

CHAPTER 12

TRANSPORT AND TELECOMMUNICATIONS

12. TRANSPORT AND TELECOMMUNICATIONS

This chapter highlights the progress realized during the Fifth Plan in the fields of transport, telecommunications and postal services. It also deals with the key issues to be tackled during the Sixth Plan and the subjects of Saudiization, economic efficiency and the opportunities available for the private sector, as well as the objectives, policies, and programs of these sectors during the Sixth Development Plan.

12.1 TRANSPORT

12.1.1 PRESENT CONDITIONS

The transport sector plays a vital role in the movement of people and goods both within and between countries. It also enhances economic and social development in general through the direct support it provides to other sectors such as agriculture, industry and mining, in the form of an integrated network of land, sea and air transport services, as well as pipelines and storage facilities. The transport sector also offers investment opportunities and provides employment and training for the upgrading of national manpower. Finally, transport's contribution to economic development depends on the operational efficiency of the existing transport network. In this respect, the Ministry of Planning is currently cooperating and coordinating with the relevant transport agencies in the preparation of a long-term plan that will address the future growth requirements of this sector during the next twenty years.

During the Fifth Plan period, transport services in the Kingdom generally satisfied user requirements in both quality and quantity, so that no serious capacity bottlenecks existed by the end of the Fifth Plan. The major achievements of the government's transport agencies during the Fifth Plan are reviewed below.

Roads and Road Transport

During the Fifth Plan, the Kingdom's main road network grew by about 2,100 kms, or almost 10 percent, thus considerably exceeding Plan targets. The network of secondary roads and paved agricultural roads also grew by about 1,300 kms and 2,000 kms respectively, thereby increasing the total length of the asphalted roads network to about 43,000 kms. About 36,000 kms of main and secondary roads are currently maintained by about 60 Saudi private contractors.

The Ministry of Communications (MOC) made considerable progress in the field of traffic monitoring by implementing and operating a number of traffic counting and truck weighing stations, and in the analysis and periodic publication of aggregated data.

SAPTCO also plays a major role in providing public road transport services to passengers, currently transporting around 30 percent of all inter-city travelers. Due to a good operating performance and the introduction of international services in 1410, SAPTCO's operating results improved steadily during the Fifth Plan period. It achieved operational self-sufficiency in 1410/11, and from 1411/12 until the end of the Fifth Plan, it was able to operate without a government subsidy.

Railroad Organization (SGRRO)

Between the beginning of the Fifth Plan and 1413/14, rail freight volume grew by 36 percent, to about 2.1 million tons (Figure 12.1). The cost covering ratio of the SGRRO rose steadily from around 18.1 percent in 1409/10 to 42 percent in 1413/14, as a result of declining costs and increasing revenues. Although any comparison with other countries should take into consideration the difference in network sizes, the *achieved revenues per kilometer* reflects the Kingdom's low rail fares, especially in passenger transport, where it achieves between 2 and 10 percent of the passenger revenues per kilometer achieved in European countries. However, manpower productivity increased during the first three years of the Fifth Plan, as the volume of freight handled rose from 1.6 million tons in 1409/10 to 2.1 million tons in 1413/14, while the number of employees remained constant.

Air Transport and Airports

Air passenger volumes grew from 20.3 million departures and arrivals in 1409/10 to 25.1 million in 1413/14, an increase of about 24 percent.

With the re-opening of Turaif airport and the start of operations at Wadi Dawasir airport, the number of airports in the Kingdom rose to 25, including three international airports, seven regional airports and fifteen local airports. Necessary steps are currently under way to start operations at King Fahd International Airport in the Eastern region (Figure 12.2).

The operating cost recovery ratio of SAUDIA increased during the Fifth Plan to 94 percent of its revenues in 1413/14. Over the same period, unit operating costs have been in line with the international average of the air transport industry. Employee productivity also rose, from 186,200 available-ton-kilometers per employee in 1410/11 to 219,000 available-ton-kilometers per employee in 1413/14 (Figure 12.3).

Ports and Sea Transport

Developments in the Kingdom's foreign trade during the Fifth Plan period reflect the changes that occurred in the overall economy. Since 1409/10, the cargo handled in the Kingdom's major ports

began to grow steadily, rising from 63.7 million tons in 1409/10 to 83 million tons in 1413/14, an average annual growth rate of 6.8 percent. The boom in the domestic construction sector affected cargo volumes in two different directions; while imported construction materials rose by more than 5.8 million tons (or 174 percent) between 1409/10 and 1413/14, exports of construction materials declined as a result of high domestic demand (Figure 12.4).

The Sea Ports Authority (SPA) adopts the latest port management and operation techniques, and uses the most advanced facilities and equipment for cargo handling. This is reflected positively in the operational results. Throughout the Fourth Plan and the first three years of the Fifth Plan, port revenues were more than twice the levels of expenditure. However, the cost recovery ratio (revenues to total expenditure) decreased from 278 percent in 1411/12 to 185 percent in 1413/14, because of the reduction in port handling fees from 1412 onwards. Despite this reduction, however, operating expenses per ton of cargo handled fell from SR 7.6 in 1412/13 to SR 6.7 in 1413/14, a decline of around 12 percent, thus indicating improved operating efficiency and performance levels.

