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**TRAINING REQUIREMENTS OF THE TRANSPORT SECTOR
IN THE COUNTRIES OF WESTERN ASIA**

Preface

The basic objective of this study is to identify training requirements in various transport fields in the region of Western Asia, determine how adequate available training means are to meet these requirements and propose recommendations for addressing the present training situation and raising its standard. The study is in implementation of the work programme for the period 1990-1991.

The study covers the following:

- (a) Provision of information on available training methods;
- (b) Determination of the extent to which training centres and institutes are utilized, with an appraisal of their output during past years;
- (c) Determination of the need for training and development with regard to various levels and modes of transport;
- (d) Formulation of recommendations on methods and procedures for developing training, for various levels and categories of the workforce and on various modes of transport, to bridge the gap between training needs and available means, taking into consideration trends and future requirements.

The data on Jordan and Iraq presented in the report prepared by consultant engineer Abdul Azziz Al-Windawi were of much assistance to this study. It was hoped that more information could be obtained from other countries in the region but that was not possible for various reasons including the course of events in the region and the regrouping of ESCWA after a long period of disruption of its work.



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INTRODUCTION

Since ancient times transport activities have occupied an important place in society as significant elements for its cohesion, integration, growth and development. Pre-modern transport requirements were simple, relying on animals, carts and ships. With the passage of time and improvement in means of transport, however, the transport sector increased in importance and became the keystone of modern communities' socio-economic activities. Transport networks are the axes around which community life revolves and its individual members move for their own various purposes.

The transport sector, with its networks and requirements, has undergone tremendous development during the twentieth century. The countries of the region, particularly during the past two decades, were not slack in drawing up and implementing the necessary plans for the development of their transport infrastructures which included mainly road, railway, airport and port projects. These projects contributed to strengthening the links between different parts of the same country and region and provided the necessary foundation for the development of other sectors of society.

Expansion in the building of infrastructures was accompanied by a tremendous increase of transport modes and equipment in use, such as automobiles, locomotives, railway carriages, aircraft and vessels. The increase reached very high rates in a comparatively short time.

The operation and management of transport networks and moving units require trained personnel possessing a high standard of efficiency compatible with the growing requirements for efficient utilization of these networks and units in communities seeking to catch up with a steadily developing world. The countries of the region therefore began to devote efforts to qualifying the necessary manpower for the operation and management of the growing transport networks. They established training centres and drew up plans to meet the requirements for the implementation of transport projects. However, the speed at which some projects were implemented in these countries exceeded the rate at which suitable personnel were trained for the management and operation of new projects. This situation prompted several States in the region to seek the assistance of returning labour in various administrative, technical and operational areas. The service of returning labour was also sought in some countries of the region for many jobs which did not require special training but for which there was a shortage of labour.

The national plans of the States of the region manifest a clear interest in training as a long-term investment indispensable for optimum utilization of transport networks and the provision of work opportunities for the national workforce. This interest was reflected in the establishment of several national training centres and a number of regional centres during the two previous decades. Training programmes were developed in a number of States, but this development varied in degree from one country to another in accordance with the material and human resources available and the orientation of the country's development plans.

Despite the deficiencies in various aspects and fields related to training of manpower, many States have been able to achieve a great deal in this regard and succeeded, within a short period, in training vocational, technical and administrative personnel by seeking the assistance of expertise available at local and international levels. This success clearly indicates that it is possible to achieve development for the provision of suitable local personnel to satisfy the requirements of the various aspects of the transport sector.

I. DEVELOPING MANPOWER

A. Summary

Developing manpower can be viewed from various angles. Production institutions, however, regard it as a significant factor in profit-making, as profit is the outcome of production relying on well-trained and highly efficient manpower. If this view of manpower development is adopted, the question of a choice between various standards of technologies used in production must be examined.

After consideration of these choices in the industrialized countries, many industries chose to develop technology with a view to reducing reliance on the human factor and increasing productivity through automation. In third world countries choice is more difficult. If automation is chosen over man, there are two limiting factors: on the one hand, official policies call for maintaining the level of labour and reducing unemployment and, on the other hand, the choice of technology is limited by the capabilities available.

This situation has become less critical in recent years as the base of choice in the field of technology has broadened with regard to the third world, owing to the rapid development in information technology and micro-technology which allowed policy makers a wider choice. To choose any type of technology has become less costly. Moreover scientific advancement has made the transfer of technology between North and South easier than ever before.

Despite the stage which technological development has attained in the world today each environment has retained certain distinctive characteristics and dictated certain restraints differing as to the type of technology acquired and the type that can be transferred and applied.

The transfer and development of technology depend largely on environmental factors and a certain cultural and civilizational background. It may not be possible to apply effectively in central Asia what can be applied in northern Europe. Likewise a condition that requires a certain pattern of technology to be introduced in one area may not be suitable in another area when the social and environmental characteristics are different. A significant factor for the success of the transfer of technology lies in the labour characteristics and the dictates and effectiveness of the policies adopted.

B. Labour characteristics in the ESCWA countries

Labour characteristics in the ESCWA region differ according to the economic and demographic conditions in each country in the region. The countries of the region can be divided into two groups: the oil-producing countries which rely to a large extent on immigrant labour from inside and outside the region; and the countries with limited resources that are less developed and export labour to the oil-producing countries. The qualifications of labour imported into oil-producing countries vary according to the level of development and availability of qualified national labour in those countries.

