CHAPTER 14

TRANSPORT AND COMMUNICATIONS
14. TRANSPORT AND COMMUNICATIONS

This chapter discusses the transport and communications sector in terms of the objectives, policies, development programs and key issues which must be addressed during the Fifth Plan period. It also reviews the progress made in establishing a modern transport and communications network during previous years.

14.1 TRANSPORT

14.1.1 Role and Development Objectives

The establishment of a comprehensive land, air and sea transport system is both a testimony of the Kingdom’s development achievements and an important tool for future development in more complex directions. In a country like Saudi Arabia, with its vast geographical size, diverse topography and wide spatial distribution of population, economic centers and natural resources, transport has a vital role to play in integrating the country. The geographical location of the Arabian peninsula at the crossroads of three continents -- Europe, Africa and Asia -- provides the Saudi transport sector with a highly strategic base for international operations.

As a major element of the country’s physical infrastructure, the transport sector has an important role to play in the Saudi economy. The contribution of transport and communications to non-oil GDP in 1404-1405 reached about 10 percent and has remained constant to the end of the Fourth Plan period (1409-1410). This sector utilized 6 percent of total manpower employed in the economy in 1404-1405.

The expansion and maintenance of the road network provides investment and employment opportunities for Saudi construction firms. It also opens up new market opportunities for agricultural producers in remote districts through communication links with the main population centers. The training of Saudis for highly skilled jobs in air transport, air traffic control and advanced sea transport is an effective method for the transfer of technology to the Kingdom. The completion of a new direct rail link between the Eastern and Central regions brings new opportunities for lower cost freight transport and distribution.

Since the end of the Third Plan, the Kingdom’s physical transportation infrastructure has been largely in place, so the focus of longer term development in the transport sector will continue to be on improving the operating efficiency of the system. Particularly important in this regard will be task of implementing a comprehensive and balanced transport policy through greater coordination between the various transport agencies.
14.1.2 Achievements and Key Issues

Over a decade ago, when economic growth in the Kingdom started to accelerate, the transport system was not ready to cope with the speed of overall economic development. Great efforts were needed -- especially in the expansion of port capacity and road construction -- to ensure that economic development would not be hampered by capacity constraints in the transport sector.

Mainly as a result of the huge infrastructure investment during the Third Plan, followed by a period of consolidation in the Fourth Plan, the Kingdom today not only enjoys an effective transport system with no major capacity constraints, but also provides opportunities for choice between different transport modes, particularly for passenger transport on high-demand routes. Thus, the growing complexity of the transport system is increasingly reflected in the competition beginning to emerge between transport modes.

Roads and Road Transport

During the Fourth Development Plan over 2200 kms were added to the main road network, an increase of 9.5 percent, thus meeting the Fourth Plan target. Construction targets for secondary asphaltered rural roads and earth roads were not met, however, with actual figures being less than 30 percent of plan targets, while the construction of earth surfaced rural roads reached 64 percent of Fourth Plan targets. This shortfall could affect regional development objectives to open up additional agricultural areas and provide better access to the population in remote places. The planned shift in emphasis from road construction to maintenance began in earnest during the Fourth Plan. The growing need for ordinary and preventive maintenance resulted not only from the expansion of the main road network, but also from the damage caused to roads by heavy overloading of trucks at a time when the demand for trucking services exceeded the supply capacity of the industry. In response to this problem, weight load limitations were enforced more strictly towards the end of the Third Plan period, by operating weighing stations at strategic points of the road network.

Public passenger transport on roads is provided by the Saudi Arabian Public Transport Company (SAPTCO), private bus operators and limousine services on intra-and inter-city routes. Faced with growing competition from the private sector during the Fourth Plan, SAPTCO concentrated on high-demand routes. Its inter-city passenger volumes declined only slightly from 2.14 million in 1405/06 to 1.92 million in 1408/09, while intra-city volumes fell from 54 million to 40 million over the same period. A positive feature of SAPTCO's performance during the first four years of the Fourth Plan was its successful adjustment to lower passenger volumes through cost reductions and an increase in the cost covering ratio from 63 percent to 79 percent by 1408/1409.
Railroads