This reduction in ports fees will have a positive impact on the economy in general because it improves the competitiveness of Saudi exports, decreases the cost of imports and makes Saudi ports more attractive in the region.

The operating efficiency of ports can be measured by a number of indicators, the most important of which are: *manpower productivity; time spent by a ship in port; the number of containers handled per hour; handling costs per ton of cargo; and revenues per ton of cargo.* These indicators show that the SPA has succeeded in operating its ports at a high level of efficiency. Manpower productivity in the commercial ports rose from 1,610 tons per employee in 1407/08 to 2,810 tons per employee in 1412/13. In the industrial ports also productivity rose from 22,000 tons per employee to about 159,000 tons per employee over the same period. The revenue per ton of cargo handled reached about SR 14 in 1413/14, or about double the cost per ton of cargo handled.

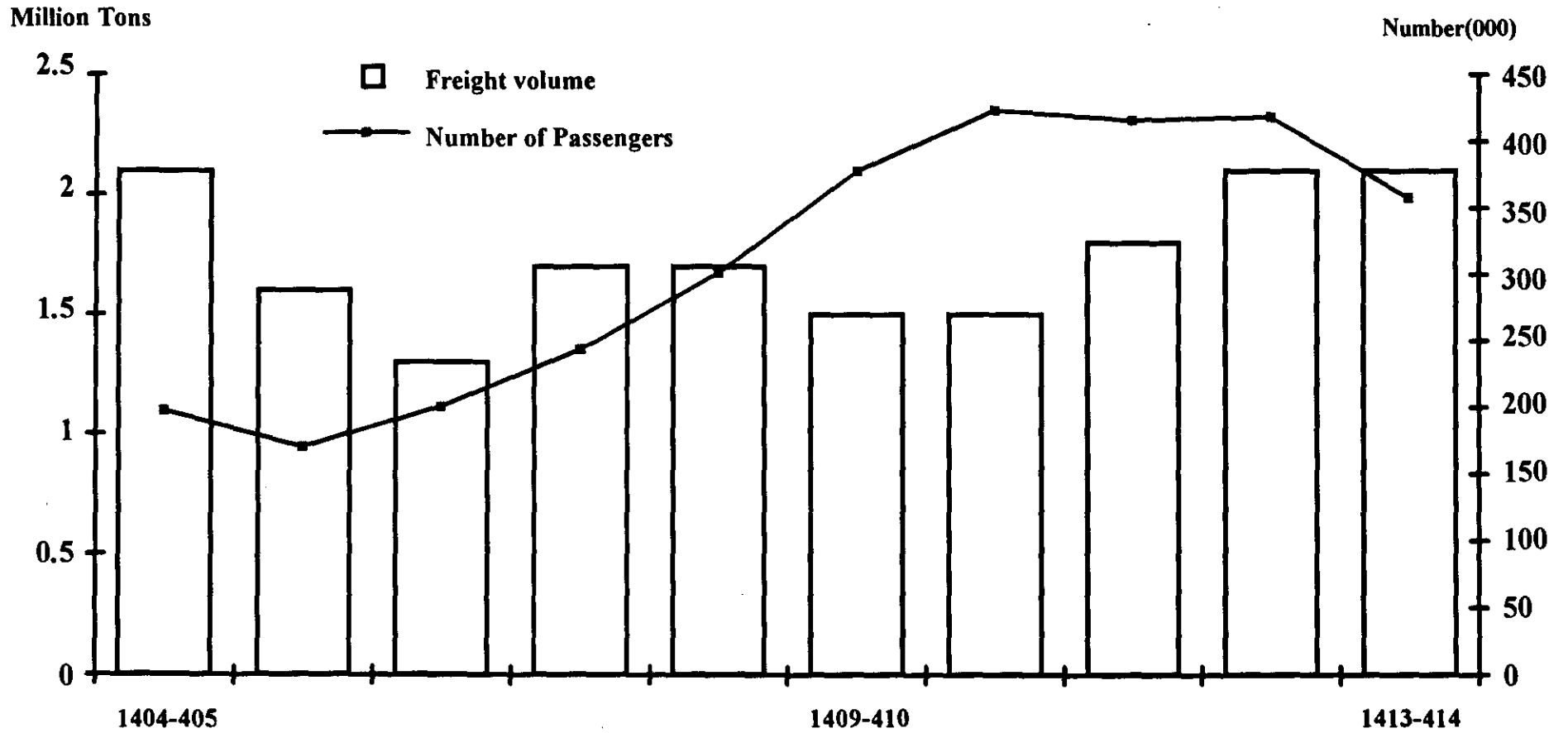
The total number of berths in the major ports increased by 3 percent to 179 berths during the Fifth Plan, which is about four times the number of berths in 1396. The available capacity of the ports increased more than forty-fold since 1396, to about 247 million tons per year. The capacity of the industrial ports represents about 74 percent of the total available capacity of all ports.

12.1.2 KEY ISSUES

With the physical infrastructure largely in place, emphasis has moved increasingly to the operating efficiency of transport service facilities. However, a number of key issues still need to be addressed to achieve greater efficiency and to implement a coordinated transport policy.