The oil-producing countries relied heavily on highly qualified labour in the early years of oil production. Requirements included engineers, management and training experts, high- and middle-level technicians, and teachers at various levels in addition to manual labour. Labour-importing countries continued to raise the standard of manpower until they dispensed with higher-level immigrant labour and replaced it with nationals who had obtained higher-level educational degrees at home or abroad and acquired training in high-level management. However, reliance continued on middle- and low-level technical levels as well as highly specialized personnel in many professions such as medicine and engineering and other narrow specializations.

Employment in the past used to cover the production sectors, since consumer services had not yet been developed. As development grew and rural and urban communities, which had hitherto had limited means of communication, came to have access to Western civilization and various Eastern and Western cultures the consumption trend increased in this region. This new attitude led to a tangible development of hotel and recreational services and an increase in the use of advanced technology in the enhancement of the individual's welfare. The new approach was reflected in the oil-producing countries in the form of redistribution of immigrant labour: while the demand for experienced labour for purposes of development declined, it increased in respect of services, including domestic, hotel and other low-level services that do not require much experience. The demand also increased for imported labour in jobs which nationals of host countries refused to take up. In addition, the Governments of these countries import labour to meet their requirements when their nationals prefer private business to public sector jobs.

C. Specificity of the transport sector

A feature of the transport sector is that it embodies a large number of similar and differing professions from which stem administrative, technical, engineering, and accounting jobs. Each of these professions is also subdivided into various branches as, for example, in the case of engineering, which comprises mechanical, electrical, architectural, civil and micro-engineering as well as numerous other narrow and broad specializations. Such a variety of specializations has no parallel in many other economic sectors. This situation can be more clearly visualized if it is taken into account that all the specializations embraced by the transport sector fall under the responsibility of a single management, which places a heavier burden on management than is the case in other sectors.

As an example of this diversity, we may table the railway sector where under the management and responsibility of the higher authority in that sector there are several specializations which may be summed up as follows:

- (a) Civil engineering;
- (b) Mechanical engineering;
- (c) Electrical engineering;
- (d) Communications engineering;
- (e) Signal engineering;
- (f) Railway line engineering;
- (g) Information engineering.

These are only broad divisions of railway engineering and each of them embraces several specializations. For example, the mechanical engineering management supervises the following activities:

- (i) Maintenance and operation of all types of diesel, electric and steam locomotives;
- (ii) Maintenance and operation of railway passenger carriages and goods wagons both of metal and wood;
- (iii) Maintenance and operation of automotive units such as passenger automotive cars;
- (iv) Maintenance and operation of service equipment such as fixed and mobile cranes, inspection machinery, service wagons and others;
- (v) Maintenance and operation of mechanical, electrical and manual station equipment along the network lines.

The above description is only intended to give an idea of the volume of work; a fuller presentation would require many more details. The situation is similar with regard to civil engineering and the activities it covers such as construction of lines, station building and maintenance and supervision of the safety of train movement on lines that can support daily speeds and loads. The same applies in the case of operation of equipment, transport of goods and passengers and related activities such as payment of wages, supervision, communication of information and issuing of instructions around the clock.

We have cited these examples to show the volume and diversity of training activities required in one transport activity in any country using these multimodal transport means. These examples also demonstrate the specificity of the transport sector, which makes it necessary to give special attention to training to prepare the required personnel at all levels.

D. Training

1. General programme

The various transport sectors rely on academic and technical graduates in various specializations and train according to the type of specialization required. Generally speaking, there are no institutes or universities supplying the transport sector with graduates in the required specializations. For example, a railway engineer does not graduate from a university or an institute as such; rather he is an engineer who has received progressive training in a railway institute as well as on-the-job training for several years to become a railway engineer. Similarly a commercial expert is not a university graduate with a degree in transport pricing on railway cost accounting, but to do this type of work efficiently he should have undergone training in this field as provided by the railway sector.

This approach has been in practice in many third world countries that have railway networks; the countries of the ESCWA region are no exception. Some countries relied on training with railway establishments in industrialized

countries for the development of technical and administrative skills of higher- and middle-level personnel. Lower levels were given training locally.

Several industrialized countries took a different approach from that seen in the countries of the region. They established highly specialized institutes such as the French Ecole Nationale des Ponts et Chaussées which conducts specialized courses in transport sciences. Some European universities also provide specialized courses in the field of transport. For example, London University has offered specialized courses in transport for the past two decades.

Some institutes, such as the Economic Development Institute of the World Bank, provide specialized courses for those in higher management categories within the framework of training or rehabilitation of management leadership. There are many other institutes in industrialized countries furnishing graduates suitable for work in the transport sector. Graduates of such institutes cannot dispense with the training, as the railway sector involves a high degree of specialization. For example, there is no training on driving diesel locomotives outside the railway institute in the region although training on driving and navigation of ships is given outside the maritime institute.

There are many differences among the transport sector and other economic sectors with regard to the volume of demand for training within administrations. There is also a clear discrepancy among modes of transport within the transport sector as to the required amount of training within the institute. The transport sector thus spends tremendous amounts of money on the training of its personnel, especially since transport institutes need to set up training centres and furnish them with training equipment and supply suitable personnel for training in various occupations.

2. Training requirements

Training requirements constitute a heavy burden on the institutes in the transport sector, and this burden varies in volume and cost according to the mode of transport. Cost also varies according to whether it is a public or a private sector institute. For instance the budget for the railways, and hence the State budget, covers all training expenses for a public training institute. However, although the private sector is the main beneficiary of training in the field of road transport, it bears only a slight portion of the cost of the training in question.

