

6. Future Directions for Public Investment

DRAFT

THE KYRGYZ REPUBLIC

INVESTING IN REFORM

FUTURE DIRECTIONS FOR PUBLIC INVESTMENT

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ACRONYMS

AsDB	-	Asian Development Bank
CG	-	Consultative Group (of donor agencies on Kyrgyzstan)
CIS	-	Commonwealth of Independent States
DM	-	Deutsche Mark
EBRD	-	European Bank for Reconstruction and Development
EC	-	European Commission
ERF	-	Enterprise Restructuring Fund
ERRA	-	Enterprise Reform and Resolution Agency
FSU	-	Former Soviet Union
GDP	-	Gross Domestic Product
Goskominvest	-	State Committee on Foreign Investments and Economic Assistance
Goskompriroda	-	State Committee on the Environment
Gosteleradio	-	State National Television and Radio Broadcasting Company
IDA	-	International Development Association
IFC	-	International Finance Corporation
KfW	-	Kreditanstalt für Wiederaufbau (German aid agency)
Km	-	Kilometre
KSEC	-	Kyrgyzstan State Energy Company
m	-	Metre
MW	-	Megawatt
NGO	-	Non-governmental organisation
OECD	-	(Japanese) Overseas Economic Cooperation Fund
PIP	-	Public Investment Programme
SME	-	Small and medium enterprise
SNBC	-	State National Television and Radio Broadcasting Company
TACIS	-	Technical Assistance to the Commonwealth of Independent States (EC programme)
UNDP	-	United Nations Development Programme
USAID	-	United States Agency for International Development
VCF	-	Venture Capital Fund
WHO	-	World Health Organisation

CURRENCY UNITS

US\$1.00 = Som 12.3 (April 1994 rate)

INVESTING IN REFORM

FUTURE DIRECTIONS FOR PUBLIC INVESTMENT

1. INTRODUCTION

1.1 At the 1992 Consultative Group (CG) meeting, the Kyrgyz Government presented a list of 28 investment projects for which it was seeking financing. At the time it was recognised that considerable additional work would be involved in developing and elaborating this investment programme. In particular, there was a need to update project specifications and costings and to undertake a more detailed review of investment requirements in each sector, linked to the implementation of the wider economic reform programme.

1.2 In a few sectors, most notably agriculture, energy, communications, health and education, considerable progress is now being made in adapting the policy framework, redefining the role of government and identifying the most urgent public investments. In some of these sectors contacts have been initiated with external financing agencies regarding the definition and financing of specific investment projects, and the first project financing agreements are shortly to be concluded. In other sectors the reform process is less advanced, and future priorities for public sector investment remain unclear.

1.3 This paper considers the role of public investment in Kyrgyzstan¹. It begins by setting out the emerging framework for public investment (Section 2). Key features include: i) the changed role of public investment in a market economy and the need to link investment allocations to the wider process of sectoral reform; ii) the severe domestic financing constraints which will require the major share of public investment to be financed from external sources; and iii) the need to strengthen procedures for the management of public investment. The paper then goes on to identify priority areas for future public investment (Section 3). The remaining sections provide an initial assessment of the government's strategies and investment priorities in each of the main sectors of the economy (Section 4-10).

1.4 Over the next 12 months the government intends to develop further the framework set out in this paper and prepare a comprehensive public investment programme (PIP) covering the 1996-98 period.

This paper is based on an analysis of public investment requirements in each of the main sectors of the economy, and no attempt has been made to distinguish between central and local government investment programmes. It is planned that the 1996-98 PIP will also consider the respective roles of central and local government investment programmes.

2. THE EMERGING FRAMEWORK FOR PUBLIC INVESTMENT

The Changing Role of Public Investment

2.1 Under the centrally planned economy, public investment affected all sectors of the economy and all levels of economic activity. The selection of investment projects was based on administratively determined needs. Project design was based on technical norms and standards which were not always appropriate in reflecting the needs of the economy. There was little or no financial and economic analysis of investment projects, and little attention was given to determining priorities between competing investment demands. In the later years of the USSR investment levels began to fall dramatically, and infrastructure maintenance became increasingly inadequate. The consequences today are an economic infrastructure which in many sectors lacks balance and which is facing rapid deterioration as a consequence of continuing deficiencies in maintenance provision.

2.2 In addressing these issues the government recognises that the pattern of public investment will need to change radically. Whereas the state was formerly responsible for the major share of investment in the Kyrgyz economy, in future private sector investment will predominate². In the market economy which is now being created, the role of public sector investment will need to become more focused and linked to supporting the role of the government as a provider of essential services in areas where markets, left to themselves, are likely to be inadequate. These currently include:

- basic services such as health, education and the provision of a social safety net;
- utilities such as power, water supply and sanitation;
- infrastructure covering roads, railways, civil aviation and telecommunications; and
- services such as research, extension and market information aimed at assisting the development of the private sector³.

2.3 The changes in the emphasis of government programmes in the major sectors are also being reflected in changes in the definition and concept of public investment. The former emphasis on investment in capital works and equipment is being broadened to include investment in the restructuring and strengthening of institutional capacities and services. In some cases investment projects will need to include elements of technical assistance and initial operational financing in addition to expenditures on capital items.

Financing Public Investment

2.4 Domestic budgetary allocations for public investment have declined rapidly in recent years, from nearly 14% of GDP in 1988 to a projected 0.7% of GDP in the draft 1994 budget. This rapid decline in investment allocations has been the consequence of three main factors: i) the progressive disengagement of government from responsibility for investment in the enterprise sectors; ii) cessation of transfers from the former USSR government for financing investment by Union enterprises and institutions; and iii) the on-going fiscal crisis, which has resulted in a sharp decline in the real level of budgetary allocations.

¹ The specific measures being taken to promote direct investment in enterprises by private and foreign investors are addressed in a separate paper to the CG meeting.

² In the medium and longer term the government intends to encourage direct private investment and possible eventual privatisation of commercial utilities, such as energy and gas, and of telecommunications services.

2.5 The investment allocation in the 1994 budget is equivalent to \$23.8 million⁴. The on-going fiscal crisis means that this level of financing is unlikely to increase significantly over the medium term and may even be difficult to sustain in the event of further reductions in GDP. The government's ability to increase public investment above current levels will therefore depend on its success in raising external financing. Due to the government's severely limited debt servicing capacities, the major share of this financing will need to be obtained on concessional terms. In securing external funding for public investment projects, the government's approach will therefore be:

- to use grant and concessional loan financing for institutional and public infrastructure projects; and
- to restrict long-term non-concessional financing to projects, such as those in energy and telecommunications, which can be expected to generate a commercial return.

2.6 Uncertainties over future aid commitments mean that it is difficult to anticipate levels of external financing for the public investment programme. For 1994, total disbursements of (non-FSU) external assistance have been projected at around \$280 million. The major share of this financing is for food aid and import and balance of payments support, with a significant allocation (around \$30 million) for technical assistance. Some of these aid commitments include a public investment component, but information on the extent of such allocations is incomplete. However, they are unlikely to exceed \$30-\$40 million.

2.7 While it will continue to be essential to sustain high levels of balance of payments support in order to underpin the macroeconomic stabilisation programme, the government anticipates that the focus of external assistance programmes will increasingly switch towards investment project financing. This trend is already becoming apparent in the growing interest being shown by the aid community in financing public investment projects. Allowing for the time required for the negotiation of project financing and the generally slower rates of disbursement for this type of assistance, an initial analysis suggests that disbursements of external assistance on public investment projects could reach \$100-\$120 million by 1998.

2.8 A further factor that can be expected to limit the level of public investment financing is the capacity of the government to meet its local financing obligations on externally assisted projects. Even though the major share of the domestic investment budget will be allocated to such projects, it is unlikely that the government will be able to finance on average more than 10% of total project expenditures. In negotiating project financing packages, the government will therefore seek to maximise the share of external financing.

2.9 Taking these factors into account it is unlikely that the annual level of public investment expenditures, both domestically and externally financed, will increase to more than \$125-\$145 million by 1998. The government therefore intends to develop its public investment proposals within this resource constraint. This will ensure that only the highest priority projects in each sector are considered for financing. It will also mean that project design criteria will have to emphasise cost effectiveness in both technical design and implementation arrangements.

⁴ Som 292.2 million converted at an exchange rate of Som 12.3=US\$1.00 (April 1994 rate).

Strengthening Public Investment Management

2.10 The government is introducing a number of measures aimed at strengthening the management of public investment. These include: i) preparing a full public investment programme (PIP); ii) strengthening, with the assistance of the external financing agencies, procedures for the identification, preparation and appraisal of investment projects; and iii) developing institutional capacities within government for the planning and management of public investment projects.

2.11 Preparation of the 1996-98 Public Investment Programme. Over the next 12 months it is intended to prepare a comprehensive PIP. This will develop the preliminary framework for public investment outlined in this paper and will include: i) an assessment of the availability of public investment resources for the 1996-98 period; ii) a detailed analysis of the priority areas for public investment both between and within sectors; and iii) an outline of the investment projects which the government intends to implement, consistent with both the resource framework and investment priorities. The PIP, which will include projects which are both on-going and awaiting financing, is expected to assist in strengthening the management of public sector investment by:

- translating sector policies and strategies into a realistic set of investment programmes and projects;
- establishing a framework for matching capital aid allocations with the medium-term investment needs of the economy;
- projecting future capital expenditures against a realistic assessment of available resources that takes into account recurrent expenditure demands; and
- providing a framework and schedule for the preparation, implementation, monitoring and evaluation of investment projects.

Following completion of the 1996-98 investment programme, it is intended that the PIP should be updated (rolled over) annually in order to maintain its three year time horizon and ensure its continued relevance as a means of planning the allocation of investment resources.

2.12 Identification, Preparation and Appraisal of Investment Projects. Many of the projects referred to in the later sections of this paper still require detailed preparation and appraisal before they can be financed. For the time being, the capacities within government to undertake project identification, preparation and appraisal are very limited, particularly in the areas of management, and financial and economic analysis. Considerable assistance is already being received from external financing agencies with the identification and preparation of public investment projects. This is being provided both directly to the government through the provision of technical assistance and indirectly through the project missions undertaken by agency staff in connection with the development of assistance programmes to Kyrgyzstan. The government recognises that it will continue to require high quality and impartial advice in the development and analysis of public investment proposals, particularly in the areas of economic and financial analysis.

2.13 Institutional Framework. The government also proposes to strengthen its capacities for the planning and management of public investment projects. It is intended to do this in three main ways:

- First, a PIP coordination unit will be established, which will be responsible for the preparation and monitoring of the overall investment programme. This unit will also advise sector ministries on the economic and financial issues relating to their investment programmes and will be responsible for the final review by government of project proposals submitted for

external financing. A formal decision on the establishment and location of this unit will be made by the government in the near future.