Figure 12-1

Rail Freight and Passenger Traffic



**Figure 12-2:
Distribution of Passengers at the Kingdom's Airports 1413/14**

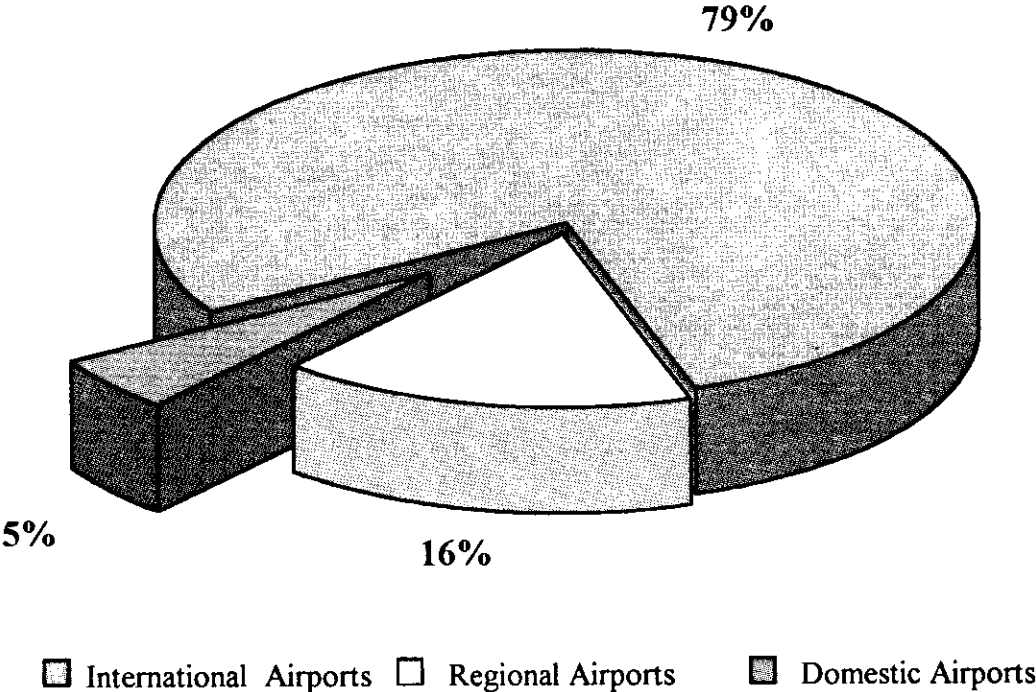


Figure 12-3

Passengers on Domestic and International Flights (Saudia) (Scheduled Flights)