The difference between road and railway transport is that in the former the road itself constitutes the larger portion of the basic or fixed cost. The State usually undertakes construction of the road and training of engineers, technicians and maintenance workers while the private sector, or vehicle owners, bear no expenses in this respect. Management and operation of road transport vehicles are undertaken by individuals whose training costs are not borne directly by the private sector except in the case of large companies which require a limited amount of training for their personnel. In most cases the private sector employs people who have completed their training elsewhere, probably in institutions belonging to the public sector.

With regard to the railways the situation is different and is clearly reflected in the operational expenses. The State in this case bears the costs of the railroad, transport equipment and all other related operational requirements. These requirements are broadly as follows:

- (a) Construction, operation and maintenance of the railroad;
- (b) Building of stations including offices and residential quarters for outstation personnel;
- (c) Setting up a telecommunications network;
- (d) Setting up maintenance workshops for railway locomotives and carriages;
- (e) Installing traffic signals along the railway line;
- (f) Supply and maintenance of railway trucks;
- (g) Management and operation of equipment.

These commitments reflect specific training requirements for the personnel engaged in this work. Some networks took certain measures to decentralize certain functions and separated others from the functions of the network management. Among such measures was the creation of an organ responsible for railway line construction independent of the network operation management. But these measures did not affect the volume and quality of the required training, but only transferred part of it to be under independent management. The railway institution remained committed to establish specialized institutes and schools to provide fundamental training as well as training in the management, operation and maintenance of transport equipment and related activities in the institution.

The need for specialized schools and institutes is not confined to railways but extends to other modes of transport, only to a lesser extent and for a different type. An example of this would be the training activities conducted in seaports to improve the efficiency of personnel and provide them with basic training. Maritime transport institutes adopt a training-course system such as courses on management and operation of container stations, operation of cranes or training of holdmen and winch operators. There are also training courses for shipmasters, hold foremen and traffic and depot inspectors, in addition to specialized courses in various professions such as electrical, mechanical and other disciplines. Most countries of the region undertake the setting up of maritime training institutes to provide fundamental training and rehabilitation courses. However, practical on-the-job training remains the more important method in view of the specialized nature of this institute's duties.

In the case of higher- and middle-level personnel, maritime transport companies satisfy their requirements by hiring graduates of institutes and universities who have been qualified academically or professionally in the type of work selected and are then given on-the-job training in the form of short courses when necessary.

Airlines also satisfy their need for high- and middle-level personnel specialized in aviation and apply international systems for maintaining a certain standard of training in jobs involving aviation safety including the various aspects of pilot training. In addition, major airlines are required to arrange training for various operational jobs by setting up specialized institutes offering basic training and refresher courses.

The present status and the future

Many transport companies, particularly airlines and railways, experience financial difficulties. Operational expenses, including training costs, constitute a heavy burden on their budgets. Some companies are expected to encounter more difficulties during the present decade unless basic steps are taken at an individual or collective level to improve the financial situation of these companies.

Many of these companies are characterized by low productivity in terms of the number of workers and the efficiency of individual personnel and management, both of which depend on suitable training for the performance of a certain job. A careful study of transport companies shows that training of higher- and mid-level personnel does not receive enough attention. Attention is mainly focussed on improving the vocational and technical standard of lower level workers who do the daily work. As for higher management personnel, they find no time for training or rehabilitation and probably think that training is a waste of time. Planning, programming and specialized research personnel are neglected as much as higher management personnel.

A look at the history of transport networks in the third world throws light on the present status of training. Most transport networks, particularly railways, were established by colonial States which, their for higher-level management and planning staff brought out personnel from their own transport networks. These personnel had originally been trained in their own countries. As for lower-level staff, they relied on locally trained personnel. For this purpose, the training of operators and immediate supervisors, the colonial countries established national schools and institutes to give instruction in lower-level skills under the supervision of their own experts and managerial staff.

As an example of this situation, the case of a company in the third world can be cited. The British used to supervise the operation of the railways in the Sudan and East Africa (including Uganda, Kenya and Tanzania). High-level management of the railways was undertaken by British staff who had received training in Britain and who were then transferred, for instance, to the Sudan and then to Kenya or vice versa. The British thus did not need to train higher-level managerial or technical personnel but rather brought them out from Britain and confined local training to workers in secondary sectors. The schools and institutes which were established were therefore of a low standard and provided only limited training which precluded any opportunity for higher standards.

This example demonstrates the colonialist policy which was followed by the railways. This policy persisted in some countries for a long time after the colonialists had left. Some networks continued to send staff for training to the former colonial States; they would then return home to take up high-level positions after years of work and job experience.

An examination of the old training programme reveals that the training was not suitable for the work or only suitable to ensure continuity of operation if all other factors remained constant. The railways, for instance, were the only mode of transport and did not face competition from road or air transport. Therefore low-speed, old-fashioned trains continued to transport passengers and goods at an unchanged pace and with stable annual profits. Since the railways could not maintain this same competitive position during the 1970s and 1980s that they had had during the 1950s and 1960s, the system gave way as it lost its strongest element, its monopoly on the transport market, as competitive modes of transport came into service with facilities better suited to users.

A major reason for the degraded state of many railway network systems is that training has not been developed to cope with new requirements. Neglecting the training of leadership personnel can make the situation worse than at any time in the past. The same applies to other transport companies: for training to stop at a certain level means that work efficiency will be limited to those areas covered by the basic and subsequent training. The training of higher-level personnel will remain the foundation for any development that transport companies may be able to achieve. Through training of high-level personnel, access can be obtained to all that modern technology offers through efficiency and cost-cutting measures which can make the railway more efficient in the new, straitened circumstances than in former times when it monopolized the transport market.