- Second, sector ministries will be encouraged to establish policy and programme development units to undertake analysis of sectoral policies and of the government's expenditure programme in their sector. These units would also be responsible for determining public investment priorities at the sectoral level and coordinating the preparation of investment project proposals. A number of sectors (for example, agriculture, energy and health) are already receiving, or are due to receive, technical assistance in establishing such capacities.
- Third, where necessary, project coordination units will be established to oversee project implementation and ensure the effective administration of project finances. In the medium term, project management will be facilitated by the measures being taken to strengthen budgeting, procurement, accounting and audit procedures for government expenditures⁵.

To assist in building these capacities, the government is seeking technical assistance for the establishment of a PIP Coordination Unit⁶ and more generally in providing training on public investment project analysis techniques.

3. PRIORITY AREAS FOR PUBLIC INVESTMENT

General Considerations

3.1 The deteriorating state of Kyrgyzstan's infrastructure highlights the requirement for increased public investment allocations. These will be necessary if the economic transition is not to be stalled by the failure to provide the basic levels of infrastructure and public services that are needed in a modern market economy.

3.2 The government therefore recognises that in determining public investment allocations the most urgent priority is to rehabilitate and ensure adequate maintenance provision for existing infrastructure rather than to complete or initiate new investments. However, there will be requirements for filling critical gaps in infrastructure, as with the creation of a modern telecommunications network, and for creating the institutional capacities to support the reform of essential governmental operations, as with the measures to strengthen social insurance and social assistance programmes. In the medium term, major investment in hydropower capacity is likely to be justified, based on Kyrgyzstan's comparative advantage as a regional energy supplier. In determining public investment priorities between and within sectors a number of other factors will also need to be taken into consideration. These include:

- The role of government as an investor in a sector. Except for the major utilities, the government will no longer engage directly in investment in commercial enterprise operations. This will have two implications for public investment. First, the proportion of investment resources allocated to the enterprise sectors will decline. Second, the projects which will be financed in these sectors should focus on the creation of an enabling business environment

⁵ For example, a new Treasury system is being introduced with the support of an IMF Adviser, attached to the Ministry of Finance.

⁶ The government is in discussion with UNDP and USAID about the provision of technical assistance for the proposed PIP Coordination Unit.

that encourages private sector and direct foreign investment. In the short term, until capacities in the financial services sector are built up, there are requirements for lines of credit to finance enterprise restructuring.

- The financing limitations faced by the government. As noted earlier, investment priorities will need to be determined in conjunction with a realistic assessment of the available resources. Individual projects will have to be reviewed against competing demands for investment resources, and many potentially viable projects will need to be deferred.
- The changing patterns of demand as the economy restructures. Falling GDP and relative adjustments in prices are bringing about changes in the pattern of demand for goods and services which will affect future infrastructure requirements in the economy, particularly in areas such as transport and energy. These will have implications for the scale and timing of future infrastructure investment in these sectors. Public investment decision-making will need to reflect these changes.
- Linking public investment decisions to wider sectoral reforms. For example, in the health sector it is recognised that there is a need to move away from the present emphasis on hospital treatment and care towards ambulatory and community health services, which can be delivered at much lower cost. Public investment decisions will need to reflect and support such policy reforms.
- Linking public investment decisions to improved cost recovery measures. One reason why public investment demands are now so large is the inadequate past provision for maintenance expenditures. Before further investment is sanctioned, the government will need to ensure that adequate arrangements are in place for financing subsequent maintenance requirements and, in the case of commercial utilities, to service the capital that is being invested. This will require the raising of tariffs as well as other cost recovery measures, such as increased road user taxation.
- Developments in neighbouring countries. A number of public investment projects, for example in the energy sector or in railway transport, will involve cooperation with neighbouring countries or depend on supplying regional markets. Public investment decisions will need to take account of developments in the wider regional economy and, in some cases, will depend on concluding formal contracts with neighbouring governments or regional enterprises.

Sectoral Priorities

3.3 Subsequent sections of this paper (Sections 4-10) identify the likely priority areas for public investment in the main sectors of the economy in the next few years. The coverage is not exhaustive since in some sectors, such as forestry and minerals, requirements still have to be assessed. In other sectors, such as transport, education, and water and sanitation services, there is still much work to be done in defining the policy framework and in determining the priority requirements for supporting public investment projects. The proposals for these sectors are therefore very provisional and emphasise the importance of initial support for the necessary policy analysis in order to provide the basis for developing a sectoral investment programme. In the energy, communications and agriculture sectors, where comprehensive investment programmes are now being developed, it has been possible to identify project requirements with greater clarity.

3.4 The policy matrix in Box 1 identifies the key policy framework measures and supporting public investment requirements in each of the sector programmes described in Sections 4-10. Potential sources of external financing for investment projects have been indicated for those investments where discussions with external agencies have been initiated. Because many of the proposed investment projects are still at the "concept" stage, no attempt has been made to estimate investment costs, although where likely costs are known these have been indicated in the subsequent description of the sectoral programmes. Developing realistic project costings and linking these to the expected resource framework will be an important task in the preparation of the 1996-98 PIP.

Box 1: PRIORITY AREAS FOR PUBLIC INVESTMENT

POLICY FRAMEWORK MEASURES

Agriculture and Irrigation

- Complete land reforms
- Privatised input supply, marketing and processing enterprises
- Facilitate establishment of rural finance and credit services
- Introduce new organisational framework of irrigation management
- Develop technical and advisory services

Enterprise Sectors

- Establish enabling legislative and regulatory framework
- Liberalise prices and trading environment
- Privatised industrial, trade, transport enterprises
- Corporatise state enterprises to improve management and financial performance
- Liquidate/curtail operations of largest loss-making state enterprises
- Facilitate development of financial services sector
- Promote direct foreign investment
- Introduce management skills programme

Energy

- Raise energy prices progressively to economic cost levels
- Develop legal and regulatory framework that encourages foreign investment
- Introduce compensatory measures to mitigate effects of energy price increases on low-income households

SUPPORTING PUBLIC INVESTMENT PRIORITIES

- Agricultural Support Services: up-grading of technical advisory services and infrastructure; establishment of project development unit. (IDA?)
- Sheep and Wool Improvement: restructuring of veterinary, research and advisory services; promotion of pasture grazing associations. (IDA?)
- Rural Financial Services: credit lines to pilot rural banks; establishment of farmer association and village based financial services
- Land Reform and Farm Restructuring: cadastral mapping; establishment of land and farm registry; farm restructuring pilot programme. (IDA?)
- Irrigation Rehabilitation: rehabilitation of existing irrigation schemes; restructuring of management and maintenance services; promotion of water users' associations
- Rural Roads Rehabilitation: development of rural roads rehabilitation and maintenance capacities; promotion of rural transport services
- Export Production Promotion: credit lines; management training and advisory services for agricultural exporters
- Agricultural Machinery Spares: credit lines for agricultural machinery spares. (Germany)

- Enterprise Restructuring and Finance: credit lines for enterprise restructuring; management training; institution building. (IDA)
- SME Development: SME policy coordination; SME information programme; business advisory services; credit line for SMEs. (Germany)

- Power Distribution Network: substation equipment replacement; replacement of cables, substations, transformers; distribution network extension. (IDA)
- Urban Heating: boiler control equipment installation; pipe replacement; meter installation. (IDA)
- Oil and Gas Exploration: policy, legal and taxation framework; analysis of geological and geophysical data. (IDA)
- Kambar Ata Hydropower Plant: completion of on-going project. (EBRD?, AsDB?)
- Completion of Lower Naryn Cascade Hydropower Plants: completion of Tash-Kumir and Shamaldi-Sai projects.

Box 1 (cont.): PRIORITY AREAS FOR PUBLIC INVESTMENT

POLICY FRAMEWORK MEASURES

Transport

- Maintain adequate transport infrastructure.
- Privatised road transport services, except urban bus services.
- Commercialise rail, air and urban bus services.
- Set appropriate pricing and taxation policies.
- Establish enabling legislative and regulatory framework.

Communications

- Promote development of modern communications services.
- Establish appropriate regulatory framework.
- Strengthen autonomy, accountability and financial viability of enterprises.
- Promote private sector participation and competition.

Environmental Services

- Ensure maintenance of existing water supply and sanitation systems.
- Provide additional infrastructure to alleviate threats to human health and environment.
- Introduce improved cost recovery measures.
- Promote environmentally sensitive resource use through legislation, regulation and awareness.
- Develop programmes to address environmental clean-up and resource conservation issues.

Social Services

- Health: i) maintain quality and access to services; ii) introduce limited cost recovery; iii) sanction private medical practice; iv) improve management and monitoring of services.
- Education: i) rehabilitate and re-equip facilities recently damaged; ii) ensure provision for basic operational expenses; iii) update and revise curricula; iv) prepare and introduce revised textbooks and teaching materials; v) improve staff recruitment, training and retraining; vi) improve education management.
- Social Safety Net: i) target social assistance benefits at most vulnerable groups; ii) improve administration of benefits system; iii) develop labour market services to provide job skills retraining and vacancy information.

SUPPORTING PUBLIC INVESTMENT PRIORITIES

- Road Rehabilitation and Maintenance: establishment of road repair and maintenance programme; assistance to establish a road maintenance authority.
- Rehabilitation of Bishkek-Osh Road: rehabilitation and reconstruction of road sections; reconstruction of tunnel.
- Railway Development: possible requirements for track and signalling improvements; modernised freight handling facilities, electrification.
- Urban Bus Services: fleet modernisation linked to commercialisation.
- Civil Aviation: requirements for equipment rehabilitation and replacement based on EC/TACIS recommendations.

- Telecommunications Modernisation: replacement of exchanges and cable networks; fibre optic cable installation; installation of microwave links; computer equipment; management training. (IDA, EBRD)

- Water and Sanitation Services: sector assessment; policy and strategy development; identification, preparation and implementation of priority investment projects.
- Environmental Preservation and Clean-Up: review and updating of environmental policies and programmes; identification of priority public investment projects.

- Health Service Restructuring: institutional strengthening to implement sector reforms; rehabilitation and re-equipping of health facilities.
- Equipping of Bishkek Children's Hospital: equipping of children's hospital. (Japan)
- Education Rehabilitation and Development: rehabilitation and re-equipping of schools; production of textbooks and new teaching materials; assistance with development of future investment programme.
- Social Safety Net System Development: technical assistance to implement benefit system; equipping of benefit offices; computer equipment; establishment of project coordination unit. (IDA)

4. AGRICULTURE AND IRRIGATION

Background

4.1 The agriculture sector accounts for around 30% of GDP and is the largest source of employment in Kyrgyzstan. Livestock production, mainly mutton, beef, milk and wool, predominates and represented 53% of the value of the country's output in 1991. However, production has been declining as a result of overgrazing and, more recently, shortages of protein feed and animal vaccines. The total area of arable land is 1.4 million hectares, of which 1.1 million is irrigated. Of the total arable area, 47% is used for fodder, 46% for grain (wheat, barley and a small amount of maize), and 5% for cotton and tobacco production. Fruit and vegetables are grown on the remaining land. Production of all crops has declined in recent years.