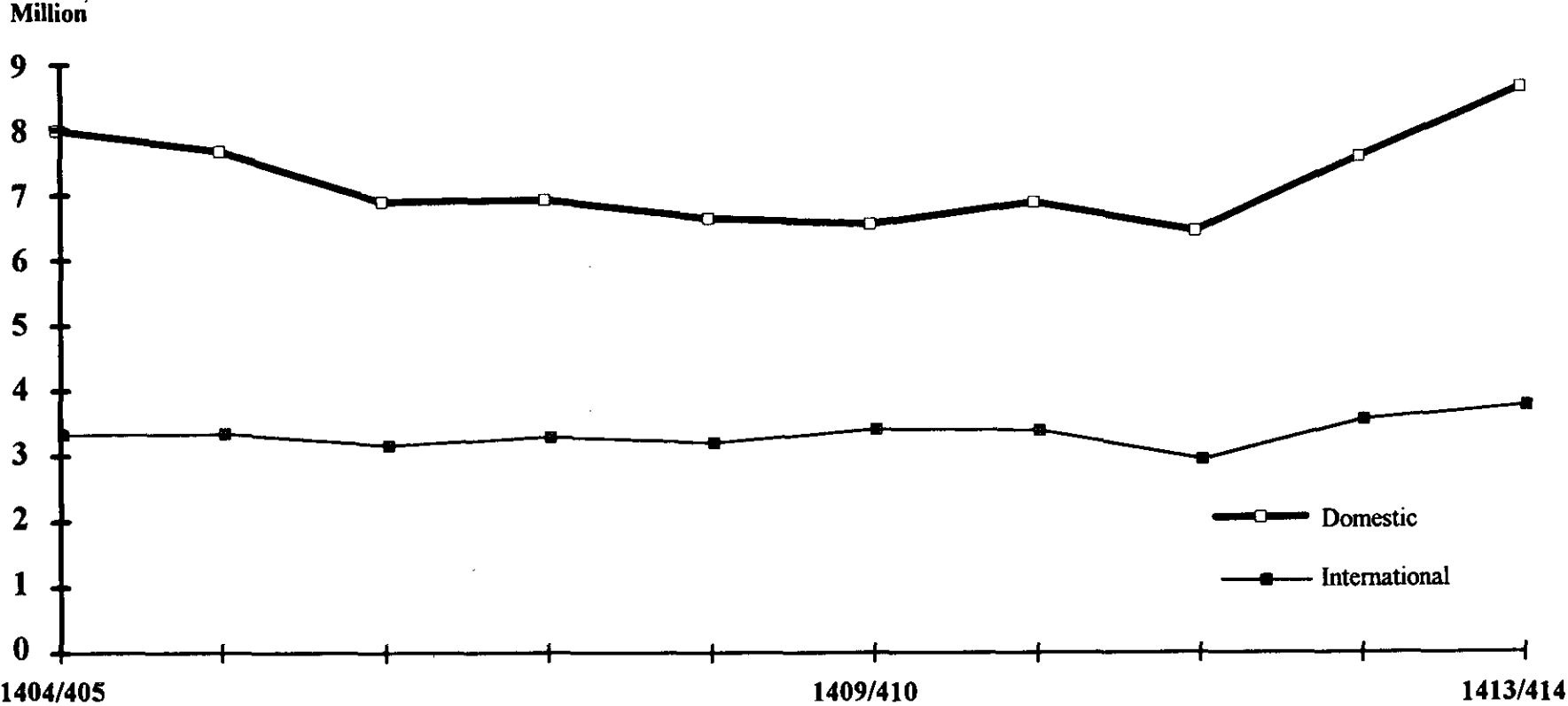
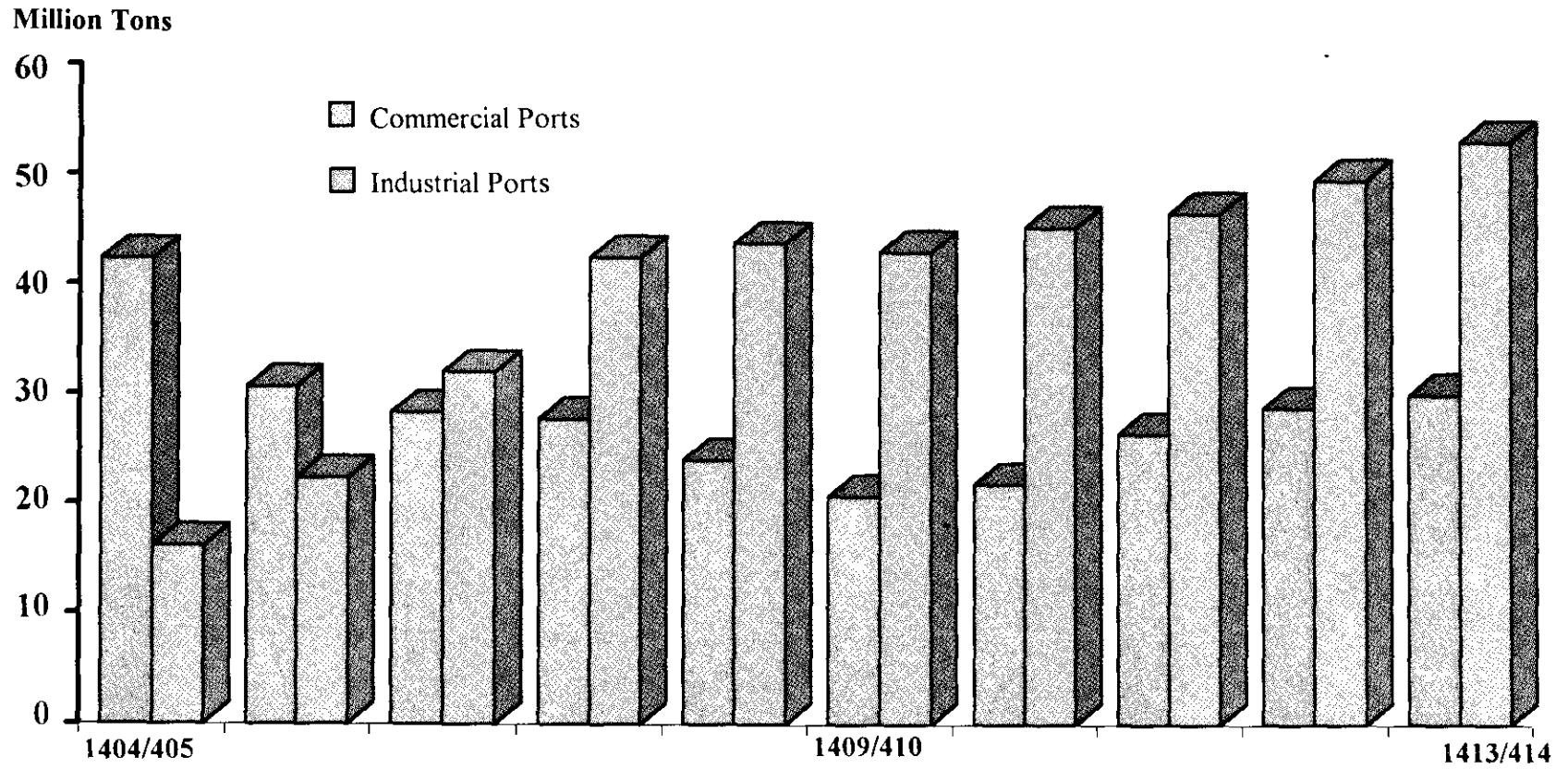


Figure 12.4
Cargo Handled in Commercial and Industrial Ports



Deregulation

Deregulation and the improvement of operating procedures is a policy approach that is currently being adopted worldwide. In general, this policy aims to expand the role of the private sector in transport activities, and to introduce the principles of competition and market liberalization for both government-owned and private sector companies. In this way, greater efficiency and improved financial performance are the expected results. The process of deregulation should concentrate on the current tariff system and on the enhancement of competition between the various transport modes, by amending the existing system of direct and indirect subsidies.

Information Systems

The concerned agencies in the transport sector have achieved great advances in the establishment of data bases and information analysis, which are needed for planning and decision making. Despite great efforts to improve the recording and documentation of accidents, more information gathering, monitoring and analysis of traffic movements on the Kingdom's main roads is still needed.