Training of leadership personnel should presuppose a suitable background of academic qualifications appropriate to the nature of work in the concerned company. Universities and specialized higher institutes are now providing more suitable basic education than before, which enables the sector's management to select qualified young staff and give them advanced training based primarily on the right academic qualifications and on modern methods that utilize information and micro-computer technology in management, planning and supervision. Adopting such an approach would make the future outlook brighter, but something must be done to change the present conditions.

The world has progressed considerably in its serious utilization of information and microtechnology, particularly computer technology and automation, and has as a result the standards of production have been raised. Since the role of the third world is still confined to being a recipient of rather than a contributor to the development of technology it must intensify its efforts to put to good use what is obtained from the industrialized world. At the same time the third world would take measures to increase the contribution of the coming generations in the third world to human development.

II. TRAINING METHODS PRESENTLY IN USE

A. Land transport

The land road transport sector generally consists of the infrastructure, which consists of roads, loading and discharge stations, storage and control centres, and mobile units which comprise passenger goods and other vehicles.

The State usually draws up the necessary central plans to build roads in accordance with its general policy to implement the set objectives and subsequently bears the costs of road construction and provides what is needed for traffic organization and road maintenance and management. However, actual transport operations for both passengers and goods are carried out by various means of transport owned by individuals, companies or government or non-government bodies in accordance with the rules and instructions issued by the appropriate government authorities to protect the safety of persons and property and ensure smooth traffic flow. Such instructions do not interfere with methods of operation, investment or efficiency of performance except within the limits of maintaining the required standards of safety and security.

In the case of transport by railways the situation is different. Here planning for the construction of railway lines takes into consideration the mobile units required to meet the objectives of these lines. In other words, planning covers the construction of an integrated transport system operated by one body rather than being open to anyone except in certain cases where prior coordination with the body undertaking the operation is required.

Land transport may accordingly be divided into the following groups of specialized activities:

1. Road transport

(a) Road networks

Overall planning;
Implementation which includes surveys, preparations and execution of work;
Organization and management;
Maintenance.

(b) Road transport units

Operation;
Maintenance.

2. Railway transport

(a) Railway lines

Overall planning;
Implementation which includes surveys, preparations and execution of work;

Organization and management;
Maintenance.

(b) Railway transport units

Supply;
Operation;
Maintenance.

(i) Jordan

a. Planning

Overall transport planning requires specialists highly knowledgeable in regional, constructional and transport network planning as well as a broad database provided by specialized management that undertakes collection and analysis of statistics. Various universities, both national and foreign, provide the necessary fundamentals for a preliminary preparation of planners, while other aspects are taken care of through higher studies or development training. Although there are no organized training programmes or specialized training centres, this did not affect the quality of experience and knowledge of the personnel in view of their advanced technical standard. However, this situation does not permit development as the standard of work continues to adhere to local standards and will remain limited to self-acquired expertise unless a clear well-defined system is drawn up to bring personnel engaged in overall planning of transport and road networks in contact with their counterparts in developed countries for adequate periods of time to permit them to gain experience in the methods employed in this regard.

b. Implementation

The implementation of road projects includes the necessary surveys, preparation of specifications, designs and documents and finally actual execution of work by government administrations or national or foreign contractors under the supervision of these administrations. Over the past decades considerable experience has accumulated in this regard in addition to experience gained from contracts with the foreign companies carrying out these projects.

Administrations and bodies implementing transport and road network projects rely on general training facilities such as colleges of engineering, training in building construction, and survey institutes. In addition, there is on-the-job training and accumulation of experience gained by heavy-duty equipment drivers and builders, among others. The conclusion to be drawn is that for implementation of road projects full use is made of graduates and personnel who have received general training; however, there are no institutes for specialized training on implementation of work at any level.

c. Organization and management

Road traffic organization and management are undertaken by a specialized administration, the Directorate of Traffic, which carries out its duties under Traffic Law No. 14 of 1984 and a set of regulations and instructions issued thereunder. The Royal Police Academy in Amman engages selected police officers for training in basic traffic courses in which they learn the particulars of the traffic law and the related regulations and instructions so as to be qualified for work in traffic management, highway patrol or granting of licences. Basic courses are normally followed by more advanced courses in the Academy for further development.

The Academy meets Jordan's requirements for enough qualified personnel to direct traffic on roads inside and outside cities and organize and control licensing of individual drivers and vehicles to ensure a certain standard of safety and security both for the vehicle and the driver by establishing minimum acceptable specifications and standards.

The present state of training activities relating to qualifying the necessary personnel for organization and management of road traffic can be regarded as adequate for the present and the near future. However, given the exigencies of development and the ever-increasing traffic, the Academy considered the possibility of setting up a specialized institute for traffic affairs within the Academy. Although it is too early to give an opinion on this, there have been no objections to the idea.

d. Maintenance

Specialized agencies in the Ministry of Public Works and Housing undertake maintenance of main roads in the country in accordance with central maintenance programmes prepared in the maintenance section of the Ministry. Such programmes are implemented by maintenance teams comprising various technical levels including engineers specialized in roadwork and others. There is no specialized training centre work and reliance is solely on graduates of universities, institutes and technical schools as well as on the accumulated experience and skills of various levels of workers within the general specializations.