4.2 Under the USSR, agricultural production was organised centrally. The state controlled most agricultural assets under the system of state and collective farms. Marketing was organised by the state and relied on state orders at fixed prices. Agricultural production was thus carried out with little regard to comparative advantage and efficiency. Since the break-up of the USSR, the government has initiated a series of market reforms in the sector. Privatisation of an initial group of state and collective farms has resulted in the establishment of 18,000 private farms, covering around 9% of total arable land. With the passage of recent land reform legislation, it is expected that the privatisation process will now accelerate, although the government plans in the near future to retain 25% of agricultural land under state control. The state order system was officially abolished in early 1994, and the government now only sets reserve prices for the major agricultural products. However, the state still remains the dominant buyer of many of these products, and there is a need to remove the remaining obstacles to the development of alternative marketing channels. The emerging private sector will also need better access to technical support services, credit, and marketing information.

4.3 The government recognises that greater priority will have to be given to reform of agricultural processing, storage and distribution in order to provide a dynamic and competitive market for the sale of agricultural production. The majority of processing companies are still state-controlled. The low priority given previously to modernisation of these industries means that equipment is outdated and poorly maintained. Hygiene standards and quality control are often poor. Retail outlets of state stores are small and poorly equipped, with little effort to promote sales and with few goods to offer.

4.4 As noted above, arable production is heavily dependent on irrigation. Irrigation infrastructure is extensive. The major systems are generally well managed and maintained, but the distribution systems among and within farms are in poor condition. The problem of operating farm level irrigation systems has been exacerbated by the break-up of the former state farms and cooperatives, which has led to the need to establish appropriate farmer-based organisations for the management and maintenance of irrigation infrastructure. This may include the establishment of water users' associations and will require the introduction of water charges.

4.5 There is a need to build up capacities in the Ministry of Agriculture and the Ministry of Water Resources and Irrigation to plan and manage the reform process in the sector.

Policy Framework

4.6 The role of government in the agriculture sector will be to guide and support the market reform process and establish an appropriate policy, legal and regulatory framework. Policy objectives and strategies for the agricultural sector include:

- completing the land reform process on both the former cooperatives and state farms and promoting land consolidation through the creation of an efficient land market;
- continuing and completing the privatisation of state-owned enterprises in the agricultural input supply, marketing and processing sub-sectors;
- facilitating the establishment of rural finance and credit services that meet the needs of the sector for both seasonal and medium and long-term credit;
- establishing a new organisational framework for the efficient provision of irrigation services to meet the needs of the new farming structure; and
- developing appropriate technical and advisory services that facilitate the development of a market-based agriculture sector.

4.7 An agricultural sector strategy study which has been undertaken in collaboration with the World Bank is due to be finalised shortly. The development of institutional capacities in the sector to manage the agricultural reform process is being supported by EC/TACIS, with additional assistance likely to be provided by the World Bank.

Public Investment Priorities

4.8 The government, with the World Bank, has identified several projects aimed at addressing the present deficiencies in the delivery of technical and management advice to private farmers, as well as strengthening the existing agricultural policy institutions and supporting rural infrastructure. The preparation of the highest priority projects is being financed by a grant from the Japanese government. Since these projects are still at the identification stage, only a brief summary of each is given below⁷.

Agricultural Support Services Project

4.9 This project will address the issue of capacity building within the ministries responsible for agriculture, land and irrigation. This project will provide funding for staff training and education and for the upgrading of agricultural support services and infrastructure. It will also support the establishment of a Project Development Division, which would be responsible for preparing and implementing projects funded by external financing agencies. It is understood that initial finance from IDA may be earmarked for this project. The project will also be backed up by technical assistance being provided by EC/TACIS.

⁷ In addition to these projects, EBRD has proposed to invest in a grain industry project, aimed at increasing production and improving the marketing of grain crops in the Chu Valley and Issyk-Kul regions. The project, which will be undertaken as a joint venture investment, would involve the provision of commercial services to participating farmers. As financing would be provided directly to the joint venture without recourse to any government guarantees, the project does not fall under the public sector investment programme.

Sheep and Wool Improvement Project

4.10 This project is intended to strengthen support services in the sheep and wool industry. It will support the privatisation of veterinary services, establish or strengthen programmes for animal breeding and artificial insemination, distribute veterinary medicines, establish pasture grazing associations, improve productivity of fodder and pasture lands, and provide support services to livestock producers. IDA finance to support part of the project may become available. Additional technical assistance is to be provided by EC/TACIS.

Rural Financial Services Project

4.11 The objective of this project is to promote the development of economically viable financial institutions and provide a line of credit to pilot rural banks. Loans from these banks would be provided to farmers on commercial terms. The project would also support the establishment of pilot farmers' associations or other village organisations to provide financial services.

Land Reform and Farm Restructuring Project

4.12 This project aims to support the land reform process. Specific components of the project may include assistance with land cadastral mapping, the establishment of a land and farm registration system, and the setting up of pilot farm restructuring programmes.

Irrigation Rehabilitation Project

4.13 Based on the findings of the irrigation rehabilitation study which is being prepared under the ongoing IDA Rehabilitation Credit, this project would aim to carry out essential rehabilitation and maintenance of the existing irrigation system. It would also support the establishment of water users' associations to manage on-farm water distribution and undertake future maintenance of community-level irrigation systems.

Rural Roads Rehabilitation Project

4.14 The objective of this project is to support the management and maintenance of the existing network of rural roads, including the development of on-farm roads. It will also support the private sector to upgrade transportation services on rural roads.

Export Production Promotion Project

4.15 This project would aim to strengthen private sector capacity in export marketing of specific commodities (cotton, fruits and vegetables). It would provide finance to assist exporting farmers, assistance with improvements in technology, and technical and management training.

Agricultural Machinery Spares

4.16 This project will provide spare parts for agricultural machinery. Funding for the project is being provided through a DM 5 million concessional credit from the German aid agency KfW.

5. ENTERPRISE SECTOR

Background

5.1 Since 1992 the government has been implementing a comprehensive programme of reform aimed at restructuring the enterprise sectors. Key elements of the programme are privatisation, enterprise reform and restructuring, reform in the financial sector, liberalisation of markets and elimination of price controls, and the establishment of an enabling legal framework and commercial code. Of these reforms, privatisation is the most advanced. By December 1993, around 4,400 enterprises, accounting for 33% of all fixed enterprise assets, had been wholly or partially privatised, with an additional 47 enterprises being privatised during the first quarter of 1994. Progress has also been made in removing legal barriers to private sector participation in trade and distribution, and in the establishment of a two-tier banking system.

5.2 The initial impact of privatisation on enterprise efficiency has been reduced by the tendency to transfer share ownership to enterprise managers and workers. In most cases, this has meant that little real change has occurred in enterprise management and operations. At the same time, relatively little success has been achieved with reforming and restructuring those enterprises which remain either wholly or partially state-owned. The measures that need to be undertaken include: i) improvements in corporate governance; ii) the imposition of financial discipline and curtailing of credit to enterprises which are not financially viable; and iii) the application of the recently passed bankruptcy legislation; and iv) and the training of enterprise managers in areas such as general management, marketing, purchasing and financial accountancy. The enterprises emerging from this process will require considerable assistance with the development of their business management capabilities⁸ as well as access to new investment and working capital. There is a particular need to focus on the problems of the large loss-making state enterprises, which are presently being sustained through directed credits from the banking sector. Restructuring and liquidation of these enterprises present particular difficulties because of both the scale of their operations and the size of their workforces.

5.3 The government is aware of the need to accelerate the pace of reform in the enterprise sector, not least because the uncertainty caused by the impending privatisation has postponed investment decisions. A revised privatisation programme is being initiated, which will be based primarily on competitive bids and cash auctions for smaller enterprises and competitive tenders for the majority of medium and large-scale enterprises⁹. In this way, it is intended to ensure that future rounds of privatisation will be transparent, competitive, open to participation by the population as a whole, and result in improvements in enterprise management and efficiency. Measures are also being taken to promote reform and restructuring in state enterprises through establishing corporate management and improved financial management procedures. The Enterprise Reform and Resolution Agency (ERRA) due to be established will address issues of restructuring and liquidation of the large loss-making enterprises.

5.4 Experience from other transforming economies suggests that the emerging small and medium enterprise (SME) sector will become the engine of future economic growth. Potential entrepreneurs face

⁸ The International Executive Service Corps (USA), UNISTAR, the German Service Expert Corps and other schemes are assisting some businesses.

⁹ A mass privatisation programme is under way, in which 25% of the shares of all joint-stock companies are being auctioned to the public.

formidable difficulties in establishing SMEs. These include inexperience in business management and accountancy practices, absence of an appropriate legal framework and commercial code, obstructive official regulation, lack of competitive markets, and difficulties in obtaining investment and credit financing. Nevertheless, a large number of SMEs have been established. Many of these enterprises have benefitted from technical assistance and advisory services that have been supported directly by some of the bilateral agencies and foreign NGOs.

Policy Framework

5.5 Government policies for the development of the enterprise sectors involve:

- establishment of an enabling legislative and regulatory framework;
- price and trade liberalisation;
- further privatisation of state enterprises in the industrial, trade and transport sectors;
- restructuring of the remaining state enterprises into corporate entities in order to provide incentives for improved management and financial performance;
- liquidation and rationalisation of operations of the largest loss-making state enterprises;
- establishment of a modern financial services sector;
- the promotion of direct foreign investment; and
- the introduction of programmes for the development of enterprise management skills.

5.6 The government has been in discussion with the World Bank about the privatisation programme, out of which two lending operations have emerged. One of these proposes to address the privatisation programme itself, by supporting modifications to some elements of the policies, addressing the situation of the larger enterprises through the establishment of the ERRA and legal reform. Other donors are also supporting implementation of the programme. The second lending operation will assist enterprises post-privatisation by providing financing and technical assistance. Associated with this will be a venture capital fund, financed by both private and institutional (IFC/EBRD) investors. This project will also initiate work on the financial sector, which will need to be strengthened in order to meet the financial needs of the newly-privatised enterprises. A number of other agencies are planning lines of credit or technical assistance for privatised enterprises. The government is also planning to initiate a foreign investment promotion scheme and is seeking advice on how to do so.

Public Investment Priorities

5.7 The enterprise reform programme requires that the government should cease to invest directly in individual enterprises, except in the case of some public services and utilities. Retained earnings, venture capital and borrowing from the financial sector will increasingly provide the financing for future enterprise investment. However, in the short term, because of the lack of financial intermediation through the banking system, the government will need to be involved in establishing and financing lines of credit to support enterprise restructuring and development and in ensuring access to management advisory services. Several programmes are currently expected to act as conduits for channelling resources provided under external assistance programmes to the enterprise sectors.

