

REPORT ON BOLIVIAN TELECOMMUNICATIONS

AND

E N T E L

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I TEAM

The visiting consultant's team consisted of:

All Noam -

Professor, Graduate School of Business, and Director, Center for Telecommunications and Information Studies, Columbia University. Author of several books on international telecommunications. From 1987 - 1990, Commissioner, New York State Public Service Commission.

Bruce Egan -

Affiliated Fellow, Center for Telecommunications and Information Studies, Columbia University.

Private Consultant. Formerly at Southwestern Bell and Bellcore. Author of 1990 book, Information Superhighways.

Douglas Conn -

Associate Director, Center for Telecommunications and Information Studies, Columbia University, New York. Co-Author, Pacific Basin Telecommunications.

The above would like to acknowledge the several assistants in New York who helped in the preparation of their visit and research.

II CONTEXT

Bolivia's 1985/86 reforms have been universally admired. An important stage in these reforms was to restructure and modernize important industries. This visiting consultants' report addresses the structure of Bolivian telecommunications, particularly of ENTEL.

III INDUSTRY STRUCTURE

Bolivia's telecommunications density is very low, but corresponds to and is slightly ahead of its income level (Graph 1). However, the country's goal is to move forward in its economic development. This requires a substantial expansion of the telecommunications sector.

There are 17 regional private telephone co-operatives, however three of them (La Paz, Santa Cruz, Cochabamba) represent about 90% of the total access lines in service. All of the local co-operatives are autonomous in their planning, operations, cost studies, and tariff rates. It is not clear what type of regulation or political constraints the local companies face and it is likely unique to each. ENTEL is the only public toll network provider and is regulated by the DGT and is subject to a host of other political and institutional constraints.

Bolivia's telecommunications have an unusual structure:

Local co-ops/national carrier

There are some similarities to: Denmark, Finland, USA, Italy.

However, only in Bolivia are the local carriers weak in performance.

This shifts responsibility to develop the national telecommunications infrastructure to ENTEL as the national entity.

ENTEL is the back bone of Bolivia's TC development.

Its explicit or implicit functions are:

- inter-urban/international service
- business services for economic development
- rural development
- high-tech development

IV PROBLEMS

Based on our interviews, reading materials and analysis of data sources, ENTEL problems INCLUDE:

- overstaffing
 - political staffing/lack of continuity
 - conflicting goals/no strategic plan
 - procurement INTERFERENCE
 - low local penetration restricts traffic
 - variable contributions to government reduces incentives to efficiency
 - variable split ENTEL/co-ops reduces incentives to efficiency
 - Inadequate generation of investment funds;
- undercapitalization
- Ambiguous regulatory situations which creates uncertainty
 - Imbalance in capacity and coordination with co-ops

We make the following observations:

1. Potential for private sector investment:

While there is growth in access lines and network usage, up-front installation charges are very high (\$1500) and service quality is very low (call completion rates --even with multiple attempts-- is reported to be only 20% in some places). Given this, there is a clear potential for private sector investment. Interviews with major customers of ENTEL reveal that they are willing to pay for higher service quality, including new digital service, if it were available. It is clear, however, that market potential is hindered. Without reliable digital network service capability, business customers cannot estimate their own demand because they have only utilized the old analog network. For example: banks cannot perform electronic funds transfer and high-speed check clearing functions; Automatic Teller Machines (ATMs), fast credit card validation, and other transaction services are not possible without good data communication networks.

2. New digital and data services and new technologies are gradually being deployed in Bolivia, including digital access lines, toll microwave trunks, cellular radiotelephone, fiber-optics, and satellite.

3. A survey of large business users indicates a very high level of dissatisfaction with current service.

4. There likely exists a non trivial toll-to-local revenue subsidy which results from the current tariff rate structures of ENTEL and the local co-operatives. Currently, ENTEL receives about 70-80% of retail toll charges paid by end-users. This amounts to about \$4 per month per local subscriber line. Due to the lack of meaningful cost data from the local co-operatives and ENTEL, it is not possible to directly assess the amount of cross-subsidy. An increase in the co-operatives share have been negotiated but not yet approved.

