts to introduce new operators (in Mobile, WLL, Paging) in 94
- Telecom Act 2053 - formation of Regulatory body
- Introduction of competition in marginal services
- Second attempt to introduce competition in basic services and mobile in 1999 and present status
- Reasons for failure in introducing competition.

Comments of Mr. Reshmi Pandey, Under Secretary, MOLD

- History of China, India: In China more mobile than fixed
- In India, only 30 million mobiles, why is India much behind China,
- India tendered licences on a state basis and promises for high quotes for licence fees, the outcome was a failure in implementation, that is, no operators could really start operation and they had to change and cancel nearly all offers.
- If tenders invited on a regional basis, charges will be higher, we should not commit the same mistake.
- We should provide the latest technology

- You may like to know that the progress of one decade of Nepal is equivalent to the progress of one month in China
- There is a need to merge MOIC and MOST, at least there should be more co-ordination mechanisms in place because without communication or access facilities IT is not possible, particularly in the coming networked information society.
- MOIC should have convinced the Council of Ministers regarding the use of modern technology
- There is strong discrimination i.e. only some districts have the advantage of accessing Internet/email on local call basis and many districts are deprived of it and have to make STD calls to get Internet / email which is not at all fair. The IT Policy wanted to correct this situation but no implementation as yet.

Mr. K.B. Khatri, Member, NTA Board

- Question -what do you mean by lack of co-ordination between the Ministry and NTA
- Answer - It was reported that delay in frequency allocations to operators/ new operators It has taken up 6 months to allocate frequencies. Liberalisation and hence benefit to users will suffer from lack of co-operation and co-ordination of this nature.

15.3.2 Sector Structure and Regulatory Regime-for liberalisation -by Mr. Simon Topping (Consultant)

Abstract -

- Sector Structure
- Stable regime - which does not change quickly
- Predictable - legal and regularity provision clear and followed
- Transparent Regulatory Regime - The application and practices of the regulation and norms are clear and uniform.
- (Level Playing field) - To ensure that Interconnection rules exist and behaviour of dominant operators are non-discriminatory and transparent. Antitrust provisions and other legal provisions.

Sugat Ratna Kansakar, DGM, NTC

- Question -whether NTC has the right to ask other operators what type of services they are providing, what type of licences they have, in order to consider interconnection. At least NTC should know more regarding interconnection, what services other operators will provide

Answer:

- NTA, not NTC, should determine the right to interconnection, NTC may need to know technical details if needed for interconnection
- New services and value added services (broadband services) need interconnection services of the incumbent (NTC) a dominant operator. If the incumbent were to refuse interconnection, the service provider cannot provide service and users will suffer and new operators business will suffer. Policy intended competition would fail.

PROCEEDINGS OF SEPTEMBER WORKSHOP

Questions - Mr. Bhakta Rana, Adviser to NTA

- The WLL operator uses CDMA, NTC uses GSM, how can interconnection be done? It is a question of conversion between the American and European technology. Who pays for the needed equipment?

Mr. Bijay Krishna Shrestra, CEO of Beltronix and Past President, CAN

- Comment - the telecom sector will encourage use of other technologies. For example, use the NEA power transmission network for long distance backbone fibre optics. It is good to see that lawyers are taking care of interconnection problems.

Mr. Sanjib Raj Bhandari - CEO Mercantile Communications - President CAN

- Question - what is the recourse if NTC refuses to provide interconnection or lease facilities
- Answer- The Act and Regulation has to ensure that the dominant operator provides non-discriminatory interconnection and cannot refuse interconnection or provide facilities for lease. The regulation must make provisions for penalties in case the dominant operator refuses to do so.

15.3.3 Open and technology Neutral Licensing for Multi Service and Multi-Operator Environment - by Mr. Arno Wirzenius (Consultant)

Abstract:

- Need of License to operate according to Telecom Law
- Licensing Procedures - problems and issues
- Individual Licence
- Standard Licence
- Technologically neutral licensing
- Structure of License - more recent approaches
- License fees

Madan Kaji Shakya- DGM (mobile and new services), NTC

- Question - Will there be more players than the playground can accommodate? How many licences should be issued?
- Answer -. It is the decision of operators whether they should be players. I have come across no one who can really say how many operators the playground can accommodate.

Mr. Sushil Ghimire

- Comment - Players will be many but survival of the fittest - or fit ones.

PROCEEDINGS OF SEPTEMBER WORKSHOP

Mr. Gaurab Upadhyaya, CAN

Questions:

- It is difficult for all the operators to build their own infrastructure and others have to share infrastructure (e.g. fibre back bone being built by NTC with the Indian Govt. grant). NTC could charge excess prices as a monopoly to other operators or users. Interconnection regulations should ensure protection from such monopoly behaviour.
- We often say that for competition - level playing field cross subsidy should not be allowed, it may kill other small providers, but it is already there
- There is sufficient competition in Internet, but ISPs are not competing with NTC
- Answer: tricky question. Telecom is not for empty pocket guys. Those who have finance will build infrastructure. Competition - antitrust provisions must take care that cross subsidies or predatory pricing is not possible. Monopoly's prices must be regulated.

Mr. Sanjib Raj Bhandari - CEO - Mercantile Communications - President CAN

- Questions- how can the policy ensure that NTA will issue license or provide services in timely manner?
- Answer- provision of due diligence from the regulator is a must, and in case of failure to do so the operator will have recourse according to Act or regulations.

Mr. Balram, DGM (finance) NTC

Question - should the license fee be based on net or gross revenue?

- if the licence fee is based on % of revenue, will it be on gross revenue or after deduction of interconnection services?