(ii) Iraq

a. Planning

Overall road planning is carried out by specialized administrations through the General Establishment for Roads and Bridges, which submits detailed proposals in accordance with the objectives of overall plans. After approval, these plans are then implemented by the Establishment, since overall transport planning requires planning specialists as well as a broad database prepared by the appropriate statistical departments. Planning work is usually supported by experienced graduates of national and foreign universities who have had the opportunity to receive training abroad through higher studies, seminars or meetings with consultants and experienced institutions. There are no training institutes to qualify personnel within the country apart from the National Planning Institute which provides advanced courses in planning.

b. Implementation

The General Establishment for Roads and Bridges is responsible for the implementation of highway projects including surveys, preparation of specifications, designs and documents and often actual execution. Specialized government companies are increasingly participating in road construction as reliance on foreign companies is diminishing; the services of foreign companies are now being sought only in specialized areas or specific cases.

Implementation of work relies on general training acquired in colleges, institutes, technical schools and trade skills practice for lower levels. In the training of new staff, they are given the opportunity to work alongside experienced personnel and thus acquire skill and know-how by means of on-the-job training. There are no specialized training institutes in the area of road construction.

c. Organization and management

The Directorate General of Traffic is responsible for the organization and management of road traffic and monitoring enforcement of the traffic law and the relevant instructions. The traffic training section of the Higher Institute for Internal Security Forces arranges for those police officers selected for training basic traffic courses to acquaint them with appropriate traffic legislation, traffic engineering, traffic police work and the investigation of accidents to qualify them for work as traffic officers. They are subsequently given refresher and development courses.

The Higher Institute for Internal Security Forces supplies the country's need for enough qualified personnel to organize and manage road traffic and carry out the various duties of the Directorate of Traffic in such a way as to ensure road safety and safety for the driver and the vehicle as well as efficient flow of traffic.

It should be noted that this Institute has provided training services to a considerable number of individuals from Arab countries after coordination between the appropriate administrations.

At a lower level the Police Training Centre provides the necessary training to traffic personnel other than police officers in accordance with programmes suited to their job requirements.

d. Maintenance

Road maintenance in Iraq is undertaken by road directorates affiliated to the General Establishment for Roads and Bridges. The Establishment has certain programmes that are implemented by engineers, technicians, workers for building and laying pavement and others such as machine operators. There is no specialized training centre and the system relies solely on the broad specializations of the graduates of the related colleges, institutes and technical schools and on other experienced technicians.

e. Road transport units

i. Jordan

Transport units such as private cars, passenger buses and various-sized trucks are driven by drivers who have been trained either privately or at training centres authorized by the Driver and Vehicle Licensing Department at the Directorate of Traffic.

This Department grants licences to training centres after approval of the training programmes, the trainers and the training facilities including vehicles and audiovisual aids. In this way the required standards of traffic safety and security can be ensured and the State can maintain these standards centrally through its administrations.

Maintenance of transport units is carried out by their owners who have to ensure serviceability of their vehicles according to standards prescribed by the State for the safety of roads and their users. The State also continues to grant vehicles certificates of roadworthiness.

ii. Iraq

Persons wishing to obtain a driving licence may receive training on a personal basis in an unsystematic manner or through a training institute. Passing a driver's test would in this case be considered an essential guarantee of a minimum acceptable standard of driving a vehicle on a public road. The Directorate General of Traffic reserves the right to test drivers after they have received training in the various institutes and in this way it exercises control to maintain the required standard of safety and efficient traffic flow.

The situation with regard to maintenance is not different from that in Jordan as the State likewise maintains standards of vehicle road serviceability by issuing certificates of roadworthiness.

3. Railway lines

(a) Jordan

Railway networks in Jordan are limited. This study will therefore be confined to the status of training within the Aqaba Railways, where training is given due attention in view of its bearing on the standard of efficiency, regularity of operations and reduction of costs and because that railway has realized the significance of this vital transport artery in conveying Jordan's major mineral wealth from the phosphate mines to the port of Aqaba.

The Aqaba Railways maintains a training section which organizes training activities in three areas:

- (i) Training within the Railways;
- (ii) Local training inside Jordan;
- (iii) External training abroad.

The Aqaba Railways has completed training of the following number of its workforce:

Type of training	No. of trainees by years					
	1985	1986	1987	1988	1989	1990
Within the railways	68	48	29	40	93	27
Local	17	19	7	10	2	-
Abroad	9	9	5	5	15	3

To these training courses are added general courses such as the continuing civil defence courses in which 120 personnel from the Railways were trained over six courses in 1990.

A branch for vocational apprenticeships was created by the Aqaba Railways and the training centre began in 1983 to admit trainees to qualify them technically for work. Graduates of vocational apprenticeship courses are in three specializations:

- Locomotive mechanics;
- Truck mechanics;
- Line equipment mechanics.

The number of graduates for the previous years was as follows:

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
No. of graduates	13	23	15	22	13

There are at present 13 apprentices receiving training and instruction in the Aqaba Railways. The training section has laid out its envisaged plan for improving the standard of the Railways workforce in line with current developments. This plan includes four stages, namely:

- Identification of requirements;
- Formulating a training plan;
- Dissemination of training;
- Follow-up of training.

Undoubtedly the plan, if proved economically feasible and after approval and finalization of the details of its implementation, will be a major helping factor in the establishment of a suitable basis for enhancing the standard of railway work. It will supply the necessary workforce for any prospective railway expansion in Jordan and will encourage the trend to construct new lines within the framework of both local and regional plans. The training programmes cover workers in a wide spectrum of railway activities, from workers in railway transport, to workers in maintenance, signals and communications as well as administrators and senior officials.