5. There exists an atmosphere of uncertainty among private and public players. Neither large business customers, network equipment vendors, ENTEL, nor the local co-operatives expressed that they understood the risks involved in private network competition. To our knowledge, no studies exist which measure the potential quantitative impacts on the various players from liberalization and competition. It is safe to conclude, however, that overall investment in the sector is lower than it would be because the rules of the game between private and public network providers are uncertain.

6. There is very heavy bureaucratic interference in the telecommunications sector and a perceptible lack of cooperation among the privately-owned (and relatively autonomous) local Co-ops and ENTEL. The reasons are many, but the three main problems are the ex-ante operating restrictions faced by ENTEL in almost all aspects of their business, the incompatible incentives of ENTEL and the co-operatives and political constraints faced by the Co-op.

7. There is a lack of coordination of fundamental network planning for the country as a whole which can result in poor infrastructure development. The reasons for this are clear. The incentives of ENTEL and the co-operatives are driven partly by politics and local financing conditions which in any given year may be quite different. The customer potentially suffers due to a lack of connectivity, congested facilities, and poor service quality. The customer may incur higher charges to overcome such problems.

8. There are no plans for common-carrier tariffs for interconnection arrangements of private carriers who may wish to provide enhanced or value-added services in service territories of ENTEL and the local co-operatives. There also is no planning and coordination of physical network interconnection standards. The current environment is one of ad-hoc standards setting for public and private network interconnection.

V OPTIONS FOR CHANGE

It is our conclusion that if ENTEL is to serve as a motor for Bolivia's economy and its high-tech sector, it must become more aggressive and entrepreneurial.

It should follow the example of other newly entrepreneurial telecommunications organizations. These include:

- Televerket (Sweden)
- Telefonica (Spain)
- BT (U.K.)
- Bundespost Telekom (Germany)
- AT&T (U.S.)
- RBOCs (U.S.)
- NZ Telecom (N.Z.)

- France Telecom (France)
- NTT (Japan)
- Cable & Wireless (U.K.)

The following options for improvement exist. (They are not necessarily conflicting)

- 1.- Very strict supervision by government of a full national monopoly (include local service)
- 2.- Privatization with economic incentives
- 3.- Competition (liberalization)
- 4.- Performance contract

1. Strict regulation of national monopoly

This runs against the global trend; it will be an increasingly complex and bureaucratic solution.

2. Privatization

Advantages:

- permits economic incentives to govern managerial decisions.
- may bring in foreign expertise and capital.
- permits government to create incentives and punishments.
- it follows world-wide trend:
recently implemented or considering:
U.K., Japan, Malaysia, Argentina, Chile, Venezuela,
Peru, Colombia, Hungary, Poland.

Problems with privatization:

- Private firm may reduce:
 - service quality
 - social services
 - jobs
 - national control

3. Competition (liberalization)

Implemented by:

U.S., U.K., Japan. Some of it introduced in Australia, Sweden, Germany, Canada.

Obviously, Bolivia is smaller, poorer, and less-developed in its telecommunications sector. However, ENTEL is vulnerable to competitive entry.

It is easy to enter this corridor via a series of microwave stations and repeaters.

Additional vulnerabilities for ENTEL:

- VANS are already being liberalized; they are potential resellers
- Established co-ops are likely to seek their own interconnection of their traffic, thus bypassing ENTEL, or to let others interconnect them.
- International rates are dropping world-wide; ENTEL will have to follow, reducing its revenues.
- International competition is emerging (Pan Am Sat)
- US Government is challenging international settlement system to reduce its outflow.

The conclusion is that it will be increasingly easy to enter, in terms of economics and technology. Furthermore, ENTEL's revenues are at risk.