After the completion of the Riyadh dry port during the Third Plan, stage two in the development of the railroads - the construction of the direct line between Dammam and Riyadh - was completed during the Fourth Plan. This expansion, together with the introduction of modern coaches, considerably improved the passenger services offered by the Saudi Government Railroad Organization (SGRRO). Passenger volumes rose in response and services were increased from two to four trains daily. The new line now offers an attractive alternative mode of freight transport, particularly for container traffic. Freight volumes have not yet shown the same positive trend, however, mainly because of the general slowdown in economic activity and the impact of the political conditions in the Gulf area on the port of Dammam. Even after the return of normal conditions, not all shipping lines have reverted back to Dammam after having shifted their activities to Jeddah port.

Air Transport and Airports

The aviation sector played a leading role in the Kingdom's early development stages. By now, most of the air transport physical infrastructure has been completed. Only minor physical additions were needed during the Fourth Plan. Construction works continued on the new King Fahd International Airport in the Eastern Province and this airport is expected to start operations in the middle of the Fifth Plan period.

The total volume of air traffic declined during the Fourth Plan, in line with the slowdown in economic activity. The number of international passengers fell, while domestic passenger volumes showed a mixed pattern. The overall decline in domestic travel can be attributed to significant reductions on the short and medium distance routes (e.g. Riyadh-Qassim; Riyadh-Dammam; Jeddah-Medina), reflecting the increased attractiveness of the other transport modes of road and rail. Longer-haul flights, on the other hand, showed a small increase in passenger volumes, especially in the Asir region, indicating growth in domestic tourism.

SAUDIA did not achieve financial self-sufficiency in spite of the addition of ten Boeing 747s to its fleet during the early part of the Fourth Plan period, and rationalization efforts in the booking and passenger handling systems.

Ports and Sea Transport

Operating self-sufficiency in the ports was achieved during the Fourth Plan, following the doubling of port handling fees. In the five main commercial ports cargo volumes fell sharply, due to the decline in imports and also because of growing import substitution, especially in wheat and cement. The new industrial ports at Jubail and Yanbu, however, experienced high volume growth, mainly through the rapid export expansion in petrochemicals and refined oil products.
While the shipping industry as a whole experienced a slowdown in activity during the Fourth Plan, resulting in greater competition and falling cargo rates, the two largest companies in this field were least affected. Despite the depressed economic climate, the National Shipping Company of Saudi Arabia—the national flag carrier founded in 1399—successfully reduced its operating costs through lower overheads and efficiency measures, and reported a net profit for the first time during the Fourth Plan period. The United Arab Shipping Company, which is jointly owned by most GCC countries and Iraq, is now one of the world’s largest shipping companies and is a good example of successful economic cooperation.

Key Issues
Notwithstanding the great achievement of constructing a modern and comprehensive transport infrastructure within the short period of twenty years, there are a number of key issues which must be addressed in the transport sector in order to promote the longer term operating efficiency of the system. At present, the transport system is not operating at the lowest possible economic cost, for two main reasons:

- There is still room for productivity improvements within the individual transport agencies;

- Overall sector efficiency is hampered by the present organizational and administrative structures which make a unified and coordinated transport policy difficult to implement. Investment and pricing decisions taken in one part of the system affect market demand for other modes of transport. Overall efficiency, therefore, can only be improved through coordinated measures for all transport modes.

Subsidies and Inter-Modal Pricing Structure
There is a need to review the existing system of direct and indirect transport subsidies, so that competitive imbalances in the economics of different transport modes can be reduced. Factors affecting the competitive balance between transport modes include: the low diesel price for trucks and the low jet-fuel price for SAUDIA, the absence of adequate road user charges especially for heavy trucks, SAUDIA’s exemption from domestic landing fees, and the general subsidy paid to the airline. A coordinated transport policy must focus on the structure of subsidies between individual transport modes. Wherever the user has a modal choice, artificial economic advantages caused by subsidies may lead to deviations from the sector’s lowest economic cost.