The present training situation in the Railways thus meets the current need for compensation of lost labour as a result of work cycles.

(b) Iraq

The Iraqi Public Establishment for Railways is responsible for management, operation and maintenance of the railway network which extends north, south and west covering three major zones. The Establishment draws up plans for training of the necessary manpower for this work including training programmes implemented at the Railways institute, on the job the technical and operational sections, and outside the Establishment both inside the country and abroad.

The Railways Institute for Vocational Training, which is affiliated to the Railways Establishment, provides industrial apprenticeship courses in the following subjects:

- Traffic signals;
- Transport and operation;
- Electricity for carriage air-conditioning;
- Mechanics for locomotives and trucks;
- Railway lines and buildings;
- Maintenance and operation of communication equipment;
- Maintenance and operation of railway station power equipment;
- Electricity for diesel engines;
- Manufacturing parts of engines and trucks.

The Institute also provides proficiency courses for railway personnel in the following fields:

Welding, a six-week course;

Pumps and injectors, a six-week course;

Train inspectors, a four-week course;

Railway line maintenance, a 6-week course;

Courses of various duration for the development of stationmasters and traffic superintendents.

Training in other sections of the Establishment, which includes practical applications of equipment and devices in use, is as follows:

(a) The Civil Engineering Department conducts various courses on the operation and maintenance of track alignment machinery and hydraulic systems as well as various training courses for students of the Training Institute of the Railway Establishment.

(b) The Electrical Machinery Engineering Department conducts courses for inspectors of trains on brake systems and other matters.

(c) The Signals and Communication System conducts courses on maintenance and repair of teleprinters, control instruments, wave-carrier equipment, cables, telephone exchange equipment, batteries, electric lines, generators, electric installations and electric gates.

(d) The Baghdad-Qaim-Akashat line operation section conducts technical courses for supervisors of electrical facilities, air-conditioning, signals and communications and others.

The Establishment makes extensive use of training opportunities provided locally by various bodies such as engineering colleges, technical institutes and management and financial training centres, etc.;

The Establishment also makes use of training opportunities abroad, particularly with suppliers of the moving units, equipment and other facilities.

B. Ports and maritime transport

1. Port construction

(a) Jordan

The Port Authority of the Ministry of Transport and Communications draws up appropriate plans for the development of Al-Aqaba Port. In certain cases it seeks the services of consultants or experienced national and foreign firms. The Authority's personnel often participate in the work of such firms for the purposes of training and practical work. Construction work is performed under contract with contractors from outside the Authority. The present situation does not call for systematic training courses in this regard as it relies entirely on the workforce necessary for planning, development, design and construction available from universities, institutes, technical and industrial schools and vocational skills and practical experience. In addition to this, there are opportunities for advanced training provided by other ports, specialized international and regional organizations, or through visits or seminars conducted abroad.

(b) Iraq

The Iraqi Public Establishment of Ports in the Ministry of Transport and Communications proposes and draws up plans for the development of Iraqi ports. In certain cases it seeks the services of experienced national or foreign firms, experts or consultants to undertake studies and designs of major expansion work. Personnel of the Establishment take an active part in the preparation of studies and designs by such firms or consultants either through actual contribution to the work or in the form of training.

Construction work is carried out by local or foreign contractors from outside the Ports Establishment. No need has arisen for the training of specialized personnel, over and above the numbers available from universities, and institutes and from general accumulated experience, who are required for planning, development, design and construction. Use is made of training courses and grants offered by specialized international and regional organizations as well as visits, conferences and seminars conducted abroad.

With regard to river transport, the appropriate departments in the Public Enterprise for Water Transport and the Public Enterprise for the Implementation of Transport and Communication Projects undertake, under the

supervision of the Ministry of Transport and Communications, planning, study, design and execution of anchorages on the Tigris at locations suitable for river navigation. This type of work has not called for any specialized training above the general standard of engineering college and institute graduates with experience gained on the job.

2. Port operation

(a) Jordan

The Aqaba port has in recent years undergone considerable development. Its activities have expanded and the types of vessels using it have varied. Maritime transport and handling techniques in the port have also developed with the building of specialized wharves built.

With these developments in the port, the Port Authority in Jordan felt that it was necessary to absorb this technological development and use the port with maximum efficiency through trained and qualified manpower. It therefore established in 1979 the Maritime Training Centre which is now responsible for preparing a maritime workforce trained and qualified academically and practically to operate Jordanian ports.

The Maritime Training Centre has the following objectives:

- Improving handling methods;
- Better utilization of equipment and machinery;
- Better utilization of yards and storage warehouses;
- Speeding up performance;
- Increasing performance;
- Reducing work accidents;
- Using equipment and machinery for as long a period as possible;
- Reducing damage to goods to the minimum;
- Reducing waiting periods of ships.

The Maritime Training Centre started operations on 1 June 1979 with the services of five training experts from the Federal Republic of Germany company PTC in addition to a group of qualified personnel who had previously had training for a period of 16 months in the Federal Republic of Germany.

The Centre started by giving training to port workers in the following courses:

- (a) A course on shipping for:
 - (i) Shipmasters;
 - (ii) Hold foremen;
 - (iii) Winch operators;
 - (iv) Holdmen.

- (b) A course on wharves for:
 - (i) Wharf inspectors;
 - (ii) Workers' foremen;
 - (iii) Crane operators.