Enterprise Restructuring and Finance Project

5.8 This project will provide assistance for the restructuring and development of privatised enterprises and joint ventures. It will have three main components: i) an Enterprise Restructuring Fund (ERF), providing lines of credit for short and medium-term financing of investment and working capital; ii) a

venture capital component, involving the establishment of a Venture Capital Fund (VCF), which would be financed outside of the public investment programme; iii) technical assistance for studies of individual enterprises, preparation of business plans, and provision of management and accountancy training; and iv) technical assistance to support institution building in the financial services sector. It is expected that the ERF and VCF will be managed by an experienced fund management company from the USA, which would also be the major shareholder in the VCF. The technical assistance component will be managed by the State Property Fund (for the enterprise portion) and the National Bank of Kyrgyzstan (for the financial services component). In its initial phase, the project will assist export-oriented enterprises, but the government is keen to extend the programme to include enterprises producing for local markets as well. IDA financing of \$15 million is envisaged for the ERF and technical assistance components of the project. Establishment of the VCF will be undertaken by the International Finance Corporation (IFC).

SME Development Programme

5.9 The government will continue to encourage NGO and bilateral initiatives which directly facilitate and assist the development of the emerging SME sector¹⁰. It also intends to establish a national programme for SME sector development which would be financed from the public investment programme and supported by official aid and technical assistance programmes. The programme would: i) be responsible for developing government policies aimed at facilitating development of SMEs; ii) promote coordination and exchange of experiences among the different programmes and agencies operating in the SME sector; iii) develop information programmes aimed at SMEs; iv) encourage the development of business advisory services for SMEs; and v) establish a line of credit for SME formation, pending the development of business credit services within the financial services sector. The programme would be managed by a semi-autonomous agency which would initially report to Goskominvest. An initial line of credit is to be established with an expected DM 10 million soft loan from KfW. The EBRD is also preparing a line of credit.

6. ENERGY

Background

6.1 Kyrgyzstan has significant energy resources. These include a large hydroelectric potential, substantial deposits of coal and smaller reserves of oil and natural gas. Under the USSR, investment in the sector was determined as part of a regional energy policy and did not necessarily reflect Kyrgyzstan's comparative advantage; particularly in hydropower generation.

Power Generation and Distribution

6.2 The joint-stock Kyrgyzstan State Energy Company (KSEC) is responsible for the generation, transmission and distribution both of electricity throughout the country and of heat in the major cities of Bishkek, Osh, Karakol, Kyzil-Kiya and Kara-Kul. Hydroelectric power is Kyrgyzstan's major source of domestically produced energy, accounting for 80% of total electricity generation and 60% of total energy output. KSEC operates 18 hydroelectric power plants, with a total installed capacity of 2,710

* For example, the USAID financed and administered Central Asia Enterprise Fund, under which \$30 million is due to be allocated for SME development in Kyrgyzstan and Kazakhstan.

MW. The largest of these plants (Toktogul and Kurbsai) are on the Naryn river and are regulated by the Toktogul Reservoir.

6.3 In addition to the hydroelectric plants, two thermal power stations, located in Bishkek and Osh, provide a supplemental source of electrical power and also co-generate heat, which is supplied to district heating systems. These combined heat and power stations have a total installed capacity of 670 MW.

6.4 Kyrgyzstan exports electricity to neighbouring republics, mainly Uzbekistan and Kazakhstan, through the Central Asian Grid. The dams on the Naryn river are also used for irrigation in Uzbekistan, and this has led to a pattern of energy production in which little electricity is generated in winter when demand is greatest and a substantial excess in summer during the irrigation season. This surplus is supplied to the Central Asian Grid and is "repaid" in winter with supplies from thermal plants which are located primarily in Uzbekistan.

6.5 The currently installed capacity exploits only around 9% of Kyrgyzstan's hydropower potential. Construction of a new 240 MW hydropower scheme (at Kambar Ata 2) was started in 1987, but was halted in 1992, with only 30% of work completed. The government regards the completion of this project as a priority since it would permit increased power generation during the winter months when tariffs are highest, and allow increased electricity exports and reductions in imports of fossil fuels. Two other hydropower projects on the Lower Naryn Cascade, which are in partial operation, require some further investment for completion.

6.6 Falling industrial production and sharp increases in the price of gas (with no matching increases in electricity tariffs) have resulted in a substantial reduction in energy consumption by the industrial sector and a dramatic growth in electricity demand by residential consumers. The increase in residential demand has led to severe overloading of the power distribution networks during the winter months, resulting in voltage drops and power outages. These developments have highlighted the inadequate state of the transmission and distribution networks. Insufficient past investment means that a significant proportion of the transmission and distribution equipment is obsolete and unreliable. There are also shortages of replacement equipment and spares and of well-trained maintenance staff.

6.7 Present tariffs are below the levels necessary for KSEC to maintain its existing capital and provide no surplus to meet future investment requirements. KSEC's financing difficulties are further exacerbated by increasing non-technical losses from illegal connections and a growing problem of under-reporting and non-payment of electricity bills. The government acknowledges the need to address these issues, while at the same time ensuring the necessary social provisions for those least able to afford increased energy charges.

Coal

6.8 Coal resources, mainly brown coal or lignite with very high ash content, are estimated at 1.36 billion tonnes, of which less than 1% has been exploited to date. Currently, 55% of coal supplies used in Kyrgyzstan are imported from Russia and Kazakhstan. Coal mining is carried out at seven underground coal mines, with a total capacity of 2.2 million tonnes, and five surface mines, with a total capacity of 1.9 million tonnes. Falling demand, the relatively low quality of Kyrgyz coal, and the difficult mining conditions resulted in a fall in production of about 40% between 1990 and 1992. The long-term prospects for the coal industry do not appear positive but are being examined with external assistance from USAID and EC/TACIS.

Oil and Gas

6.9 Oil and gas production are minimal, amounting to 3,000 barrels/day and 83 million m³, respectively, in 1992. Production facilities comprise seven oil, two oil-and-gas, one oil-and-gas condensate and three gas fields. The largest fields, Izbaskent, Mayli-Suu IV, Eastern Izbaskent and Changyrtash, have been completely drilled and are in a late stage of development. Further production from these fields is hampered by water encroachment in the wells and natural decline of the reservoirs. The development of oil and gas production will depend on the discovery of new reserves, for which the prospects are seen to be good, principally near the Fergana depression and around Lake Issyk-Kul. There are no oil refineries in the country, and all petroleum products are brought in from Russia, Kazakhstan and Uzbekistan.

Policy Framework

6.10 Policy objectives in the energy sector are:

- to ensure adequate and reliable supplies of good quality energy to domestic and industrial users at reasonable cost;
- to ensure the efficient management and economic utilisation of domestic energy resources; and
- to promote efficient and environmentally sound energy consumption patterns through appropriate pricing and conservation policies.

6.11 To achieve these objectives, the government recognises that it will be necessary to:

- progressively raise energy prices to economic cost levels to encourage appropriate substitution between alternative energy sources, promote energy conservation and generate surpluses to cover future investment needs;
- develop a legal and regulatory framework that encourages foreign investment in the sector;
- introduce compensatory measures to mitigate the effects of energy price increases on the poorest households.

6.12 The government will in future have a much more limited role in energy production. Through KSEC, it will continue to be involved in the power sub-sector. The development and exploitation of oil and gas resources will be financed through private and foreign investors. The existing coal operations will be brought within the framework of the state enterprise reform and privatisation programmes with new investment being undertaken by the private sector. In the immediate future the government will need to ensure essential investment in the energy (power, heat and gas) supply and distribution networks. There is also a need to develop an energy conservation programme which would: i) promote improvements in the thermal efficiency of buildings; and ii) allow greater consumer control over energy use.

6.13 The government is developing a comprehensive strategy for the energy sector, based on a number of sector and feasibility studies¹¹ covering: i) analysis of Kyrgyzstan's long-term demand for energy, by sub-sector; ii) assessment of the least-cost methods of meeting energy demand; iii) development of guidelines for pricing and marketing in the energy sector; iv) identification of measures to improve energy efficiency; and v) feasibility studies of hydropower plant rehabilitation and construction projects.

¹¹ These are being financed by several donors, including the EC, USAID and the World Bank.

Public Investment Priorities

6.14 The power sub-sector is expected to account for the major share of public investment in the energy sector. The most immediate needs are for investment in the rehabilitation of the power transmission and distribution network, and in the improvement of the major urban heating networks. Subject to the availability of financing, the government also intends to undertake incremental expansion of the hydropower generating capacity in order to increase energy exports and reduce reliance on imported energy.

Power Distribution Network Project

6.15 The recent increases in urban power demand have highlighted the limitations and poor condition of the existing power distribution network. With the assistance of the World Bank, the government is developing a project for rehabilitation and improvement of the power distribution network, initially in Bishkek. This will involve replacement of obsolete or damaged equipment at substations, replacement of underground cables, substations and distribution transformers, and extension of the distribution network into new urban zones. The project will be undertaken in three stages over a period of 11 years. The total estimated cost of the first phase of the project, to be implemented over a four-year period, is estimated at \$19.4 million. IDA financing for the project has been earmarked, but additional financing is required both to complete the project and to extend it to other areas.

Urban Heating Project

6.16 The urban heating system in Bishkek is inefficient. Centralised control of the heat supply and inadequate pipe insulation result in large heat losses. As part of the IDA energy project, it is proposed to rehabilitate and upgrade the district heating system in Bishkek in order to extend the life of existing district heating assets and increase energy efficiency. The project, estimated to take four years to complete, will involve: i) the installation of boiler control equipment and the upgrading of control systems at the Bishkek heat and power generating plant; ii) the replacement of around 70 km of corroded pipes in the distribution network; and iii) the installation of metering in the main administrative and residential buildings in Bishkek. The total estimated cost of the project is \$34.8 million. The government is seeking co-financing for this project in addition to the proposed IDA contribution.

Oil and Gas Exploration Project

6.17 Under the proposed IDA-financed Energy Project, it is intended to undertake preparatory work for oil and gas exploration. This will include: i) articulation of policy, law and taxation governing exploration, development and production of oil and gas; and ii) analysis of existing geological and geophysical data in preparation for the auction of initial exploration concessions.

Kambar Ata Hydropower Plant Project

6.18 Long-term plans exist for the construction of 19 new hydropower plants on the Central and Upper Naryn Cascades. Financing constraints mean that these projects will need to be undertaken sequentially and their phasing changed to take account of revised power demand forecasts. Based on the findings of studies financed by the EBRD and USAID, the government has identified as the highest priority the completion of the 240 MW Kambar Ata 2 hydropower plant on the Central Naryn Cascade, which is 30% complete. Work undertaken includes the underground construction and preparation for blasting works. Remaining work includes the purchase and installation of additional generating equipment and the construction of power transmission lines.

6.19 Completion of the project is projected to cost \$210 million, of which \$140 million is expected to be financed by the EBRD and AsDB. The government is seeking financing for the remaining balance of \$70 million.

Completion of Lower Naryn Cascade Hydropower Plants

6.20 There are two hydropower plants on the Lower Naryn Cascade, which are partially operational and on which final construction is proceeding slowly through inadequate finance. These are the Tash-Kumir hydropower station, with a capacity of 450 MW, and the Shamaldi-Sai hydropower station, with a capacity of 210 MW. At Tash-Kumir, the three generators are functioning, but the plant does not work to full capacity, as the reservoir water levels are insufficiently high. There is thus additional dam work to be done. At Shamaldi-Sai, two out of three generators are currently in operation, and completion of the plant will involve the conclusion of civil works and the installation of the third generator. Completion of the projects is estimated by the government to cost \$5.3 million for Tash-Kumir and \$13.8 million for Shamaldi-Sai. Additional finance will be sought, based on a review of the economic viability of these joint power/irrigation projects.