Such information is essential for the economic evaluation of new road projects. In addition, environmental aspects are gaining more attention, making it necessary to start monitoring pollution levels on a regular basis, especially in densely populated areas.

Operating Efficiency

Despite improved financial results, some issues related to the operating efficiency of some agencies still need to be addressed, through continuous performance improvements based on higher employee productivity, the efficient use of existing equipment and facilities, and the presence of balanced competitive conditions for different transport modes.

Road Transport Safety

Despite the high standards of security and safety provided by the road network, the number of traffic accidents is continuously growing. This reflects the need to educate drivers in the principles and disciplines of safe driving and the technical condition of vehicles, and to raise traffic awareness among the population in general. Further efforts should be made in these directions.

Environmental Aspects of Road Traffic

The Kingdom has made great efforts to control environmental pollution and to limit its impacts, especially in densely populated areas. Since this problem does not receive adequate attention from the public, precautionary steps must be taken to educate the public and to promote their level of awareness of environmental matters.

12.1.3 SAUDIIZATION

The process of Saudiization in the public sector progressed steadily during the Fifth Plan, with the following rates achieved in the various agencies: full Saudiization in the Presidency of Civil Aviation, where total employment amounts to about 3,100; 92.3 percent of the 3,200 total employment in the SPA; 93 percent of the 4,100 total employment in the Ministry of Communications; 74 percent of the 1,900 total employment in the SGRRO; and 65 percent of the 23,900 total employment in SAUDIA.

The low Saudiization rate in SAUDIA reflects the nature of the air transport industry, where companies operating in the international market meet their needs for local staff from those markets.

It is planned to Saudiize all positions in the public sector by the end of the Sixth Plan, except for highly technical staff which are difficult to find in the Kingdom.

On the other hand, the process of Saudiization in private establishments operating in the transport sector has been lower, ranging from 39 percent amongst railroad maintenance contractors, 27 percent in the domestic airports, 7 percent in the international airports, and 12 percent in the ports contractors (maintenance and cargo handling).

The private sector will be prompted to accelerate the rate of Saudiization and to implement directives in this respect through both incentives and obligatory measures.

12.1.4 ECONOMIC EFFICIENCY

During the Sixth Plan, transport policies will aim to provide the conditions needed for the sector to operate as an integrated transport network and to establish performance criteria for the executive agencies consistent with prevailing market conditions and the sector's potential to attain international standards of productivity and financial performance.

The operating efficiency of the transport agencies improved during the Fifth Plan period:

- SAUDIA's manpower productivity reached 97 percent of its target rate, while its unit cost of production was below the IATA average in 1412/13;
- the cost of maintaining asphalted roads was more than 21 percent less than the targeted cost;
- the ratio of operating expenditures to revenues in the ports reached 185 percent in 1413/14 compared to 210 percent in 1409/10, while the direct handling cost per ton of cargo declined from SR 11.4 to SR 6.7 over the same period;
- the ratio of operating expenditure to revenues at the Railroads Organization reached 53 percent in 1413/14 compared to 45 percent in 1409/10.

Improved economic efficiency in the transport sector during the Sixth Plan requires the resolution of problems and issues that arose during the Fifth and earlier Plan periods. Future expansion and greater efficiency also require a long-term strategy that focuses on comprehensive development needs and coordination between the various transport modes. In support of this goal, the Ministry of Planning has undertaken a comprehensive study of the transport sector to the year 1435, in cooperation with the agencies concerned. The preliminary findings of this study confirm the importance of developing the main corridors over the longer term and of implementing the following measures:

- improving existing organizational structures and administrative procedures, by modifying the regulatory framework to ensure effective competition within a free market environment;
- improving the technical skills of employees, thereby raising productivity;
- reducing employee numbers to internationally recognized levels at those agencies that currently exceed these levels;
- expanding the private sector's role in the provision of transport services.

12.1.5 PRIVATE SECTOR OPPORTUNITIES

Enhancing the private sector's role will continue to be one of the strategic principles of development, and one of the transport sector's top priorities during the Sixth Plan.

The private sector currently implements all the transport sector's construction projects and O&M programs through contracts financed by the government budget and under direct government management and supervision. The Sixth Plan aims to review and amend the rules and regulations of the transport sector in accordance with free market principles and the need to balance competitive conditions amongst the various transport modes. In this way, the private sector can be attracted to undertake the tasks of boosting the efficient development of this sector and to shoulder increasing responsibility for its integrated management, operation and maintenance activities.

12.1.6 DEVELOPMENT STRATEGY

The development strategy in the transport sector will be implemented through the following objectives, policies and programs:

12.1.6.1 Objectives

The overall objectives in the transport sector remain the improvement of productivity and the provision of appropriate levels of service to the community. Within this framework, the two major strategic objectives in the Sixth Development Plan will be:

- to ensure continuous balance between the increase in demand for transport services and the appropriate expansion in both the domestic and international transport networks;
- to rely increasingly on the private sector to provide transport services and to study the possibility of privatizing those activities now operated by the government (such as SAUDI), whenever feasible.