Regional and Agricultural Development
Improvement of the secondary and agricultural roads network is an important objective of the present and future stages of development. Therefore, the Fifth Plan has given the highest priority to such projects, whereas the Fourth Plan’s programs and projects in this regard have not been achieved as planned.
Figure 14.1

Rail Freight & Passenger Traffic
1400 - 1408

Million Tonnes

Passengers in Thousands

1400 1401 1402 1403 1404 1405 1406 1407 1408

-- Passengers
-- Freight (tonnes)
Figure 14.3

Cargo Handled
in Commercial and Industrial Ports

[Bar chart showing cargo handled in commercial and industrial ports from 1980 to 1988. The x-axis represents years 1980 to 1988, and the y-axis represents million tonnes. The chart compares commercial ports with industrial ports.]
Introduction of Economic Principles in Road Network Planning

A comprehensive information base on road usage is an essential tool in planning new road capacities and general maintenance. Traffic data, such as the number of vehicles operating in the Kingdom, the annual distances driven by private cars and trucks, and the routes and frequencies of main passenger and freight movements, are all important demand indicators for determining the feasibility of new projects and programs.

Safety of Road Transport

The enforcement of existing and, if necessary, new operating regulations for mini-buses on inter-city routes is required for the safety of passengers (e.g. maximum working hours for drivers and the operating conditions of vehicles).

Integration of the Rail Network

Freight is the main source of income for the railroads. In order to maximize the advantages of the modernized system by attracting further freight income, the physical integration of the rail system must be completed, by establishing the link to the industrial city of Jubail and the connection to Riyadh refinery. Alternative ways of project funding by the private sector should be studied.

SAUDIA's Operating Efficiency

Specific actions will be required in order to reverse current trends in SAUDIA's operating performance during the Fifth Development Plan. The airline appears to have difficulty adjusting quickly to changes in the domestic demand for air travel, thus leading to lower manpower productivity and growing total losses.

Ports Organization and Operations

The activity profile in the ports has shifted from construction to operation, indicating the need to reconsider the existing institutional structure, e.g. by giving more autonomy to individual ports in the management of their operations. Greater competition between ports could further increase overall efficiency. Another important issue is the need to utilize idle berths and facilities in the commercial ports in the years ahead.

14.1.3 Role of Government and the Private Sector

The second basic strategic principle of the Fifth Plan Strategy emphasizes the importance of improving the economic performance of the transportation services operated by the government, while the third basic strategic principle calls for the adoption of a policy giving the private sector the opportunity to undertake many of the economic tasks of the government. These two principles have particular significance to the relations between the government and the private sector in some parts of the transport sector.
The private sector has always been involved in many transportation services, especially in operations and maintenance, so that there are very few new opportunities for transferring activities from government to the private sector. However, some scope still exists for greater private sector participation through the possible re-organization of responsibilities between private contractors and relevant government institutions.

Within the transport system as a whole, the ports sector provides the most suitable example of where institutional changes can lead to both greater efficiency in the provision of government services and an expansion in private sector activity. This potential exists because operational performance can be linked directly to revenues, in contrast to other parts of the transport system in the government sector. Thus, a major new initiative of the Fifth Plan will be a comprehensive evaluation of the likely benefits arising from:

- limiting centralized responsibilities to issues of national concern, such as safety regulations for the ports and coastal waters, and cooperation with other GCC ports;

- giving the management of individual ports full responsibility for supervising port operations and maintenance, fixing port charges and handling fees, and developing its own operating strategy, thus encouraging competition between ports;

- transferring the responsibility for port operations to private contractors through comprehensive leasing contracts.

In other parts of the transport sector there is a need to review existing contractual relations between government and the private sector, in response to changing demand conditions and the greater availability of experienced contractors.

14.1.4 Policies and Main Programs

During the Third Plan investment in the transport sector was the main concern. In the Fourth Plan, however, emphasis shifted towards operation and maintenance in order to improve the efficiency of individual transport agencies—a strategy which is still valid for the Fifth Plan. However, the growing number of participants in the transport market and the more complex interactions of supply and demand between different transport modes, require a re-orientation of government policy during the Fifth Plan period in order to improve overall economic efficiency. Thus, the focus on coordination and establishing a better balance between government agencies in different parts of the transport sector is one of the important issues which must be addressed during the Fifth Plan period. Resolution of this issue will be achieved through two major policy initiatives: first, the extension of commercial principles to the transport sector; second, improved coordination of investment activity.
1. **Extend Commercial Principles in the Transport Sector**

This policy aims to create a modern, market-oriented operating environment for the whole transport sector, with particular emphasis on:

- decentralization of management and operating responsibilities, supported by appropriate management skills;

- introducing and supporting competition wherever possible;

- reconsideration of those subsidies and other factors which affect the competitive balance between individual transport modes;

- encouraging further private sector development by initiating the necessary institutional, contractual and legal steps.