7. TRANSPORT

Background

7.1 Kyrgyzstan has a well-developed transportation network. The road network consists of 21,000 km of main inter-urban and urban roads. The network is particularly dense around the major population centres of Bishkek and Osh, but the remoter mountainous areas are also relatively well served. Around half of the network is paved. A single 340 km railway links the north of the country through Kazakhstan to Russia. Osh and the mining areas in the Fergana Valley are served by spur lines of Uzbekistan's railway system. Civil aviation infrastructure consists of two international airports, at Bishkek and Osh, and 21 local airfields served by the national airline company formed out of the break-up of Aeroflot.

7.2 Virtually all local freight transportation is by road. The railway is important for international freight. Since 1990, transport demand has fallen substantially, with the result that the present infrastructure is expected to be more than sufficient for likely traffic levels beyond 2000. The most urgent concern, therefore, is maintenance of the existing infrastructure, particularly the road network, which has deteriorated significantly in the last few years. Current expenditure allocations are estimated to cover only 10%-20% of annual road maintenance requirements. The government also gives high priority to the selective upgrading of the road between Bishkek and Osh in order to reduce periods of closure during the winter months.

7.3 Currently, most transport and freight services are run by state-controlled companies, although a programme of privatisation of truck companies has been initiated with the help of technical assistance provided by USAID. Except for urban bus services, where much of the fleet is now unserviceable, the existing transport fleet is adequate to meet current demand levels. Future investment in trucking and inter-urban bus services will be undertaken by the private sector.

7.4 The Ministry of Transport is responsible for transport policy development and overall coordination and regulation of operations in the sector. Agencies under the ministry are responsible for civil aviation (the State Civil Aviation Agency) and for railways and rail services (the Bishkek Railway Department).

The government is considering establishing a separate Highways Authority under the ministry, which would be responsible for the development and maintenance of the road network.

Policy Framework

7.5 The government's policy objectives for the transport sector include:

- ensuring the maintenance of, and where necessary rehabilitating, existing road, rail and civil aviation infrastructure;
- privatisation of the remaining state enterprises in the sector with the exception of rail, air and urban bus services, which will continue to be state-run for the time being;
- commercialisation of service operations that will continue under state control with a view to private sector participation or eventual privatisation;
- increased cost recovery in the sector through appropriate pricing and taxation policies; and
- establishment of a legislative and regulatory framework that ensures the safe operation of transport services while promoting competition.

7.6 With the private sector assuming responsibility for the provision of road transport services, the primary roles of government in the transport sector will in future be: i) to develop and maintain transport infrastructure; ii) to ensure the efficient operation of those enterprises which remain under state control; and iii) to execute its statutory and regulatory functions. To support this role, there is a need to develop a stronger policy and strategy framework in the sector that would include an analysis of future public investment requirements. This policy framework would also need to address issues of subsidisation of those enterprises remaining under state control and of the scope for financing road maintenance expenditures through increased taxation of road users.

Public Investment Priorities

7.7 Over the next 4-5 years, the major priorities for public investment in the transport sector will be the rehabilitation of the existing road network and the establishment of adequate road maintenance operations. This programme will need to be preceded by a road sub-sector study which would: i) determine a priority programme for rehabilitation based on economic criteria; ii) recommend appropriate technical specifications for the work to be carried out; and iii) make recommendations regarding the reorganisation of maintenance operations and establishment of a Highways Authority. The study would form the basis for subsequent requests by the government to external agencies for financing of roads projects. In addition to road infrastructure, the government aims to maintain the rail network, and priorities in this sector are being determined.

Road Rehabilitation and Maintenance

7.8 A number of road rehabilitation projects have been identified by the government. These include the Bishkek-Naryn-Torygart road, the Kyrgyz section of the Almati-Bishkek-Tashkent road, and the Balykchi-Karakol road. For each of these projects an evaluation of its likely economic viability will be required before an investment is made. Financing will also be required to establish a general road repair and maintenance programme, and technical assistance will be needed to establish an authority to oversee the maintenance programme.

Rehabilitation of Bishkek-Osh Road

7.9 The highest priority road rehabilitation project involves sections of the 600 km Bishkek-Osh Road which were damaged during the 1992 earthquakes. This road has strategic importance, as it links the two main population centres in the north and south of the country. Plans have been developed by the Ministry of Transport for the rehabilitation of 240 km of this road and the reconstruction of one tunnel. Preliminary discussions for financing to cover part of this project have been held with the Japanese government, EBRD, the Saudi Development Fund and the Islamic Development Bank.

Railway Development

7.10 In the medium term, some additional investment will be needed in the railway system. Requirements need to be assessed, taking account of revised projections of traffic flows, but are expected to include track and signalling improvements, and modernised freight handling facilities for container traffic. In addition, the government will evaluate the economic feasibility of electrification of the line in view of the potential benefits from savings in imported fuel costs, increased reliability and lower maintenance costs.

Urban Bus Services

7.11 An emergency programme to supply bus spares from Hungary has been financed under the IDA Rehabilitation Credit. However, the age of the urban bus fleet and its deteriorating serviceability mean that replacement of much of the existing fleet will be needed in the near future. Proposals for this investment will need to be developed within the context of a wider restructuring of urban bus services with the aim of minimising their demands on the government's budget. The potential role of private operators in providing urban bus services will also be investigated.

Civil Aviation

7.12 The Manas Airport, which serves Bishkek, was completed in 1974 and has a 4,200 metre runway. Since 1990 air traffic movements at Manas have declined dramatically as a result of periodic fuel shortages and the rising cost of air travel. A new international terminal was completed in early 1994. Many of the other facilities at Manas are now run down and will soon require rehabilitation and replacement. An EC financed study on improvement of air traffic control operations is under way and is expected to determine the most immediate investment requirements.

8. COMMUNICATIONS

Background

8.1 The communications sector covers telecommunications, postal services, and broadcasting.

Telecommunications

8.2 At the end of 1991, there were around 325,000 telecommunications subscribers. At 13.6 connections per 100 persons, the density of the system is comparable with other Central Asian countries. Currently, there is a waiting list for new lines of around 200,000. The system relies on analogue transmission and electromechanical switches, although digital techniques are now being introduced. All exchanges are automatic in both urban and rural areas, with automatic dialling for domestic services.

The network interconnects with other CIS republics via 600 channels and with the rest of the world via 60 channels in Moscow and via 30 channels in Ankara. Recently, a mobile telephone service was introduced in Bishkek and Osh.

8.3 There is a need for investment to modernise and expand the network. Many of the exchanges are beyond their economic life, resulting in poor transmission quality and a high fault rate. The system is reaching the limits of its operational capacity and will be unable to meet future increased demand. Although telecommunications operations have been self-sufficient since 1986, tariffs, despite being raised recently, are insufficient to generate financing for investment in modernisation and increased capacity, which will be required to meet the growing demand, particularly among the emerging business community.

8.4 In early 1994, operational responsibility for telecommunications was separated from the regulatory and policy functions and was transferred to the newly created Kyrgyz Telecom. A plan for initial development and commercialisation of telecommunications operations has recently been worked up with the assistance of the World Bank.

Broadcasting

8.5 Domestic broadcasting services in Kyrgyzstan consist of one television station and two radio stations. In addition, a number of CIS stations and one Turkish station are rebroadcast. The Ministry of Communications is responsible for transmission, while operational responsibility for radio and television programming was transferred in 1993 to the newly created State National Television and Radio Broadcasting Company (SNBC), or Gosteleradio. The organisation is substantially over-staffed, employing 1,200 people. The company is in need of restructuring, and rationalisation of its operations will be a priority. There are also three small private stations.

8.6 The quality of broadcasting has deteriorated in recent years, as a result of a lack of investment and budgetary cuts. Broadcasting equipment is outdated, and there is a lack of spare parts. Gosteleradio continues to rely on the state budget for funding, and, as a result of budget cuts, has decreased its television broadcasting to four hours per day. Japan is currently funding a master plan study to: i) determine a general policy for broadcasting; ii) advise on the sector's strategic development; iii) estimate future broadcasting demands; iv) assess the restructuring and organisational needs of the industry; and v) recommend ways of generating additional revenues, such as through the use of advertising.

Postal Services

8.7 Postal services have become increasingly unreliable in recent years and there is a need for organisational strengthening and commercialisation of operations backed up by investment in new equipment and vehicles. The Postal Service is cross-subsidised by Kyrgyz Telecom, and this financing arrangement is set to continue.

Policy Framework

8.8 The government's policy objectives for the communications sector are:

- to meet the demand from business and residential customers for a modern and efficient telecommunications and postal services consistent with an adequate return on investment undertaken in the sector; and
- to provide good quality and affordable broadcasting services.

8.9 To achieve these objectives, the government has recognised the need to:

- establish an appropriate framework for policy and regulation of the communications sector;
- strengthen the commercial autonomy, accountability and financial viability of the newly established telecommunications operator; and
- continue to promote private sector participation and competition in the telecommunications, broadcasting and postal sub-sectors, including partial or full liberalisation (to allow competition) of non-basic market segments.

8.10 Kyrgyz Telecom will continue to be the primary provider of telecommunications services. Private sector operators will be encouraged to play an increasing part in the provision of non-core operations, such as consumer equipment supply, data services and mobile services. The state will continue to be the monopoly supplier of postal services, although private sector activity will be promoted in the provision of specialised operations, such as courier and parcel services. In the broadcasting sector, the government will encourage private franchise holders to enter the market.

Public Investment Priorities

8.11 Telecommunications is expected to account for almost all public investment in the communications sector in the near future. With the assistance of the World Bank an analysis has been undertaken of the needs of the sector and of the most efficient structure and operational practices for Kyrgyz Telecom. According to the results of the study, the most immediate investment need is for the upgrading of domestic telephone services. A programme for the improvement and extension of the network in major urban areas has been prepared with World Bank assistance. Support for the project from an IDA credit is being discussed, and an additional credit from EBRD may be forthcoming. It is also planned to extend and improve international telecommunications services in the medium term through the installation of an earth station for satellite communication.

8.12 In the other sub-sectors, government investment will be more limited and linked to the development of a long-term policy and strategic framework. In the broadcasting sector, this process is already under way, with the preparation of a master plan which is being done with Japanese assistance. In each of the three communications sub-sectors, it is important that measures are put into place to ensure adequate financing of longer-term maintenance and operations costs.