12.1.6.2 Policies

1. Reorganizing the Transport Sector

The following policies aim at increasing the efficiency of managing and operating the Kingdom's transport infrastructure:

- Improving the administrative and legal framework regulating the relations between the private and public sectors in a manner that will encourage the private sector to increase its investments in transport activities;
- Reconsidering those subsidies and other regulatory factors that may affect the competitive balance between transport modes;
- Reviewing and possibly modifying transport service prices so that they will not be less than production costs, except in rare cases, in accordance with the Fourth Basic Strategic Principle of the General Objectives and Strategic Bases of the Sixth Development Plan.
- Defining and monitoring quality standards for contracted transport services.

2. Enhancing Economic Efficiency in the Public Sector

This policy aims to improve economic efficiency in the public sector by:

- Greater use of economic evaluation criteria in the decision making process for new investment projects (transport infrastructure and equipment);
- Improving the transport sector's data and information system, including the definition and monitoring of performance indicators;
- Ensuring maximum utilization of existing capacity through efficient operations;
- Further improving manpower skills through training;
- Adjustment of organizational structures according to prevailing needs.

12.1.7 SIXTH PLAN TARGETS

- Operational self-sufficiency must be achieved or maintained for each of the main commercial and industrial ports.
- SAUDIA will aim at operational self-sufficiency and manpower productivity levels equal to international levels.
- The Railroad Organization is expected to increase the utilization of passenger trains by decreasing the shuttle trip times from two days to one day.
- SAPTCO is expected to maintain positive financial results throughout the Sixth Plan.

12.2 TELECOMMUNICATIONS AND POSTAL SERVICES

12.2.1 PRESENT CONDITIONS

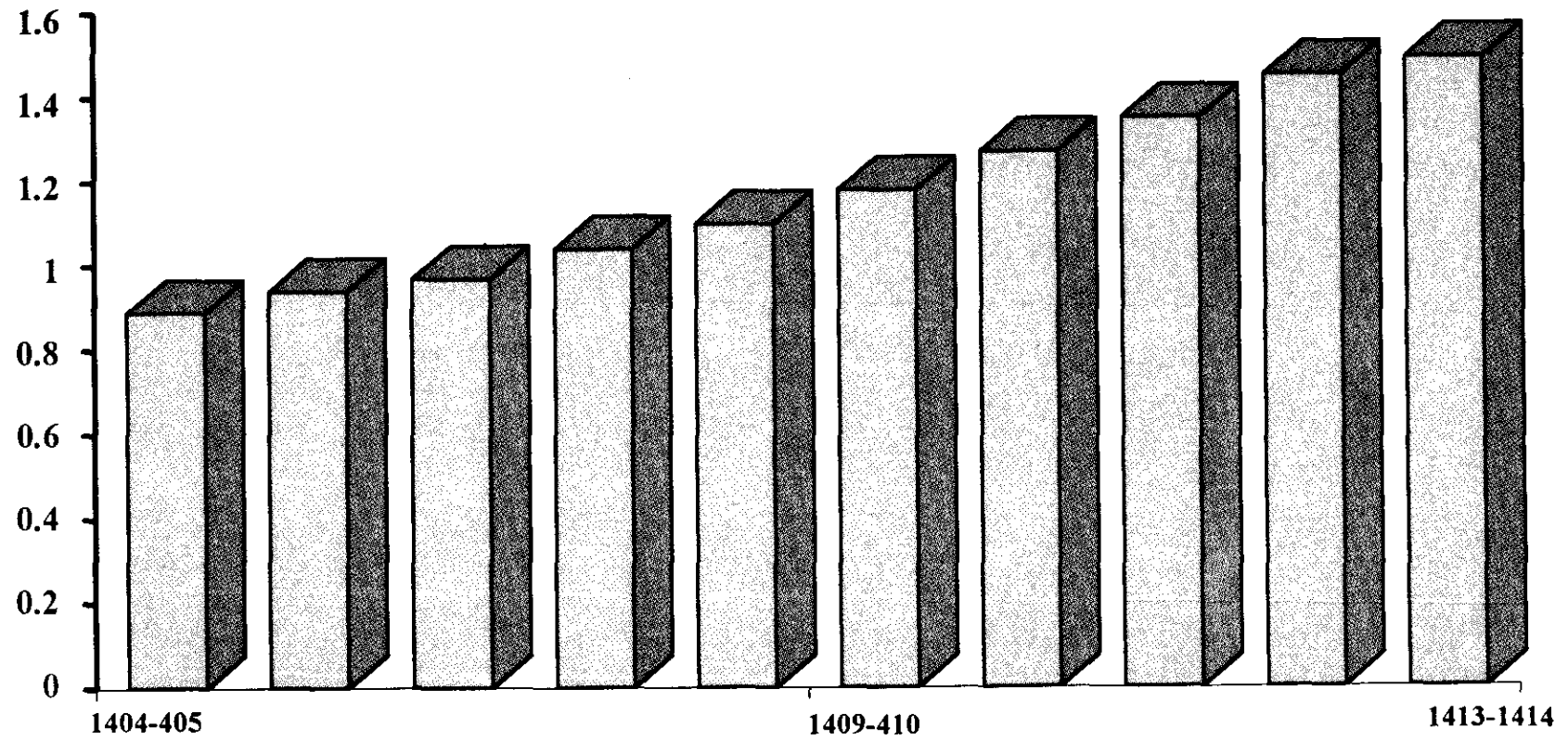
Over the past two decades, telecommunications and postal services in Saudi Arabia have made a significant contribution to economic and social development, through the provision of a wide range of communications services: telephones, mobile telephones, paging systems, leased circuits, telex, data communications, telegraph, letter and parcel services. Such services provide essential communication links, both within the large surface area covered by Saudi Arabia and with the outside world. In recent years, commercial establishments and the producing and financial sectors have come to rely more and more on telecommunications for the collection, storage, processing and distribution of information in their efforts to raise productivity, to control costs, to manage decentralized units, to reach customers and to promote new products.