(c) A course on machinery for:

- (i) Traffic inspectors;
- (ii) Fork-lift drivers.

(d) A course on electricity for maintenance and repair electricians;

(e) A course on mechanics for maintenance and repair mechanics;

(f) A course on tally and warehouses for warehouse overseers and inventory chief clerks;

(g) (As from 1980) for receipt/delivery clerks and tally and sorting clerks.

After the Maritime Training Centre had accomplished its first task of providing training to most port workers, it began to admit beginners from outside the port to qualify them for service in the port as part of the workforce. These courses, which varied in duration from 8 to 24 weeks, covered the following fields:

(a) Tally and warehouse course: Applicants for supervisory posts and chief tally clerks should have a university diploma and applicants for posts of tally clerks and receipt-and-delivery clerks should have a secondary school diploma.

(b) Ship winch operators' course: Applicants should have a secondary school certificate or have attended up to the third year of secondary school.

(c) Electrical and mechanical course: Applicants should hold a vocational diploma (two years after the third year of secondary school) or a technical secondary school certificate.

(d) Fork-lift and mobile crane drivers course: Applicants should possess an educational level not below the third year of secondary school and should have a driver's licence.

The authority accepts trainees who are of Jordanian nationality, physically fit and who undertake to serve in the Authority for double the amount of time covered by the training period since the Authority provides food, living expenses and transport free of charge in addition to a monthly salary during the training period.

The Authority entertained the idea of establishing a marine secondary school in the same way as the industrial or agricultural secondary school, but the idea has not been implemented for various reasons, chiefly lack of appropriate curricula.

Apart from the fundamental courses the Maritime Training Centre organizes other courses in cooperation with other bodies inside and outside the Authority. These courses include:

(a) An English language course conducted under the supervision of the British Institute. Many directors and heads of divisions in the Authority took part in this course.

(b) A second course in the English language organized in cooperation with Yarmouk University (Department of Continuing Education).

(c) A course in management under the supervision of the Vocational Training Institute.

(d) A course in hydraulics under the supervision of the Specialized Wharves Department.

(e) Rehabilitation courses in electricity and mechanics in connection with cranes, and new machinery under the supervision of the technical department and experts from the manufacturers and suppliers of this equipment.

(f) Training courses for workers in the Maritime Department in which workers participate in the training in addition to training staff. These courses include lectures on health and occupational safety, fire fighting and first aid as well as technical lectures.

(g) Courses on public safety in which a considerable number of personnel from the Public Safety Department of the Authority took part.

(h) Training courses for gangmen and depot workers. Each course is of two weeks duration and is attended by 15 to 20 participants and the lecturers are training staff specialized in the field of shipping and discharge.

As a result of the rapid development that containerization had undergone and after building the new container jetty and furnishing it with suitable equipment, the Centre considered organizing advanced courses on container operation management. The first such course was held on 7 October 1987 under the supervision of the United Nations Conference on Trade and Development (UNCTAD) and with the participation of the Arab Academy for Maritime Transport. Participating in this course were a number of personnel working in the container port field as well as training staff from the Centre itself. The second course was held on 7 February 1988 and was taught by training staff from the Centre along with the trainer delegated from UNCTAD. The Centre came to comprise a group of trained and qualified staff to run courses of this type. Successive courses were actually organized under the supervision of these staff, after the instruction materials had been translated without outside help.

The Centre then tended to provide boosting, rehabilitation and refresher courses of not more than two-weeks duration for workers who had already passed basic courses to keep abreast of the latest developments in the scope and methods of their work, the equipment in use and any other new information. The following courses were organized:

(a) Qualification courses for supervisors of overseas warehouses, inventory clerks and receipt/delivery clerks;

(b) Qualification courses for workers in loading and unloading;

(c) Qualification courses for workers in machinery department to train them on new equipment used in handling operations;

(d) Qualification courses for gangmen depot workers.

In view of the Centre's good reputation and intensive activity, some countries in the region, such as Kuwait and Yemen, send a number of their port personnel to the Centre for training.

A large number of personnel from shipping and clearance companies also took courses in this Centre in addition to a group of personnel from the Jordanian Armed Forces who received training on shipping, discharge and storage.

The Maritime Training Centre at Aqaba comprises five halls equipped with audiovisual aids and models specially designed for training as well as a display hall capable of accommodating 30 persons where films related to training are shown. There are also other facilities such as a library, and management and support services. Specialized Jordanian staff conduct the training and lectures.

The Centre currently provides the following courses:

Basic courses

Course for mobile crane drivers (eight weeks).

Course for fork-lift drivers (six weeks).

Course on inventorying and warehouses (six weeks).

Course for hold foremen and vessel winch operators (three weeks).

Advanced course in middle management for shipmasters and warehouse overseers.

A specialized course on public safety (two weeks).

Course for management of the container station operations (three weeks).

Training courses to upgrade skills

Improving efficiency of mobile crane drivers (two weeks).

Improving efficiency of fork-lift drivers (two weeks).

Improving efficiency of inventory and warehouse clerks (two weeks).

Improving efficiency of vessel winch operators (two weeks).

Improving efficiency of sea-boat and launch drivers (two weeks).

Improving efficiency of holdmen, gangmen and winchmen.

The Centre provided training to 5,716 staff members of the Establishment. This was in addition to the training of new staff during the period 1979-1991. Training covered various categories of workers.