Telecommunications Modernisation

8.13 The proposed IDA/EBRD financed telecommunications project will substantially increase the capacity and quality of the country's telecommunications system through the upgrading of 43,000 lines in the main urban centres, including Bishkek, Osh, Jalal-Abad, Cholpon-ata, Karakol, Naryn and Talas. The project will involve replacement and expansion of the local exchanges and cable networks, as well as the installation of fibre-optic cables. In addition, it is planned to replace and expand long distance transmission facilities by the installation of digital microwave links, connecting Bishkek with Osh, Jalal-Abad and Karakol. The provision of computer equipment and management training will also be included. It is also planned to improve international telecommunications through installation of a new international exchange in Bishkek and a new earth station. The total cost of this project is estimated at \$31 million, of which \$18 is scheduled for financing from IDA and \$8 million from EBRD, with the balance to be financed locally by Kyrgyz Telecom. The Japanese OECF may provide finance for the construction of the international exchange and the earth station.

9. ENVIRONMENTAL SERVICES

Background

9.1 The environmental services sector comprises: i) urban and rural water supplies; ii) sanitation services; and iii) environmental protection and clean-up.

9.2 Responsibility for the development of urban and rural water supplies is divided between the municipalities, which are responsible for water supplies in the urban areas, and the Ministry of Agriculture, which is responsible for potable water supplies in the rural areas. Falling investment levels in recent years have resulted in urban water supply systems becoming increasingly inadequate in two respects. First, the existing water sources and major pipelines are in many urban centres insufficient to meet current levels of demand¹². Second, local supply networks have suffered in recent years from inadequate investment and maintenance. As a result, water supplies in many areas have become increasingly unreliable, subject to frequent breakdowns and rationing, and pose growing health risks¹³. The rapid growth of the population of Bishkek in recent years has resulted in many newly settled areas being developed without sufficient investment in water supply services. Around 50,000 people live in areas without water supply networks.

9.3 In rural areas, only 55% of the 1,759 villages have water supply networks. Even in these areas, only a small proportion of residents have domestic connections, with the majority dependent on standpipes. Whereas previous annual budget allocations were sufficient for installation of 450km of main pipeline per year, current allocations are sufficient for only 40km.

9.4 Sanitation services, both wastewater and solid waste, are provided by the municipalities. In many areas, treatment facilities are inadequate, with consequential risks of pollution of water courses. Of 47 urban centres, only 18 have central sewerage networks and treatment plants. The situation in Bishkek, where the City Council lacks the resources for expansion of its wastewater treatment plant, for construction of a separation plant for solid waste and development of systems for disposal of hazardous industrial waste, is typical of other major urban centres in the country.

9.5 Levels of cost recovery for water supply and sanitation services are presently inadequate even to maintain the existing infrastructure, let alone service future capital investment requirements. In Bishkek, water and sanitation charges have not been increased recently, and the City Council estimates that they would have to be trebled to cover operation and maintenance of the system. Additional cost recovery measures will therefore have to be introduced in conjunction with the financing of further investment.

9.6 Kyrgyzstan does not suffer from the severe environmental problems found in some other areas of the FSU and Eastern Europe. Nevertheless, there are problems of poor air quality affecting the major cities, particularly Bishkek, while inadequate disposal of industrial wastes, particularly from the agro-processing, metallurgical and mining sectors, cause severe localised pollution problems. In some cases, such as around the Kara Balta Uranium Plant, inadequate disposal of toxic waste pose significant health threats. In the rural areas, there has in the past been significant overcutting of forests and overgrazing

¹² It is estimated that the capacity of the present infrastructure can meet only 75% of water demand in the urban centres.

¹³ For example, it is estimated that, at 15% of water pumping units, basic sanitary requirements are not being met.

of mountain pastures. However, in recent years efforts have been made to bring these under control. The State Environment Committee (Goskompriroda) is responsible for the coordination of environmental policy and programmes. The Committee is financed from special environmental charges and penalties imposed on polluting enterprises. Revenue from these sources has fallen sharply due both to the inability and unwillingness of enterprises to pay, and to the reduction in pollution levels as a result of declining industrial production.

Policy Framework

9.7 The main objectives of the government's programme in the environmental services sector involve:

- preventing further deterioration in existing water supply and sanitation systems through selective rehabilitation and more adequate maintenance provisions;
- meeting priority needs for investment in additional infrastructure in areas where there would otherwise be significant threats to human health or to the physical environment;
- promoting greater cost recovery through progressive increases in user charges for water supply, sanitation and other environmental services;
- encouraging environmentally sound resource use practices through legislation, regulation and greater community awareness;
- developing programmes aimed at addressing particular environmental clean-up and resource preservation issues.

Public Investment Priorities

Water and Sanitation Services

9.8 Compared with other sectors, there has been relatively little work done on assessing future public investment priorities in the water and sanitation sub-sectors. No projects have yet been identified for potential external financing. The most urgent need, therefore, is to undertake a series of sub-sectoral policy and strategy studies in order to: i) update the information available on the situation in each sub-sector and on the condition of the existing infrastructure; ii) identify appropriate policy and cost-recovery measures necessary to ensure sustainable financing of services; and iii) identify priority investment projects and appropriate design standards consistent with expected resource limitations. These studies, for which technical assistance will be required, would form the basis for subsequent approaches to the international aid agencies for investment project financing.

Environmental Preservation and Clean-Up

9.9 Goskompriroda has developed a programme of priorities for environmental protection. These include the development and implementation of an environmental monitoring system, proposals to improve the disposal of toxic waste, and the introduction of environmental protection legislation. It is expected that the World Bank will assist Goskompriroda in reviewing and updating current environmental policies and programmes and in elaborating a comprehensive environmental programme which would identify any priority areas for public investment that would be suitable for external financing. In addition, German technical assistance is being used to evaluate the quality of underground water reservoirs in the Chui Valley and the level of soil degradation.

10. SOCIAL SECTORS

Background

10.1 The social sectors comprise: health, education and social safety net services.

Health

10.2 The health care system is organised at the district level, with services centred around secondary hospitals averaging 550 beds each, and served by a network of outpatient care facilities (polyclinics). In the smaller centres, hospitals of 40 to 80 beds provide a base for 3 to 4 community outreach workers who provide preventive care, such as immunisation, early identification of primary patients and referral. There are a total of 64,420 beds in the system, distributed among 1,493 health care facilities. There are 3.4 doctors per 1,000 of the population.

10.3 Health indicators in Kyrgyzstan are in general more favourable than those for other countries at a similar level of development. Life expectancy in 1991 was 66 years. Widespread access to primary health care services, backed up by pre-natal care and childhood vaccination programmes, have contributed to a substantial reduction in the incidence of infectious diseases and in bringing down maternal and infant mortality rates. The infant mortality rate is 30 per 1,000 births.

10.4 Under the USSR, the health care system was driven by quantitative targets, such as the number of doctors and beds per thousand inhabitants, and resulted in a large number of hospitals and health personnel, and a reliance on hospital care. With the break-up of the USSR, government resources for health care provision have been substantially reduced, resulting in serious shortages of drugs, vaccines and essential medical supplies. This situation is being partially alleviated by humanitarian assistance. Most hospitals are old and poorly maintained, and there is an inadequate supply of necessary hospital equipment. The construction of several hospitals has been halted due to a lack of funds. In addition, recent earthquakes and landslides have left more than 30 hospitals in need of urgent reconstruction or rehabilitation.

10.5 With the assistance of the World Health Organisation (WHO) and other donors, the government is embarking on a reform programme which is intended to shift some of the burden of health care provision to the community. Although the government has introduced legislation in 1992 to institute a system of health insurance, it has not yet been implemented. A more comprehensive reform programme now being worked out with UNDP/WHO/EBRD assistance is likely to be less ambitious, focussing instead on the gradual introduction of cost-recovery measures and the restructuring and rationalisation of the hospital sub-sector.

Education

10.6 The responsibility for education in Kyrgyzstan is shared between the Ministry of Education, sector ministries covering vocational training, and local government. The Ministry of Education is responsible for formulating policy, setting national guidelines and standards, designing curricula for all levels of education, awarding degrees and providing education at some higher education institutions and specialised secondary schools. Sector ministries such as the Ministry of Agriculture and Ministry of Health provide specialist technical and professional training in their sectors. Local authorities are responsible for the building and repair of schools and for primary and secondary education provision.

10.7 The education system comprises four levels of education: i) non-compulsory pre-school education, which is fee-paying; ii) compulsory primary education, covering ages 6 through 9; iii) compulsory secondary education, covering ages 10 through 14; iv) non-compulsory further education, which consists of upper secondary, specialised secondary and technical and vocational education; and v) higher education, consisting mainly of universities and institutes. There are 1,800 primary and secondary schools serving 900,000 students, 46 specialised secondary institutions for 60,000 students, and 18 higher education institutions.

10.8 Formerly, the educational system provided a good general education, with an attendance rate of nearly 100%, and a literacy rate of 96%. The recent financial cut-backs now threaten the quality of education provision. There are severe shortages of textbooks and other school materials. School construction has been curtailed, leaving 40 new schools unfinished. Facilities at over 400 schools which were damaged during the 1992 earthquakes and in more recent landslides require repair and reconstruction¹⁴.

10.9 Over the past two years, the Ministry of Education has begun implementing a series of reforms to the educational system. Measures undertaken include: the rationalisation of the system's administration; the revision and development of education curricula in areas such as business studies and economics; the introduction of fees on some higher education courses; the licensing of private schools and higher education institutions; the rationalisation of the higher education system; and the provision of staff retraining. Implementation of these reforms will require additional technical assistance and investment finance. There is also a need to review more thoroughly the financing of recurrent costs in the sector.

Social Safety Net

10.10 Formerly, the state provided for the social security needs of the population, mainly through employer-based schemes operated by state enterprises. This system is now breaking down in the face of rising unemployment and the dramatic fall in salary and wage levels, which have put increasing pressure on social insurance and social assistance programmes. In addition, unemployed workers will have to acquire new skills so they can take advantage of employment opportunities that are expected to be created in the private sector. There is thus a need to restructure social assistance and social insurance administration and establish new systems and infrastructure to plan and administer the benefit system as it copes with a substantially increased number of claimants. At the same time retraining programmes and job placement services will need to be developed.

Policy Framework

Health

10.11 The government is introducing a health sector reform programme with the objectives of:

- maintaining the quality of health services within the limitations of the available resources;
- ensuring continued equal access to health services for all groups in the population;
- introducing, where feasible, limited and equitable cost recovery;
- allowing private medical practice while maintaining a strong state health care system; and
- managing and monitoring health service provision to ensure cost-effectiveness and cost containment.

¹⁴ Humanitarian assistance is being provided by Switzerland and Norway to re-construct two schools.

10.12 A master plan for health sector reform is being prepared with WHO and other donor assistance. This will set out organisational, operational and financial strategies for the health sector with the objective of providing adequate health services at least cost.

Education

10.13 The main objective of the government's education policy is to maintain standards of general education and to meet the technical and professional skill demands of the emerging market economy. This will be achieved through:

- rehabilitating and re-equipping educational facilities;
- ensuring, in the medium term, adequate financial provision for the operation and maintenance of education facilities;
- updating and revising curricula for primary, secondary, higher and technical education;
- preparing and introducing textbooks and teaching materials required to support the introduction of the new curricula;
- developing an appropriately skilled teaching staff through improved recruitment, training and retraining programmes;
- establishing effective management systems to ensure education quality assessment and control.