Mr. Sanjib Raj Bhandary, Mercantile

- Question- There should not be double taxation for telecommunications, e.g. the royalty is now charged twice for interconnection services, a VAT type regime should be developed, which should be mentioned in the policy
- Answer, Arno: a VAT type regime is already proposed in the project for licence fees, but will be proposed also for special telecommunications taxation.

Mr. Sushil Ghimire

- it is very difficult to implement Universal Service as the country is diverse in economy and social features.

PROCEEDINGS OF SEPTEMBER WORKSHOP

15.4 SECOND WORKING SESSION - Universal Access and ICTs for Rural & Commercialisation of NTC

Chaired by Mr. Suresh Pudasaini, Chairman, NTA

15.4.1 Universal Access Strategies - Gajendra Bohra (Consultant)

Abstract:

- Meaning of Universal Access and universal service
- Why Universal Access (Rural Demand Estimate)
  - Population Distribution
  - Rural population
  - Consumption pattern
  - Estimate of telecom demand
- Recommended strategies for Implementation

Mr. Sugat Ratna Kansakar

Questions:

- Cabinet decision was to provide RTDF fund to NTC for providing rural telecom service, NTA has funds but has not received it. NTC should get one set of directives, which are followed by the government.
- Subsidies was a big issues in WTO, and subsidies should be taken as one of the biggest issues in Nepal
- Answer, Mr. Bohra: allocation of RTDF must be transparent and its application should consider that it would be used efficiently - economic efficiency. It means that it should be allocated in such a way that operators who demands the lowest subsidy to meet the required provision of services in rural area would get the subsidy. NTC can be candidate to receive it but it must compete for it.

Mr. Bhakta Rana

- Question and Comment-the private operators should be subsidised only in difficult areas
- Answer: The proposal to use minimum subsidy is for that area where operators are otherwise not ready to provide service commercially and we agree with what you say.

15.4.2 ICTs - Applications for the rural development? - Claire Milne (Consultant)

Abstract:

- Meaning of ICTs and their characteristics
- Nepalese context - approaches to development projects and availability of facilities
- Reaching the rural people-direct and through intermediaries
- External experience in rural ICT
- ICTs in rural Nepal - some issues
- Recommendations

PROCEEDINGS OF SEPTEMBER WORKSHOP

Mr. Bijay Krishana Shrestha, President CAN

- the reason not to provide service: there is no electricity in most of the rural areas
- nobody has taken overall responsibility for providing backbone for rural area.
- until that happens, the private sector is acting on its own

Answer: The back bone provider at the moment is only NTC but the policy intends to create a situation whereby in a couple of years the bigger operators like new mobile operators or UTL will create alternative infrastructure to facilitate competition provision of back bones.

Mr. Sanjib Raj Bhandary, Mercantile

Comments:
- even if there is a facility only 5% or less will and can use it
- the private sector could also provide backbone or Internet facilities only when they have access to RTDF funds for this.

Answer: Yes, indeed some sort of donor money should be available for this, not necessarily RTDF.

Mr. Suresh Pudasaini, NTA

- different agencies are doing the job
- whether it should be decentralised or be given to private operators

Answer: both private sector as well as by other agencies would be required to provide ICT in rural areas.

15.4.3 NTC's Commercialisation and Restructuring and Privatisation

by Mr. Bal Ram Pradhannaga, NTC

Abstract:

- Past efforts and processes for commercialisation and privatisation of NTC,
- Why should NTC be commercialised
- How it could be restructured
- Governments current policy on commercialisation
- What should be ownership of government for autonomy

Bijay Krishna Shrestha

Questions: How long will it take before NTC could be privatised

Answer: NTC should be commercialised by converting it to company and then restructured to operate efficiently before selling the share to public or strategic partner so that it could fetch better price. Therefore, the process would take 3 to 4 years.

15.5 Summary of the Proceedings

The draft Policy was received quite positively. No person expressed concerns about the overall policy or the detailed policies and implementation strategies.

The concerns expressed were mainly based on the present experiences in the sector, and correspond to implementation of the 1999 Policy. The main issues of concern were the following:

- A major concern was the regulators' behaviour. The concern was that if the regulator delays the processing of license or other permits (such as frequency and other requirements for operation of services), what can the new aspiring operator or even existing operator do? The Act and regulations must ensure that the regulators do act in a timely manner as specified in them and if they do not do so, the Act / regulation must provide recourse and timely remedies to persons who suffer, and bureaucratic behaviour should be penalised.

- A number of ISPs (Internet Operators) expressed that NTC refused to provide leased lines and telephone line. What is the remedy? Therefore, the regulations should provide for recourse in such a situation. Provisions, therefore, should be made that if such facilities are not provided at reasonable rates and timely manner, it is penalised.

- Without leased lines, the corporate sector will suffer and will not be able to use data and other broadband facilities for conducting its business, including creation of an export oriented IT business.

- One major concern expressed was that it would take time for new operators to build major infrastructure, the dominant operator with the existing infrastructure could easily stifle competition. Therefore, the Act and regulations must ensure that competition grows and new entrants in the telecom market can operate in a level playing field.

- While the above provisions should be made to work, the increased competition is the best remedy for the above ills. For competition to take root and liberalisation to succeed, the dominant operator's behaviour needs to be regulated properly.

- For Internet / email access majority of the districts have to still pay STD charges. What is promised in IT policy is not yet implemented.

- Because of the linkage of IT and Telecommunication, ICTs should be dealt with under one Ministry.

- The World Bank expressed that in general the policies are good, but implementation is substantially delayed.