2. **Coordinated Investment Policy**

A coordinated investment strategy aims not only to avoid inefficient parallel investment in competing modes, but also to implement programs that are important from an overall development viewpoint, such as investment in secondary and earth roads for regional and agricultural development. The investment strategy for the transport sector during the Fifth Plan is composed of the following elements:

- completion of the rail system in order to achieve a reasonable rate of return on invested capital;

- replacement of equipment that has reached the end of its economic life and for which economic feasibility has been proven;

- investment needed to achieve important national development goals.

**Main Programs**
The main programs for the transport sector in the Fifth Plan are as follows:

**Ministry of Communications (MOC)**

- Road construction program with major emphasis on secondary and rural roads;

- Traffic monitoring program, including traffic statistics and control of weight limits; evaluation, processing and publication of traffic data;
- Research and studies program, including analysis of competitive imbalances in the transport sector and recommendations on how to reduce or abolish them; preparation of a Saudiiization program for the shipping industry;

- Evaluation of institutional reorganization of the transport sector to improve operational efficiency.

**Saudi Government Railroad Organization (SGRRO)**

- Completion of the existing rail network, in particular the link to Jubail and the connection to Riyadh refinery, at an estimated total cost of SR 480 million.

**Presidency of Civil Aviation (PCA)**

- Completion of the King Fahd International Airport in the Eastern Province at an estimated cost of SR 2.5 billion;

- Development of the organizational structures of PCA and IAP (International Airport Project).

**Saudi Arabian Airlines (SAUDIA)**

- Fleet replacement program at an estimated cost of SR 2 billion, to be financed out of SAUDIA’s own funds.

**Saudi Ports Authority (SPA)**

- Replacement program for port handling equipment at an expected cost of SR 386 million;

- Evaluation program for increasing private sector participation through lease contracts.

**14.1.5 Fifth Plan Targets**

Two types of target are defined for the transport sector:
(i) those which relate to additions to the physical infrastructure, and (ii) those concerning the operational efficiency of the individual agencies.
Major Physical Targets:

- The road infrastructure is expected to expand by 430 kms for the main roads, about 5,000 kms for secondary feeder and rural asphalt roads and 30,000 kms for earth-surfaced rural and agricultural roads;

- The rail connection to Riyadh refinery is scheduled for completion in 1415 and the link to Jubail in 1417;

- The King Fahd International Airport in the Eastern Province is scheduled to start operations in 1413;

- SAUDIA will gradually phase out the B737 and the L1011 fleet and replace it by 13 small aircraft and 10 medium size aircraft.

Major Efficiency Targets

- Operational self-sufficiency must be maintained or achieved for each of the main commercial and industrial ports throughout the Fifth Plan;

- SAUDIA will aim to reach operational self-sufficiency by the end of Fifth Plan; manpower productivity, measured in available (produced) ton-kilometers (ATK) per employee, must aim to reach the aviation industry average;

- SGRRO and SAPTCO are expected to further narrow the gap between operating expenditures and revenues.

14.1.6 Manpower Development

The percentage of Saudis in the labor force will increase from 95 percent in 1409/1410 to 99 percent in 1414/1415.

14.1.7 Financial Allocations: Transport Sector

Table 14.1 shows the financial allocations for the transport sector in the Fifth Plan.
TABLE 14.1

Fifth Plan Financial Allocations: Transport Sector
(SR million)

<table>
<thead>
<tr>
<th>Agency</th>
<th>Salaries and Supplies</th>
<th>Operation and Maintenance</th>
<th>Projects</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>MOC</td>
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<td>2,424</td>
<td>7,269</td>
<td>10,961</td>
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<tr>
<td>SGRRO</td>
<td>597</td>
<td>219</td>
<td>894</td>
<td>1,710</td>
</tr>
<tr>
<td>PCA</td>
<td>1,174</td>
<td>5,372</td>
<td>4,599</td>
<td>11,145</td>
</tr>
<tr>
<td>SAUDIA</td>
<td>—</td>
<td>600*</td>
<td>—</td>
<td>600</td>
</tr>
<tr>
<td>SPA</td>
<td>1,130</td>
<td>2,400</td>
<td>386</td>
<td>3,916</td>
</tr>
</tbody>
</table>