The protection to ENTEL is legal and political, This is not a stable foundation for a future oriented organization.

Sooner or later, other providers will offer to business users and co-ops better terms, and create pressures on the Government for entry liberalization.

If such entry is unavoidable, it is preferable to implement it soon, in return for benefits to ENTEL.

In the process, one can help make ENTEL a superior company with new opportunities.

In a liberalized environment, ENTEL has several advantages:

- Experience
- Economies of scale
- Reputation
- Deep pockets
- Large installed capacity

ENTEL has also disadvantages:

Political mandates to serve unprofitable areas

This disadvantage needs to be addressed differently than in the past.

The old approach was:

Integration of commercially viable activities with social service activities.

Internal cross-subsidies (which create incentives to cream-skim).

The new approach would be:

separation of commercially viable activities and social service activities.

external subsidies.

How would such a system look like?

EXTERNAL SUBSIDIES

Justifications: There are benefits to all users of networks from expansion and improvement of networks (positive externalities).

Normally, national telecommunications administrations provide this subsidy for expansion, and charge their users internally.

But in Bolivia, the fragmented industry structure reduces incentives for any co-operatives or ENTEL to expand the network, because its investment will also benefit other companies.

We therefore recommend the following alternative:

- create a tax (10%) on all telephone bills by all carriers (old and new, including co-operatives).
- use that money in 2 ways:

(a) Rural Development fund (2/3)

(could be administered by DITER).

The fund would provide subsidies for socially-motivated but unprofitable services in rural areas.

The fund (or DITER), would contract with a carrier to serve these areas. For example, with

ENTEL
Co-ops
Foreign carriers

The award of a franchise area would be based on competitive bidding. DITER would be a funding rather than operating agency.

(b) High Technology Development Fund (1/3)

Would support R&D, experimentation, introduction of new services, coordination of technical upgrade, university research.

Opening of other services to ENTEL

ENTEL should not only be permitted, but be encouraged to be a major participant in services which in the past have not been part of its activity. For example:

- mobile services
- local services
- data and new services
- coin phones
- any other business

One remaining restriction is important:

Co-ops, because of their bottle-neck power, should not be able to enter long distance services at first.

After several years, when an equal access system has been implemented and an effective regulatory agency is operating, this restriction should be revisited.

Other Advantages to ENTEL:

- Separation of commercially viable services from social services permits managerial behavior based on efficiency criteria.
- No micro-management by government in ENTEL investment implementation and procurement. Government would continue to have a role in the overall investment plan.
- No interference by government in ENTEL staffing decisions.
- ENTEL expansion into new markets would reduce fears of loss of jobs.

Essential for liberalized system is an active and professional regulatory agency - DGT.

- DGT must have:
- ability to audit
 - arm's length relation to ENTEL.
 - ability to coordinate standards and quality.
 - no preference to ENTEL over its competitors.
 - develop tariffs for interconnection.

DGT funding should come from the telecommunication tax. Regulatory responsibility should be shifted to DGT from local

governments (under competition, they will discriminate in favor of "their" co-operatives). They are not likely to be able to deal with complexity of advanced telecommunications.

4. Performance Contract

The open system proposed will take several years to implement. In the transition phase (until 1995 or later, if necessary), the evaluation can be formalized by a Performance Contract:

- creates performance targets
- provides incentives to meet targets
- establishes a time table for liberalization

Targets are: 1. quality
 2. productivity
 3. financial performance

To pursue these targets systematically, the Performance Contract should incorporate an Integrated Performance System. This system consists of 4 steps.