Social Safety Net

10.14 The government intends to strengthen social safety net provisions through:

- providing social assistance benefits which are targeted at the most vulnerable groups;
- developing an efficient system to administer benefits and provide employment services; and
- promoting the development of labour market services, including job skills retraining and vacancy information.

Public Investment Priorities

10.15 Public investment in the social sectors will be required to support the introduction of the reform measures outlined above. In health and education, the main requirement will be for rehabilitation and re-equipping of existing facilities, particularly in areas where facilities have been damaged by earthquakes and landslides. Strengthening of the social safety net will require considerable investment in the design and implementation of new systems for social insurance and social assistance. Apart from a social safety net project which has been designed with the assistance of the World Bank and the Bishkek Children's Hospital for which financing is already secured, the investment requirements outlined below still need to be worked out in detail.

Health Service Restructuring

10.16 The main priorities for public investment in the health sector are: i) for technical assistance, training and institutional development required to implement the health reform programme which is being developed with the assistance of WHO and other donors; and ii) to carry out supporting investment in the rehabilitation and re-equipping of health facilities, including those which were damaged in recent natural disasters.

Equipping of Bishkek Children's Hospital

10.17 An \$8 million grant has been obtained from the Japanese government to finance the equipping of the children's wing of a new 1,000 bed hospital complex in Bishkek. Construction work, which is being financed by the government, is almost complete. Plans for completion of the remaining facilities at the hospital will need to be reviewed within the wider context of the health sector reform programme.

Education Rehabilitation and Development

10.18 Costs of rehabilitating school facilities damaged in recent natural disasters are likely to exceed \$20 million. In addition there is a need for investment in a more general programme of school re-equipment and in the preparation and production of new teaching materials and textbooks to support curricula reform. The Ministry of Education will require technical assistance in developing its investment programme, which will need to be consistent with the establishment of an education system which the government can afford.

Social Safety Net System Development

10.19 With the assistance of the World Bank a comprehensive social safety net project has been developed. This will comprise four components:

- establishing a poverty monitoring unit within the State Committee on Statistics;
- creating a social benefit service to administer social insurance and social assistance programmes;
- developing training and retraining programmes for the unemployed; and
- establishing an employment database service.

10.20 The project will finance: i) technical assistance and consultancy services; ii) training support; iii) the establishment and equipping of social benefit offices; iv) purchase of computer hardware and software; and v) establishment of a project coordination unit to oversee implementation of the programme. The project is expected to be financed mainly from a \$20 million IDA credit, with additional technical assistance provided by GTZ, EC/TACIS, Japan and Switzerland.

**7. State Budget of the Kyrgyz Republic for
1994**

Table- STATE BUDGET OF THE KYRGYZ REPUBLIC
for 1994

	(ths. som)
REVENUES	1994, forecast
I. Value-added tax	1,061,000.0
II. Profits tax for enterprises and organization	695,300.0
III. Excise (tax)	457,000.0
IV. Income tax paid by citizens to their enterprises, institutions, organizations and tax inspectorates	250,077.0
V. Customs duty	120,000.0
VI. Income from forestry	4.0
VII. State fee taken by the bodies of the court of arbitration	18,320.0
VIII. Collections and other non-tax incomes	65,000.0
IX. Payment for water	400.0
X. Property tax	23,875.0
XI. Means transfer for development and reproduction of mineral and raw material base	10,400.0
XII. Money transfer for prevention and liquidation of extreme situations	246,000.0
XIII. Juridical person's tax for motorcar roads utilization	128,384.0
XIV. Profits from purchase, option, selling of State property	39,100.0
XV. The remainder of means on State Property Fund's account for July 1, 1993	---
XVI. Land tax from juridical and natural persons	82,710.0
XVII. Incomes from sale of rare earth metals	---
XVIII. Payment got for natural resources	293.0
XIX. Task for mobilization of financial resources	152,396.0
XX. Means transferred before to the local Soviets' extra-budgetary funds	3,000.0
XXI. The remainder of budget means used for covering expenses	10,000.0
TOTAL REVENUE	3,363,259.0

Source: Ministry of Finance of the Kyrgyz Republic

Table- STATE BUDGET OF THE KYRGYZ REPUBLIC
for 1994

(ths som)

EXPENDITURES	1994		
	forecast	current expenses budget	development budget
I. Financing Republic's national economy			
The fuel and energy complex			
State Committee of the Republic on Geology, Utilization and Protection of Natural Resources	36,005.8		36,005.8
Sub-total for the complex:	36,005.8		36,005.8
The machine-building complex			
Ministry of Industry	9,118.0		9,118.0
Sub-total for the complex:	9,118.0		9,118.0
The agricultural industrial complex			
Production Association of Grain Products and State Grain Purchases	37,100.0	37,100.0	
State Concern "KYRGYZTAMAK ASH"	10,628.0	3,728.0	6,900.0
Republican Production Association "KYRGYZBALYGY"			
Ministry of Agriculture	100,252.0	95,652.0	4,600.0
Ministry of Water Resources and Irrigation	132,124.4	131,124.4	1,000.0
State Forestry Inspectorate	11,399.4	8,399.4	3,000.0
State Inspectorate on System of Land Utilization	999.4	999.4	
Transnational Joint-Stock Company "AZIYALES"	46.0	46.0	
Sub-total for the complex:	292,549.2	277,049.2	15,500.0
The social complex			
Academy of Sciences	2,243.0	2,243.0	
State Concern "KYRGYZKINO"	2,103.0	2,103.0	
State Concern "AKYL"	540.0	540.0	
State Concern "KYRGYZFARMINDUSTRY"	545.0	545.0	
Ministry of Labour and Social Security			
Ministry of Health			
Ministry of Trade and Material Resources			
Sub-total for the complex:	5,431.0	5,431.0	
The construction complex			
State Concern "KYRGYZKURULUSHMATERIALY"	155.0		155.0
State Corporation "AZAT"	1,000.0		1,000.0
State Inspectorate on Architecture and Construction Checking/Control	1,134.4	1,114.4	20.0
State Concern "KYRGYZKURULUSH"	17,037.0		17,037.0
Sub-total for the complex:	19,326.4	1,114.4	18,212.0
The transport complex and communication			
Ministry of Communications	1,179.0	792.0	387.0
Ministry of Transport	120,120.0	119,420.0	700.0
Trust "PAMIRDORSTROY"	5,880.0	5,880.0	
Transportation Department			
Kyrgyz Railways Administration/Board			
Sub-total for the complex:	127,179.0	126,092.0	1,087.0
The defence complex			
State Agency on Geodesy & Cartography/Map-making	6,485.3	6,485.3	
Sub-total for the complex:	6,485.3	6,485.3	

Non-included in the complex			
State Agency on Hydrometeorology	3,083.9	3,083.9	
State Agency on Standardization and Metrology	313.3	313.3	
State Committee on Nature Protection	2,799.1	1,814.1	985.0
Kyrgyz Housing Municipal/Communal Union	139,535.3	112,095.3	27,440.0
Kyrgyz Co-operative Union	1,500.0	1,500.0	
State Material Reserves Fund	19,668.5	19,668.5	
Financial Administration under Presidential Staff	1,700.0		1,700.0
State Committee on Industrial and Mining Safety Engineering Supervision	312.0	312.0	
National Entrepreneurship Fund Business Project "KUN"	700.0	700.0	
Turkmen Railways	4,600.0		4,600.0
Kyrgyz Exhibition Commercial Center	224.0	224.0	
Others in national economy	114,607.6		114,607.6
Sub-total for the non-included in the complex:	289,044.3	139,711.7	149,332.6
Total for financing national economy	785,139.0	555,883.6	229,255.4
II. Financing measures on prevention and liquidation results of extreme situations			
	230,083.0	230,083.0	
III. Financing social and cultural measures			
Education	810,134.0	787,460.0	22,674.0
Culture and mass media	59,977.5	59,977.5	
Health services	357,239.0	343,043.0	14,196.0
Physical culture	2,548.0	2,548.0	
State benefits on social security of population:			
- children's allowance	235,861.0	235,861.0	
- bread benefit	250,000.0	250,000.0	
Social security	74,530.0	73,495.7	
Total for financing social & cultural measures	1,790,290.2	1,752,385.2	27,905.0
IV. Financing science			
	17,210.8	17,210.8	
V. Financing the Republic's defence			
	108,016.0	107,016.0	1,000.0
VI. Allowance for public order maintaining bodies			
	156,457.9	154,426.9	2,031.0
VII. Allowance for state authorities' maintenance			
	4,108.1	4,108.1	
VIII. Allowance for legislation bodies' maintenance			
	32,347.3	32,347.3	
IX. Allowance for court bodies' maintenance			
	10,334.2	10,334.2	
X. Allowance for state management bodies' maintenance			
	85,151.5	85,151.5	
XI. Reserve Fund of the Government			
	23,908.0	23,908.0	
XII. Covering the inner state debt			
	8,000.0	8,000.0	
XIII. Payback of interests on internal loans			
	95,000.0	95,000.0	
XIV. Expenditures for covering internal loans			
XV. Payback of interests on external loans			
	204,100.0	204,100.0	
XVI. Expenditures for covering external loans			
	47,520.0	47,520.0	
XVII. Compensation for losses of banks on the soft loans given up to 1994			
	2,075.0	2,075.0	

XVIII. Expenditures for banks' compensation of their costs on the Kyrgyz Republic's State Internal Loan draws and auctions of treasury bills	250.0	250.0	
XIX. Expenses for lottery payments on the Kyrgyz Republic's State Internal Loan draw of 1993	1,529.0	1,529.0	
XX. Expenditures for purchase of hard currency at the National Bank:	77,232.0	77,232.0	
including:			
- maintenance of Embassies and representations	19,649.0	19,649.0	
- admission fees to the international organizations (UN, Conference on Security & Cooperation in Europe, UNESCO, World Health Organization)	12,094.0	12,094.0	
- admission fees to international banks	32,839.0	32,839.0	
- expenses for the government's official visits and business trips	2,650.0	2,650.0	
- compensation of difference in currencies' rates	10,000.0	10,000.0	
XXI. Expenditures for realization of Programme "ARAL"	43,759.0	43,759.0	
XXII. Loans to enterprises and organizations	43,000.0	43,000.0	
XXIII. Other undertakings	95,719.0	92,620.6	3,098.4
XXIV. Expenditures for elections	5,029.0	5,029.0	
XXV. Unemployment benefit/compensation	47,000.0	47,000.0	
XXVI. Expenses for salary increase in budgetary organizations, scholarship, benefits (67 soms since July 1994)	300,000.0	300,000.0	
EXPENDITURES - TOTAL	4,213,259.0	3,939,969.2	273,289.8
EXCESS OF EXPENDITURES OVER REVENUE	850,000.0		
Gross Domestic Product (GDP)	20,100,000.0		

Source: Ministry of Finance of the Kyrgyz Republic, Aug. 1994

8. Terms of Reference

TERMS OF REFERENCE
FOR
FEASIBILITY STUDY
ON
THE DEVELOPMENT PROJECT

OF
NATIONWIDE RADIO AND TV BROADCASTING
NETWORK
IN
REPUBLIC OF KIRGISTAN

JUNE 1992

STATE TV AND RADIO BROADCASTING AGENCY
UNDER
THE GOVERNMENT OF REPUBLIC OF KIRGISTAN

1. INTRODUCTION

This is a Terms of Reference for Feasibility Study on the Development of Nationwide Radio and TV Broadcasting Network.