+ Subsidy

14.2 POSTAL SERVICES AND TELECOMMUNICATIONS

14.2.1 Role and Development Objectives

Communication services play an increasingly important role in the overall performance and development of the economy. The Kingdom’s post and telecommunication sector’s value added was about SR 2 billion in 1989, while approximately 31,000 persons were employed in the communication infrastructure at the end of the Fourth Plan period.

More and more sectors are depending on the collection, storage, processing and distribution of information to raise productivity, to control costs, to manage decentralized units, to reach the customer and to promote new products. For certain services—such as banking, finance, insurance, airlines, travel or tourism—telecommunications have profoundly altered their production structures and now constitute the basic infrastructure for the provision of such services.

Problems in growth, diffusion, variety and quality of communication services can have far-reaching economy-wide repercussions that may become critical in the future. In this regard, the provision of high-quality communication networks and services in response to growing demand has become a necessary condition for the development of other sectors and for raising competitiveness and economic growth rates. In view of this close relationship between com-
 munications and overall economic development, and in the context of the Kingdom's development strategy for a strong private sector, the creation of a communication network of the highest quality is a clear priority, with the following long-term objectives:

- To provide a reliable and complete postal service, reaching all areas;

- To provide a telegraph service covering the whole Kingdom and telephone, text and data services capable ultimately of serving any customer within four weeks of request in urban areas, and meeting at least 90 percent of currently unmet demand in rural areas;

- To provide a digital long-distance transmission network, a digital telephone network and new advanced services such as electronic mail, teletex, telemetry/teleaction services, and data transmission services for all standard speeds and interfaces;

- To provide a mobile telephone service and public information services on a countrywide basis;

- To provide a video conference service between major cities within the Kingdom, and between the Kingdom and other countries, in addition to ISDN (Integrated Services Digital Network) services;

- To provide hybrid satellite facilities to carry domestic and international telecommunication traffic and directly broadcast television channels to home users.

14.2.2 Achievements and Key Issues

During the Fourth Development Plan period, the coverage of the postal services increased by more than 12 percent, reaching 5,681 cities, towns and villages in the Kingdom. The newly introduced express mail service has been very successful in terms of revenue generation and acceptance by the public.

The number of villages and settlements covered by the telephone service increased by 14 percent to 350 during the past five years, and the number of installed telephone main lines rose by 34 percent to 1.2 million over the same period. The number of mobile telephone stations increased by 61 percent, and the number of private lines by 88 percent. All telecommunication services have been provided with high quality standards.

A packet-switched public data network was installed and put into operation at the end of the Fourth Plan period. This network is not service specific and will, therefore, accommodate many new text and data services through the use of diverse terminal equipment and computers connected to the network.
Key Issues
Notwithstanding past achievements, however, a number of issues have emerged which acted as a constraint on overall development of the sector in previous years. These issues must be addressed during the Fifth Plan period.

Coverage of Post and Telecommunication Services
The single most important unresolved issue in this sector is the incomplete service coverage. Post and telecommunication services have not yet reached all villages and settlements in the Kingdom. Furthermore, in some areas which already have services there is a large gap between the demand for telecommunication services and their supply. Substantial expansion of main lines supply during the Fifth Plan period is expected to reduce, but not eliminate, this gap (see Figure 14.4).

While this situation may not be critical in the short run -- especially during a phase of rapid network expansion -- it cannot persist over the longer term without adverse consequences for the development of rural areas, private sector industry and services, and the economy as a whole. The first priority, therefore, must be to address this issue and to aim at a major extension of services, especially in the telephone network.