Step 1: Select performance dimensions:
 (recommended measures are underlined)

- | | | |
|--------------|---|--------------------------------------|
| quality | - | <u>Call blockage due to ENTEL</u> |
| | - | <u>noise</u> |
| | - | billing accuracy |
| | | |
| productivity | - | <u>minutes of calls/employees</u> |
| | - | lines/employees |
| | - | total factor productivity |
| | - | Min. calls/capital |
| | - | <u>operating expense/min</u> |
| | | |
| financial | - | <u>Rate of return on net capital</u> |
| | - | <u>Net operating income/emp.</u> |
| | - | Oper. expenses/invest |
| | - | Fixed obligations coverage |

Indices for Quality

The following graphs 2-4 are examples for the monitoring, in the U.S. State of Florida, of service quality by several competing long distance carriers. (Call completion, noise, billing accuracy). This information enables users to select superior carriers. Carriers often compete on the basis of quality (see Graphs 5-6).

These indices are also useful in order to signal the need for change. Graphs 7 and 8 Show instances for deterioration of services, in New York, that led to regulatory responses.

Indices for Productivity

1) REAL TOTAL FACTOR PRODUCTIVITY = $\frac{\text{REAL TOTAL OUTPUT}}{\text{REAL TOTAL INPUT}}$

-ratio should be rising year-by-year

-numerator could be real revenue from toll minutes of use

-denominator could be real cost of factor inputs (capital, labor, materials, supplies)

This performance indicator is preferred as the best overall index of ENTEL's operating efficiency. In many studies of other countries, the index has yielded productivity gains in the area of +2 to 10% per year; this is the year-to-year change in the ratio given above. ENTEL does not now have the data required to do a good total factor productivity study. Many price deflators are required for factor inputs and are not readily available. ENTEL should work on obtaining the data required for this type of study.

2) REAL TOTAL CAPITAL INVESTMENT PER TOLL MINUTE

Trend should be downward

This is a measure of average investment per toll minute of use and should decrease over time as better technology is implemented in the network. The "lumpiness" of network plant capital additions make this index difficult to properly calculate due to the lag time between capacity installation and demand to fill it.

3) OPERATING EXPENSES PER TOLL MINUTE

Should decrease

This is a measure of company efficiency in providing toll service. As better technology and labor practices are adopted, and materials and supplies procurement improves, expenses should be decreasing over time. We recommend the use of this indicator in the performance contract due to its tractability and ease of calculation.

4) TOLL MINUTES PER EMPLOYEE

Should increase

This is an indicator of efficiency of the corporation in producing toll service. Since the data are readily available, we recommend its use in the performance contract.

5) CAPITAL INVESTMENT PER EMPLOYEE

Rising

This indicator measures the productivity of labor as more and more capital investment is added.

6) TOTAL REAL OUTPUT PER EMPLOYEE

This indicator is similar to toll minutes per employee, however some index of output which includes more than just toll minutes may be desirable.

FINANCIAL INDICATORS

1) RATE-OF-RETURN ON NET CAPITAL = $\frac{\text{NET INCOME}}{\text{NET CAPITAL INVESTMENT}}$

This is the preferred measure of financial performance, however we do not believe that ENTEL has the data to properly calculate this ratio. We would urge them to pursue the data however, as this is the best single overall indicator of financial performance.

2) NET OPERATING INCOME PER EMPLOYEE (increase)

We recommend the use of this ratio in the performance contract. It is equal to total revenue minus total operating expenses divided by employees.

3) OPERATING EXPENSES PER DOLLAR OF INVESTMENT (decrease)

This measures the operating efficiency of the capital asset base. As better technology is adopted this ratio should decline. We recommend using this ratio in the performance contract.

4) FIXED OBLIGATIONS COVERAGE = $\frac{\text{BEFORE TAX OPERATING INCOME}}{\text{LONG TERM DEBT OBLIGATIONS}}$

This ratio is an indicator of credit-worthiness as it indicates the amount of cash flow available for paying fixed obligations.

5) FIXED CAPITAL INVESTMENT/REVENUE

This ratio gives the amount of capital investment necessary to generate a dollar of revenue.

Step 2: Define expected performance standards:

option (a): objective targets (like 5% blocking probability)

option (b): relative targets: performance relative to average improvement of other countries.