The Government of Republic of Kirgistan specially requests the Government of Japan to provide the technical assistance for Feasibility Study on the Development Project of Nationwide Radio and TV Broadcasting Network.

The technology advancement in Japan is one of the foremost in the world. Japan has made vast progress in the field of broadcasting.

Further, Japan's economic co-operation assistance to developing countries in the form of development aid aiming to contribute to the socio-economic developments of basic human needs such as information and education through broadcast services, is foremost among other developed countries of the world. It is, therefore, thought most appropriate to request to Japan for this Study.

2. COUNTRY PROFILE

Republi of Kirgistan is mountainous country and two third of its territory locate at hight of 2,000m above sea level. Temperature in July at Fergana valley is +25-27c and Tenshan mountain at hight of 3,600m +4c. Temperature in January in valleies -5 - -9c and in mountains -25 - -30 c. Day time duration in December is 9 hours and in June 15 hours. Annual average of rain falls 350-900mm. Measuring system is metric. Education system are 8-year school and 10-year school, special training education and high education.

3. FACTS ON RADIO AND TV BROADCASTING

1) General

Establishment of radio in Kirgistan began in middle of 1920s. In 1926 first radio center was established. In 1931 Bishkek large radio transmitting center started operation by cable. And in 1936 first radio station started operation. By 1937 majority part of Kirgistan was covered by radio broadcasting.

First trial TV broadcasting began in kirgistan in 1958 and regular broadcasting began in 1959. Color broadcating in SECAM started in 1978.

2) Organization in charge of TV

- (1) GOSTELERADIO AGENCY under Government of Kirgistan and its local organizations
- (2) 5 independent regional teleradio companies under regional government
- (3) Branch in cities and villages of Kirgistan
- (4) Technical equipment is located in Republic Radio Tele

center of GOSTELERADIO AGENCY and in branches

Enterprises of Ministry of Communication of Kirgistan provide programme broadcasting through transmitters, microwave links and transposers.

3) GOSTELERADIO AGENCY and Republic radio TV center locates in Bishkek. TV studio also located in Bishkek.

4) Staff

Central administration and management	59
Programming	504
Engineers	597
News	18
Others	174

Total	1,352

5) Radio broadcasting hours per day : 18.5 hours (1st+2nd programme) including stereo broadcasting 6 hours.

Radio Programms

News and inf	4.8%
Education	3.8
Culture	4.8
Entertainment	61.1
Sport	-
Others	25.5

Total	100.0%

6) TV broadcasting hours per day : 4 hours

TV programmes

News and inf	11.3%
Education	1.9
Culture	7.6
Entertainment	9.4
Sport	-
Others	69.8

Total	100.0%

7) Service Area

TV : 94-96% of total population
Radio : 100% of total population

8) List of equipment

Studio - see Annex No.2
Transmitting - see Annex No.3

4. PROJECT PROFILE

- 1) Name of the Project : Feasibility Study on the Development Project of Nationwide Radio and TV Broadcasting Network in Republic of Kirgistan
- 2) Study Field : Broadcasting
- 3) Implementation Agency : State TV and Radio Broadcasting Agency under the Government of Republic of Kirgistan
Ministry of Communication
- 4) Responsible Ministry : Ditto
- 5) Proposed Funding : Grant (Technical Assistance)

5. PROJECT

1) Introduction :

Republic of Kirgistan being a developing country with population of over 4.4 million forms a multifarious and complex country, that is multi-racial multi-cultural.

The Government of Republic of Kirgistan has started to carry out socio-economic development programmes in various fields for the country's development.

Great emphasis is specifically being placed on :

- * Cultivation of own culture
- * Upgrading of education standard
- * Improvement of economic structure
- * Raising up the standard of living of the people
- * Expanding the substantial base of economy
- * Increasing the production power
- * Increasing participation of the people in socio-economic activities

Hence, the promotion of mutual understanding among its people are a step towards the country's development has always been one of the most important national issues to be tackled. In order to address this issues, the conveying to the people of collect and accurate information is the most essential.

The Government of Republic of Kirgistan employs Radio and Television Broadcasting which has an excellent feature such as simultaneous reporting capability, ability to appeal both the visual and auditory senses for conveying information and knowledge to the people, as a measure for the promotion of country's development.

Broadcasting in Republic of Kirgistan is making efforts to play an important roll for Kirgis nations and its demand has been increasing day by day.

2) Difficulties of Broadcasting :

It is essential for effective radio and television broadcasting:

- to meet the various needs
- to appeal to the people
- to cover the large population as much as possible

In order to realize the effective broadcasting, it is necessary to reorganize the nationwide broadcasting network and to increase the programme production capability and to upgrade the program contents.

Broadcasting can provide the information for farmer, foresters, mine owners and oilmen such subjects as how to cultivate crops, maintain forests, produce oil. Moreover, such programmes as sickness prevention, public hygiene, family planning, child and mother health etc, contribute greatly to the people's well being.

Educational programmes can fill up the lack of teachers and teaching materials.

However, existing broadcasting systems are could not meet above mentioned requirement due to the fact they were organized previously as a part of USSR broadcasting system and were controlled from Moscow. Existing equipment which are operated more than 10 years, are almost superannuated and it is very difficult to get the spare parts for maintenance. In addition to the above, it is necessary for existing broadcasting system to be modified and be modernized for fitting the newly independent country.

As mentioned above, present condition of broadcasting in Republic of Kirgistan not satisfactory to play an important role for the promotion of country's development. So, establishment of nationwide radio and television broadcasting network is expected.

In consideration of the above conditions, the government of Republic of Kirgistan has planned to development project of nationwide radio and television broadcasting network. But, it shall conduct the detailed study for planning and execution of the project.

Japan has made vast progress and experience in the field of broadcasting. So, it is specially requested the government of Japan to conduct the study to make up 10-year long-term plan (Master Plan) and 5-year short-term plan for establishment of Nationwide Radio and Television Broadcasting Network in Republic of Kirgistan.

And through the study, it is expected to get the technical transfer of study and planning method from the Japanese experts.

3) Current Plan

Phase 1

- a) Modernization of existing TV/radio center in Bishkek
- b) Establishment of 2nd national programme
- c) Providing possibility of international programme exchange system

Phase 2

- a) Modernization of existing TV/Radio studio in Osh and establishment of new TV/Radio studio in 5 regional central cities
- b) Modernization of transmitting network (satellite, microwave links, transposers)
- c) Modernization of VHF FM network

4) Objectives of the Project

The objectives of the Project is to carry out:

- Development Study to make up 10-year long-term plan for Nationwide Radio and Television Broadcasting Network (Master Plan)
- Feasibility Study to make up 5-year short-term plan for Nationwide Radio and Television Broadcasting Network

5) Scope of the Study :

The Study requested is to make up 10-year long-term plan and 5-year short-term plan.

The content of the Study to be carried out for each plan are explained below:

- 1- To make up 10-year long-term plan, following study items shall be carried out

1/PROGRAMME PLAN

- * Radio programme
- * TV programme

2/BROADCASTING NETWORK PLAN

- * Assessment on the use of existing equipment
- * Determination of Sites
- * Determination of Service area
- * Allocation of Channel/Frequency
- * Design of Transmitting System (including tower)
- * Design of Building for the Transmitter

3/STUDIO SYSTEM PLAN

- * Assessment on the use of existing equipment
- * Determination of Sites
- * Design of Programme production system and transmission system
- * Design of studio building

4/PROGRAMME TRANSMISSION PLAN

- * Detailed assessment on the existing transmission network
- * Preliminary design of link between transmitting station and studio
- * Preliminary design of network using satellite
- * Preliminary design of equipment and system composition

5/OPERATION AND MANAGEMENT PLAN

- * Organization
- * Operation and training
- * Programme production and training
- * Management

6/STAFF PLAN

- * Personnel for transmitting facility
- * Personnel for studio facility
- * Personnel for management

7/MAINTENANCE PLAN

8/IMPLEMENTATION PLAN

- * Construction schedule
- * Construction cost by component (foreign, local)
- * Operation cost

2- To make up 5-year short-term plan, following study items shall be carried out:

1/PROGRAMME PLAN

- * Radio programme
- * TV programme

2/BROADCASTING NETWORK PLAN

- * Determination of Sites
- * Determination of Service area
- * Allocation of Channel/Frequency
- * Design of Transmitting System (including tower)
- * Design of Building for the Transmitter
- * Assessment on the use of existing equipment

3/STUDIO SYSTEM PLAN

- * Determination of Sites
- * Design of Programme production system and transmission system
- * Design of studio building
- * Assessment on the use of existing equipment

4/PROGRAMME TRANSMISSION PLAN

- * Detailed assessment on the existing transmission network
- * Preliminary design of link between transmitting station and studio.
- * Preliminary design of network using satellite
- * Preliminary design of equipment and system composition

5/OPERATION AND MAINTENANCE PLAN

- * Organization
- * Operation and training
- * Programme production and training
- * Management

6/STAFF PLAN

- * Personnel for transmitting facility
- * Personnel for studio facility
- * Personnel for management

7/MAINTENANCE PLAN

8/IMPLEMENTATION PLAN

- * Construction schedule
- * Construction cost by component (foreign, local)
- * Operation cost

9/ECONOMIC EVALUATION

- * Financial analysis
- * Economic analysis
- * Social impact

6) Study Area

Throughout the Country

7) Study Schedule

It is expected that the feasibility study will be commenced as soon as possible.

Type of expatriates required for the study are as follows:

- * Project Manager : 1 person
- * TV/Radio Transmission System Expert : 2 person
- * Antenna/Tower System Expert : 2 person
- * TV/Radio Studio System Expert : 2 person
- * Programme Transmission Expert : 1 person
- * Satellite Transmission System Expert : 1 person
- * Programme Production Expert : 1 person
- * Civil/Utility Engineer : 1 person
- * Operation/Training Expert : 1 person
- * Economist : 1 person
- * Management Specialist : 1 person

Total : ~~14~~ 11 person

The study will be completed around 12 months after the commencement.

8) Expected Output

- * Study Report for 10-year long-term plan
- * Feasibility Study Report for 5-year short-term plan
- * Necessary technical documents required for the implementation of the project

6. COMMENCEMENT OF THE PROJECT AND PROSPECTIVE FUNDING SOURCE

The development project shall be started as soon as possible after the completion of the feasibility study. The project will be executed in accordance with the Feasibility Study Report.

The Government of Republic of Kirgistan specially requests the Government of Japan to provide the economic cooperation of Japan for the fund for the implementation of the development project.