New Technologies In Telecommunications
The use of new technology -- such as digital electronics, optical fibres and advanced satellite technologies -- has created a revolution in telecommunications. As a result, telecommunications and data processing -- two originally separate activities -- have grown together with significant economic implications in new markets for intelligent low cost electronic services. The rapid introduction of new technologies in the telecommunication network is now necessary in order to:

- increase the utilization of the network and meet the existing demand for new services;
- provide a digital long-distance transmission network and a digital telephone network;
- maintain the high quality standards and ensure that, as part of the global telecommunication network, the Kingdom's network keeps pace with the rapid development in other countries.

Furthermore, the additional investment in expanded and improved services can generate a sufficient return through increased revenues to pay for itself, as well as provide for the necessary improvement in services, whether funded through government expenditures or private sources.
Figure 14.4

Main Telephone Lines Demand and Supply During the Fifth Plan

![Bar chart showing demand and supply of telephone lines from 1949/10 to 1944/15. The x-axis represents the years, and the y-axis represents million lines. The chart illustrates the increase in demand and supply over the years.]
Operational Efficiency

The further expansion of the telephone network, the introduction of new services and the expected increase in mail volume, all demand a corresponding increase in operations and maintenance in the future. In this regard, a major improvement in operational efficiency will be necessary. The most important ways of achieving this are:

- The application of commercial management practices in the post and telecommunication sector, so that operations will be guided according to customer needs. Budgetary autonomy should be the final target.

- Reorganizing the institutional structures.

- Developing manpower through upgrading the skills of in-service personnel. This involves the adjustment of all training programs and activities to actual operational needs.

- Introduction of university education in telecommunication sciences.

Postal Services Utilization

The postal service has not yet reached the required quality standard in terms of:

- consistent and short mail delivery times, particularly during peak traffic periods;

- customer information about features, conditions and usage of services;

- easy and comfortable access to services for the dispatch of letters and parcels; and

- reaching the customer.

This reduces the significance and utilization of the service, especially for commercial use. High service quality is, however, the main driving force behind an increase in mail volume and, therefore, also an important prerequisite for improvements in productivity.

14.2.3 Role of the Government and the Private Sector

Institutional Restructuring

In most countries, mail handling is essentially a public sector function that has important legal and institutional implications for the relationship between the citizen and the state, and cannot be performed entirely by the private sector. With the exception of specialized express delivery services, there is little scope for increased participation in the postal service by the private sector.
The telecommunication sector, on the other hand, offers many possibilities for private sector participation and financing. In this regard, reorganizing the institutional structure of the telecommunication sector is a complex task, which, although the subject of controversy, has been undertaken in many developed countries. In the Kingdom's case, intensive investigations will be undertaken in order to define, establish and operate an institutional structure that will allow for greater involvement by the private sector in appropriate areas.

Distinctions must be drawn between different aspects of the telecommunication system, such as terminals, services and networks. In the field of services and terminals some privatization and even competition between private companies is desirable.

For the networks, however, important government responsibilities for national security and the equitable distribution of services, in addition to the economies of large-scale production, all support the continued operation by public organizations.

**Financing Investment**

An important consideration for the development of telecommunications in the Kingdom is the question of financing future investment needs. Large capital expenditure is needed for the necessary network expansion and for the introduction of new technologies and services in response to growing market demand.

There is no theoretical or practical imperative to rely exclusively on government funds for future investment in the telecommunication sector, if appropriate guidelines can be established for joint public/private investment. Exclusive dependence on the state budget might even lead to a serious shortfall in investment and, equally important, could make the essential tasks of medium- and long-term planning hardly possible. Suitable policies will, therefore, be formulated to attract private capital investment in telecommunications.

The telecommunication sector generates considerable revenues in many countries, including Saudi Arabia, and is one of the public sector activities that can make a net contribution to the state budget. The full financial self-sufficiency of the Kingdom's telecommunication organization, in terms of both capital and current expenditures, is, therefore, both a realistic and desirable goal which must be achieved during the Fifth Plan period.

**14.2.4 Sectoral Policies and Main Programs**

The following policies will guide the development of the post and telecommunication sector in the Fifth Plan:

- Expand the coverage of services;
• Apply new telecommunication technologies and introduce new telecommunication services by using exclusively digital technology for all additional transmission and switching equipment, and providing the necessary prerequisites for the swift introduction of new services;

• Improve operational efficiency by redirecting both the postal and telecommunication organizations towards a more business-minded approach and promoting the development of human resources;

• Increase the postal services utilization by taking the necessary measures to improve the service quality;

• Reorganize the telecommunication organization through formulating an explicit policy to guide the development of the telecommunication system and take immediate short-term measures towards financing the necessary investments and restructuring the sector.