A "basket" for the rest of the world should be created including, for example:

- 5 South American telephone organizations.

- 2 North American telephone organizations.
- 2 European telephone organizations.
- 1 Asian telephone organizations.

The comparison is not for absolute performance, but for improvement. This can be expressed by

$$\tilde{o}_i = \frac{\frac{\Delta PI_{i, \text{Boliv}}}{PI_{i, \text{Boliv}}}}{\frac{\Delta PI_{i, \text{world}}}{PI_{i, \text{world}}}}$$

Where Performance improvement in period $i = PI_i$

Advantages: no need for arbitrary absolute standards.
International comparisons create the team-spirit of a competition with other countries.

It also permits Government and the public to evaluate the performance of ENTEL.

Graphs 9 and 10 show comparisons in the absolute performance between the U.S., Denmark and the U.K.

Step 3: Integrate Performance Measures

Assign weights to performance dimensions based on survey of users and experts

with weight = w_i

overall performance then is:

$$P^* = \tilde{o}_i \cdot w_i$$

Advantages: Single index of performance.

Superior performance in one dimension can compensate for weakness in another dimension. This gives flexibility to management.

Step 4: Link Incentives to Performance

1. Where performance is superior to the international average, provide a "reward fund" to management based on performance ($R=f(P)$). Fund will be allocated by management according to its discretion.
2. Where performance improvement is below international average the following should be used:
After 1st. year: Top management on probation
After 2nd. year: Normally, top management replacement
3. In a privatized ENTEL, incentives could be linked to earnings.

ENTEL ORGANIZATION REFORM

ENTEL SHOULD BEGIN THE TRANSITION FROM A PUBLIC SERVICE COMPANY TO A MULTISERVICE AND MARKET-ORIENTED STRUCTURE

KEY AREAS NEEDING ATTENTION:

1. ORGANIZATION - FROM COST TO PROFIT CENTERS (lines of business)

ENTEL currently is structured as a public monopoly enterprise and as such is not positioned for entering into a liberalized telecom marketplace. The current structure features a horizontal organizational responsibility; each major department is defined strictly by function for all customer services and products (e.g. finance and administration, commercial and operations, personnel/training, and network/technology). Each department essentially represents a cost center of the corporate entity.

The future organizational structure should be market-oriented, meaning that the responsibilities of the various functional departments listed above will have responsibility to directly support profit centers defined by line-of-business (e.g. residence services, business services, data services, fax, etc.) The responsibility for line-of-business profitability will lie in the commercial or marketing organization (product management). The product management team will consist of direct representatives from the network/technology, finance and other departments required to support a high level of customer service. In the case of very small product lines of course, individual managers' time may be spread among many different line-of-business.

The new organizational structure does not necessarily imply a radical change in reporting structures for all levels of management. The line reporting may often remain the same as before, but there will definitely be a change in individual employee's responsibility. Those employees which are assigned to a given line-of-business are responsible for providing on-going and direct support to the product management organization, regardless of what organization the employee is in. A good example is technical and operations department employees which support marketing and sales. While these employees may continue to directly report to supervisors in their own department, they deal directly with product management as direct staff support, crossing straight through the departments and not upward through the old chain of command. This is a vertical management structure which follows products and services, not job functions.

In order to give maximum incentives for management efficiency, government interference in all aspects of operations of the enterprise should be minimized. Specifically, the cumbersome procurement practices should be replaced by free market procurement processes.

2. COST ACCOUNTING/MANAGEMENT INFORMATION & CONTROL SYSTEMS

ENTEL's current accounting and management information systems are not designed to support a market-driven organizational structure and must be altered. Costs should be tracked as they are incurred and classified into the various lines-of-business responsible for such costs. In the case of joint and common overhead costs, arbitrary cost allocations should be avoided. The profits from the direct revenues and costs of each line-of-business will contribute to covering the total costs of the corporation including overhead. Tariff rates are set to recover all of the costs of the corporation including a reasonable rate-of-return, and should be submitted to DGT for approval.