During the Fifth Plan period, substantial progress was made in the overall performance and productivity of the telecommunications service, through both rising revenues and greater control of operating and maintenance expenses. Revenues from the telephone service, which accounted for around 96 percent of total revenues, rose from around SR 4 billion at the end of the Fourth Plan to about SR 6 billion at the end of the Fifth Plan. At the same time notable advances were made in the expansion and quality of services and in the management of technical and human resources.

The number of working telephone lines rose to about 1.53 million over the Fifth Plan period, an increase of about 372,000 lines, or almost 32 percent (Figure 12.5). A new radio paging service was introduced in 1412 and the number of new subscribers rose to around 167,000 by the end of the Fifth Plan period. The number of specialized point-to-point lines -- used mainly for data communications -- rose from about 30,700 lines in 1409/10 to around 49,000 in 1414/15, while public pay telephones rose from 6,200 to 7,500 over the same period. The packet-switched public data network installed at the end of the Fourth

Figure 12-5
Working Telephone Lines

Million Lines



Plan (Alwaseet) has developed steadily, and now provides around 3,000 active data services. The high-technology international submarine cable project (SEA-ME-WE 2), based on digital optical fiber systems, will be completed by the end of the Fifth Plan and will meet the growing international circuit requirements of Saudi Arabia.

12.2.2 KEY ISSUES

During the Fourth and Fifth Plan periods, the main thrust of development was towards increasing the utilization and optimization of existing telecommunications and postal facilities. The investment allocations were used mainly for necessary basic expansion and modernization of the national and international telecommunications network, while postal services maintained their current performance in terms of productivity and the volume and quality of services. During this period, however, there has been a growing demand for basic telephone services, mobile telephones and public pay telephones. In addition, demand has grown for the introduction and application of new telecommunications technologies, such as an integrated services digital network (ISDN), digital mobile communications, broad band digital leased circuits, video conferencing and electronic mail. Therefore, the overriding concern of future years will be the satisfaction of this growing demand for existing and new telecommunications services.

Thus, modernization and expansion broadly define the twin challenge facing the telecommunications sector at the start of the Sixth Plan, particularly with respect to the long distance network (with its requirements for digitization and the installation of optical fiber cables, digital microwave facilities and the upgrading of satellite equipment) and the exchanges, where existing hardware and software needs to be replaced. Such modernization and expansion will require substantial investment and methods of increasing private sector participation in this investment will be studied.

A similar need exists to expand and modernize the Kingdom's postal services, although the investment required is much less. If these services are to fulfill their potential contribution to economic and social development throughout the Kingdom, additional post offices and mail collection points will be needed in rural, suburban and urban areas, along with advances in mechanization and the expansion of surface and mobile mail transport routes.

12.2.3 SAUDIIZATION

By the end of the Fifth Plan, the Saudiization rate in the telecommunications and postal services sectors had reached almost 93 percent of the total employment of 20,300 and 10,000 respectively.

Full Saudiization is expected by the end of the Sixth Plan. However, the rate of Saudiization remains low in the programs implemented by the private sector. Private companies operating in the telecommunications sector must be monitored to ensure that they are abiding by the directives to increase the rate of Saudiization and that they are taking positive actions towards achieving this goal during the Sixth Plan period.

12.2.4 ECONOMIC EFFICIENCY

Over the Fifth Plan period, there was a notable improvement in manpower productivity in telecommunications, as the number of telephone lines per employee rose from 58.4 to almost 80 (an increase of 37 percent). At the same time, revenue per employee rose by almost 45 percent, from around SR 200,000 to about SR 290,000. With respect to the postal services, the average number of postal items per employee exceeded 53,000 over the Fifth Plan period.

Measures to raise productivity and efficiency in the telecommunications sector in the Sixth Plan are closely linked to the proposed large-scale investment in new technology and the expansion of the network. Higher levels of output can be achieved at lower operation and maintenance cost, through the introduction and extensive application of high capacity switches, digital transmission links and automated operator services. In addition, the internal management of the network will become more efficient through the intensive use of computers for automatic fault analysis, for customer services, for improving the management and control of materials, and for overall financial management. The proposed capital investment in modernizing and expanding the telecommunications network during the Sixth plan is expected to result in the following improvements in productivity over the five-year period:

- an increase in revenues per employee from SR 290,000 to SR 440,000;
- a decrease in the number of employees per 1,000 lines from 12.9 to 8.

At the start of the Sixth Plan, the operating costs of the Kingdom's postal services are expected to exceed the revenues generated because of the labor-intensive nature of these services. It is important, therefore, to raise the productivity and efficiency of postal workers, to simplify work practices and to expand the use of automatic processing.