Main Programs

Expansion of Postal and Telecommunication Services

The postal service will be extended to more villages. In the case of the telephone network, all projects relating to the needs of private businesses and households for basic telecommunication services will have first priority. An estimated amount of SR 7,100 million will be spent for this purpose over the Fifth Development Plan period.

Modernization of the Telecommunication Network

A partial digital long-distance network will be installed -- with links between the main population centers -- to provide the urgently needed transmission paths for the planned digital telephone network and for digital data transmission services.

Facilities will also be provided for the digitalization of parts of the telephone network up to the subscriber's terminal to connect ISDN (Integrated Services Digital Network) subscribers. Approximately SR 1,400 million will be spent on this major program.

Development of Human Resources

Training activities will be improved at all skill levels, including managerial, operational, technical and planning.

Improve Postal Services Utilization

Appropriate measures will be taken to enhance service quality. Marketing and public relations activities will be introduced; access to the different postal services will be expanded; and improved means of reaching the customer will be studied and implemented at an estimated total cost of SR 53 million over the Fifth Plan period.
Telecommunications Reorganization

A major plan for the longer term development of the telecommunication system will be formulated. For this purpose, a study will be conducted to decide upon future telecommunication policies and organizational structures, with particular emphasis on financing investment, privatization and competition.

In the short term, the following intermediate financing measures will be evaluated through coordination with the Ministry of Finance and National Economy:

- Giving the MOPTT autonomy to use -- for specific, urgent investment projects -- those revenues that exceed current management, operation and maintenance expenditures.

- Allowing the MOPTT to raise funds from private sources for specific projects, including network expansion for local needs, possibly on the basis of lease-purchase agreements.

- Encouraging major foreign suppliers of telecommunication equipment, together with private Saudi companies, to reinvest in the Kingdom some of the revenues generated from MOPTT projects.

- Establishing higher installation charges for long-distance telephone subscribers in order to finance a greater portion of the high initial costs incurred in providing access to these services.

Further intermediate measures will be taken towards restructuring the telecommunication sector:

- Private companies will be allowed to expand their activities in the telecommunication terminal market and offer all kinds of terminal equipment. For this purpose, the MOPTT will establish an approval organization in cooperation with SASO to carry out type approval tests and certify equipment to be connected to the network.

- Private companies will also be allowed to provide specific telecommunication services under the regulation of the MOPTT.

14.2.5 Targets During the Fifth Plan Period

- The postal network will be expanded by 25 percent to a further 1,400 villages, and the total mail volume is expected to grow by more than 15 percent during the Fifth Plan period.
- 75 further telegraph stations will be added in remote areas of the Kingdom and the entire telegraph network will be modernized.

- The telephone network will grow by a further 700,000 main lines. This expansion will increase the penetration rate from 36.5 main lines per 100 households in 1410 to 48.3 main lines per 100 households in 1415. The number of public telephones will be increased by 5,000.

This network expansion will reduce operational costs through economies of scale and improved economic performance of the telecommunication organization, and provide the opportunity for raising productivity to a level of around 13 employees per 1,000 main telephone lines. Further network expansion to meet constantly growing demand will be possible, to the extent that ways are found to mobilize financial participation from the private sector.

14.2.6 Manpower Development

The percentage of Saudis in the total labor force will increase from 93 percent in 1409/1410 to 98 percent in 1414/1415.

14.2.7 Financial Allocations: Post and Telecommunication Sector

Table 14.2 shows the financial allocations for the post and telecommunication sector during the Fifth Plan Period.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Salaries and Supplies</th>
<th>Operation and Maintenance</th>
<th>Projects</th>
<th>Total</th>
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<td><strong>Total</strong></td>
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<td><strong>8,943</strong></td>
<td><strong>9,651</strong></td>
<td><strong>24,268</strong></td>
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</table>

TABLE 14.2

Fifth Plan Financial Allocations: Postal and Telecommunication Services

(SR million)