The new cost accounting systems must be set up to provide product managers, the finance department, and upper management with timely reports regarding the profitability of each major business segment. New management information systems will be required.

3. PERSONNEL POLICY

Government should be kept out of the personnel process as ENTEL enters a new liberalized environment. If ENTEL managers are to be responsible and accountable for financial performance, they must be given complete control of personnel practices. Personnel, as well as procurement are critical variables in the profitability picture which must be under the control of management; if not there will not be enough tools available to management to directly influence profitability.

The new liberalized environment will also require implementation of a comprehensive personnel evaluation system where all of the employee performance indicators are the same for all employees--top to bottom. Training is a key ingredient to acceptance of the new organizational structure and should be emphasized and carried out as early as practicable.

VI FINANCIAL CHARACTERISTICS

2.0 Basic Industry Characteristics

This section presents basic industry characteristics for the telecom sector in Bolivia.

Table 1 provides investment data (costs) for ENTEL. These data are useful for evaluating the level of investment per subscriber access line and the rate of capital turnover (depreciation) and capital additions (new construction). Also included is an analysis of cash flows, net income and rate-of-return. These data are valuable for reporting and tracking the investment and financial performance of ENTEL. The various data items and ratios listed on the left column are meaningful, however the actual data input must be viewed with

caution; due to lack of accurate accounting data, the data in Table 1 may include some errors. Table 2 provides an analysis of costs and revenues for ENTEL's toll service business. These data are useful to examine the profitability of toll service on average and on the margin.

VII SUMMARY OF RECOMMENDATIONS

The visiting consultants' recommendations can be summarized as follows:

-Need to invigorate Entel as the backbone of Bolivia's telecommunications sector.

-Separate ENTEL's commercially viable sources from social services.

-Establish telecommunications tax, creation of 2 funds:
Rural Development Fund to contract out rural service.
High Technology Development Fund

-Free ENTEL from Government interference in staffing and procurement.

-Open ENTEL's business (long distance).

-Encourage ENTEL to enter new services.

-In transition, create performance contract.

-Integrate performance measures, compare them to other countries' improvements.

-Give ENTEL incentives to improve.

-Strengthen DGT, financed from telecommunications tax.

-Co-ops should consider reducing up-front local charge for line, provide options for lower-initial cost / monthly charge subscription.

-Co-ops should increase local monthly charge.

-Co-ops and ENTEL should develop and implement interconnection tariff on a non-discriminatory basis.

-ENTEL should implement accounting, monitoring, quality, performance, and reporting systems.

-ENTEL corporate organization should be altered to fit a competitive environment.

-Introduce "matrix" system of management following lines of business.

-Move from cost centers to profit centers.

-ENTEL should develop a long-term strategic plan.

The visiting consultants recommend that action be taken on these items as soon as possible. It is their view that many of these recommendations should be incorporated into a performance contract between the Government and ENTEL.

With these reforms, Bolivia will modernize an industry that is critical to a competitive economy, and it will assume a leadership role in policy innovation in Latin America.

Appendix 1

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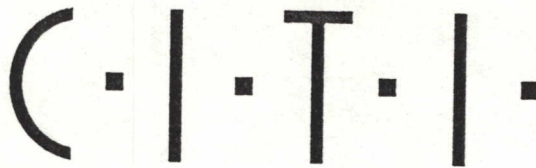
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Edgar Saravia
Ministerio de Planeamiento
y Coordinacion La Paz

Dear Mr. Saravia:

The Columbia Institute for Tele-Information Studies at Columbia University, has initiated a research project on the subject of telecommunications in Latin America.

You have been recommended to us as an expert in Bolivia's telecommunications. Thus, the Editorial Committee coordinating this project invites you to contribute a chapter on telecommunications in Colombia, and to join an excellent group of contributors.