12.2.5 AVAILABLE OPPORTUNITIES FOR THE PRIVATE SECTOR

Enormous capital investment is needed to expand and upgrade the telephone exchanges, the long distance network, mobile telephones and support facilities. There will be significant opportunities for private sector investment in telecommunications, through joint ventures, supplier credits, or revenue sharing programs, particularly as the profit levels in telecommunications are now large enough to attract private investors. However, profitability can be further increased through productivity gains, cost reductions per line and improved revenue collection. The total cost of potential projects in the Sixth Plan will exceed SR 16.7 billion. Studies are currently being undertaken on the possible options for private sector participation in financing the projects of this sector. It is also planned to privatize some business-oriented telecommunications activities if this will generate real benefits for the national economy.

Opportunities for private sector participation in the postal services will be mainly confined to operations and maintenance contracts for buildings and mail transportation activities. Studies can be undertaken in the Sixth Plan period on the possibilities for private sector financing of some postal projects.

12.2.6 DEVELOPMENT STRATEGY

The development strategy for the telecommunications and postal sectors will be implemented through the following objectives, policies and programs.

12.2.6.1 Objectives

In recognition of the important role of telecommunications and postal services in the Kingdom's economic and social development, the following objectives will be pursued in the Sixth Plan:

- to satisfy the increasing demand for telecommunications and postal services in all regions;
- to provide high quality telecommunications and postal services at favorable prices;
- to modernize and expand the telecommunications networks and the postal infrastructure;
- to consolidate the financial viability and productivity of government agencies in these sectors and to achieve their financial autonomy;
- to develop a highly skilled and qualified Saudi work force;
- to provide opportunities for the private sector to finance and operate the telecommunications and postal services.

12.2.6.2 Policies

The following policies will guide the development of the postal services and telecommunications sectors in the Sixth Plan period:

Postal Services

- Efforts will be made to improve the quality of the postal service by reducing the time for mail processing;
- Postal coverage will be expanded with due consideration to the volume of traffic, the range of coverage and the criteria of growth.

Telecommunications

- The telecommunications network, particularly the long distance network, will be expanded and modernized in all regions, through the widespread introduction of digital services and conversion from analog services.
- The quality of telecommunications services will be improved to meet customer needs through a reduction of the new telephone waiting lists, efficient maintenance and better fault repair management.
- New telecommunications services will be introduced, such as an integrated services digital network (ISDN), small satellite services (VAST), broad band video conferencing, electronic mail and other data services on leased lines or through the public telephone network.
- New, expanded or upgraded switches will be installed for the local, national and international networks, and will include the latest signaling and software technology.
- Investment funds will be raised from private financial institutions, along with the use of supplier credits and revenue sharing agreements for build-operate-transfer operations.
- Opportunities for increasing joint ventures or revenue sharing arrangements will be examined for activities such as the mobile telephone network, paging systems, pay telephones and other services, while competition will be encouraged in services such as video conferencing and data communications.
- Local, national and international telephone charges will be reviewed and modified to reflect cost structures.
- The development of Saudi human resources will be given a high priority.

12.2.6.3 Programs

The main programs in the telecommunications and postal sector for the Sixth Plan are as follows.

Telephone Expansion Program: This program will focus on the supply, installation and commissioning of new digital switching and junction equipment, and the construction and installation of outside plant facilities. The expansion and upgrading will cover the local, trunk, tandem and international exchanges. Terrestrial mobile subscriber facilities and radio paging services will also be included in this program.

Long Distance Network (LDN) Program: The expansion and modernization of the LDN is the core element in the future development of the telecommunications network. The planned terrestrial international links will connect the Kingdom to Kuwait, Qatar, UAE, Jordan, Yemen and Sudan by digital microwave or optical fiber.

Data Communications Program: This program aims to provide new data communications services through the introduction of new technology and facilities such as ISDN access, a public electronic mail service, a dedicated digital data network, and the expansion of the analog leased data service.

Support Services Program: The main activities under this program fall into three main categories -- data processing, frequency management and buildings -- and include the modernization and storage capacity expansion of central computers, the replacement of hardware, the development and modification of software, the expansion of frequency management for HF monitoring, the provision of technical buildings, warehouse buildings, information buildings and subscriber offices. This program will also provide mobile telephone exchanges, upgrade satellite facilities, replace analog microwave systems, and provide mobile, paging and TV services to meet some special requirements.

Operation and Maintenance (O&M) Program: The activities under this program will ensure the required performance of the current and planned network expansions. They will include the contracting of O&M activities for the LDN (microwave, coaxial, satellites), telex and packet network, the O&M of frequency management, consulting services, maintenance of the telegraph network, coastal stations, buildings and computer services. Other major program items are the maintenance of exchanges, the operation of the telephone network and the subscriber rural system (SRS), and the provision of spare parts.

Manpower Development Program: This program aims to develop the skills and performance of MOPTT employees through the provision of training that is targeted according to employees' experience and the work requirements. The training objectives will be achieved with the support of technical colleges, training centers, the computerization of training classes and on-the-job-training.

Postal service program: In addition to the management, maintenance and operation of the postal services, the main programs in this sector include the expansion of postal coverage, the development of postal facilities, quality improvement through the introduction of electronic equipment and the preparation of necessary studies to develop the postal service. Further, emphasis will be placed on manpower development through provision of training programs at the training facilities of the General Directorate for Posts and other centers.