The Institute is a non-profit research organization, independent of government or business, with an international reputation. It has recently completed regional studies on telecommunications in Europe and the Pacific Basin.

The project will result in an edited book to be published possibly by Oxford University Press as rest of a regional series. The book will comprise the articles written by one or more experts on each of the Latin American countries or subregions.

The articles we seek should present detailed, analytical accounts of the development of the telecommunications sector in the specific nation or subregion of Latin America, including, generally, the suggested issues listed in the enclosed outline.

The length of the articles depends on the subject matter, but about 25 to 40 double-spaced pages will be appropriate.

If you are unable to participate, we would very much appreciate your recommending us another person who may be appropriate.

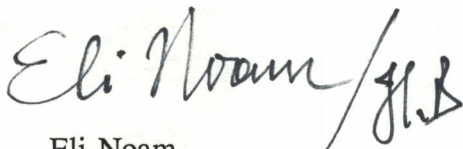
I hope that you will be able to reply before August 6, 1991, to:

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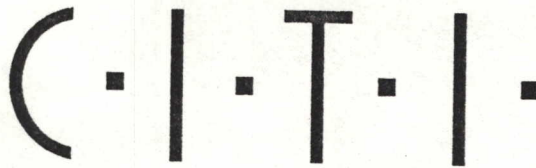
You can also contact me for more details.

Thank you for your consideration. I look forward to hearing from you.


Sincerely,

A handwritten signature in cursive script that reads "Eli Noam" followed by a stylized monogram or initials, possibly "J.N.B.", written in a dark ink.

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SUGGESTED OUTLINE FOR A COUNTRY ANALYSIS

I. The Past

1. Overview of the legal, economic, and political context in which telecommunications were introduced.
2. Introduction of the telegraph and of the telephone.
3. Early institutional structures for telecommunications
4. Introduction of cable television (if existing).
5. Development of the telecommunications and cable television industry. Special circumstances and features of the country that affect the telecommunications network and policy.

II. The Present

1. Current institutional structure of telecommunications operations and regulation.
2. Nature of the regulatory oversight by the government in law and in practice.
3. Interests that the system seeks to protect.
4. Extent of universal service (availability and penetration of service). Major challenges in extending the network.
5. Financial health and independence (from central government) of the telecommunications administration.
6. Collaboration from other countries in the development of the domestic network (e.g., foreign investment, bilateral or multilateral agreements, foreign suppliers, etc.).

7. Trends in technology adoption.
8. Types of services offered or to be offered.
9. System of telecommunications tariffs.
10. Procurement policies. Approval mechanism for equipment.
11. Policy towards supply of customer equipment, imports.
12. Regional collaboration with neighboring states.
13. Current structure of cable television: ownership, legal regime, economic aspects, etc.
14. The emergence of the electronics industry (computers, office equipment, components, software, databases). Success and problems. Foreign involvements. Governmental support policies for electronics industry.
15. The nature of a communications intensive service sector (i.e., financial services, international trade, etc.). Private intra-firm networks. Political influence of service sector.
16. Nature of disagreements, if any, within the government on telecommunications policy. Are there positions rival to the telecommunications agency, such as by ministries of interior, industry, or monopoly commissions?

III. The Future

1. Discussion on changes in telecommunications policy (e.g., government commissions; reports; lawsuits; opposition proposals; academic or journalistic criticism or proposals).
2. Positions or leanings of political parties or interest groupings (if applicable) on telecommunications policy, such as user and employee unions.
3. Are there exceptions to the telecommunications monopoly? Policy towards and usage of private (leased) lines. Existence and status of value added services.
4. Domestic satellite projects.
5. Policy on interconnection with international carriers.

6. Changes in cable television structure, penetration, programming, etc.
7. Taking the long view, how is the present system likely to change? What are the implications for various interests? What will be the role of government and the private sector? Of domestic and international participants? Of regional collaboration? How will the country regulate or deregulate its communications system?