To complete training on other more general aspects of work, the Establishment benefited from training opportunities available in other administrations and institutes in Jordan. During 1989 and 1990 a number of workers received training at the Royal Maintenance Force and the Public Administration Institute. Training covered the following topics:

- Machine maintenance
- Simplification of procedures
- Filing
- Financial and administrative legislation
- Accountancy and finance
- Programming and systems analysis
- Advanced printing
- Higher management
- Administrative organization, supervision and shipping
- Recruitment procedures
- Decision-making
- International audits.

The Establishment makes use of opportunities for training or visits abroad as available through grants and assistance arrangements.

(b) Iraq

The Public Establishment for Iraqi Ports suspended its specialized activities with the beginning of the Iran-Iraq war in 1980. As a result the need for training diminished. Throughout the war the situation remained as it was and the Ports Establishment did not resume those activities on a pre-war level during the two years 1988-1990 following the end of the war despite its intensive activities to restore the ports and wharves to operational status and to repair the damage caused by the war and remedy the effects of disruption of maintenance and dredging. This period of suspension was instrumental in the failure of the Vocational Training Centre to develop properly and fully to serve port purposes.

The Iraqi Ports Vocational Training Centre, which was founded in 1972, provides training to technical personnel through a course for beginners. The duration of the course is one year, of which six months are devoted to theoretical and practical training at the Centre and six months on the job. The subjects studied include mechanics, electricity, automobile electricity, fitter's work, carpentry, smithcraft, tinsmithing and masonry.

There are also courses for the improvement of efficiency in technical skills. These are six-month courses in which the trainee spends three months in the Training Centre and three months on the job under the supervision of training staff.

The training includes a three-month course on maintenance of navigation wireless equipment provided to trainees from the Iraqi commercial fleet and the Iraqi oil tanker fleet and to personnel from the Iraqi ports.

Other courses provided by the Centre include a three-month course on telecommunications and a one-month course on the operation of teleprinters. There are also on-the-job training courses for loading and discharge workers and drivers of stationary and mobile cranes following a three-month theoretical course. Plans had been drawn up to develop the Centre into an integrated maritime training institute but the present circumstances have adversely affected these plans.

Maritime officers and engineers receive training at the Arab Gulf Maritime Academy in Basrah. The Academy also comprises a Maritime Training School for the training of seamen, pilots and technicians working in communications.

3. Maritime transport

(a) Jordan

There is no specialized maritime training centre in Jordan; the size of the national fleet is small. For initial qualification, regional academies and foreign institutes are usually relied upon. There are no in-country specialized institutes or programmes in technical, administrative and commercial areas designed for maritime transport workers either. Training opportunities available outside Jordan are fully utilized.

(b) Iraq

Training in various skills in maritime transport is provided by the Arab Gulf Maritime Academy in Basrah and is specially designed for marine officers and marine engineers. There is also training in maritime institutes and academies abroad as well as partially in the Ports Training Centre, particularly in the field of communications.

C. Civil aviation and air transport civil aviation

1. Civil aviation

(a) Jordan

The Civil Aviation Authority in Jordan draws up plans and implements training programmes to compensate for natural attrition of staff to maintain good standards of performance. Plans include programmes for basic training, advanced training and rehabilitation, to be conducted locally and abroad. At present there are no curricula for higher-level study in Jordan designed for civil aviation. The reason may be due to the fact that no expansion is envisaged in civil aviation services and there is no demand for additions in the construction of airports or manpower training to justify this specialized approach. However, mention must be made of Queen Noor Technical College for Civil Aviation which supplies the civil aviation requirements for suitable manpower. This College provides fundamental training and certain aspects of advanced training.

Founded in 1973 Queen Noor College originally started as a Civil Aviation Training Centre and developed to become in 1978 the Technical Institute for Civil Aviation Training and then in 1980 the Queen Noor Technical Institute for Civil Aviation. Finally, upon the approval of the Ministry of Higher Education, the Institute was transformed into a university college and redesignated the Queen Noor Technical College for Civil Aviation.

The College has the following objectives:

(1) To staff the Civil Aviation Authority with technical personnel and meet the requirements of Jordanian airports for trained technicians;

(2) To raise the standard and efficiency of workers in the Civil Aviation authority so as to ensure air navigation safety;

(3) To train technical personnel in the latest techniques in conformity with international standards and recommendations;

(4) To participate in modernizing and developing institutes and training centres in the Arab world through coordination and cooperation with them.

Her Majesty Queen Noor is the honorary president of the College's Board of Administration which looks after the College's affairs. The Board consists of the following members:

1. The Director-General of the Civil Aviation Authority, who acts as Chairman of the Board;
2. The principal of the College, who acts as Vice-Chairman;
3. A member from the Meteorological Department;
4. A member from the Jordanian Royal Air Force.

The Board undertakes the following functions:

(a) Preparing broad guidelines and detailed curricula for the College and submitting them to the Higher Education Council for approval;

(b) Testing instructors, lecturers and trainers in accordance with the principles and standards specified by the Ministry of Higher Education;

(c) Prescribing scales of fees and rewards for instructors, lecturers, trainers and members of curricula and examination committees subject to the approval of the Council of Ministers;

(d) Laying down conditions for admission of students in accordance with the principles approved by the Higher Education Council.

A large number of personnel (5,271) received training during the period from 1977 to 1989 through 145 courses covering the following specializations:

- (a) Air traffic control;
- (b) Engineering professions;
- (c) Computers;
- (d) Preparatory courses in the English language;
- (e) Management.

The Training and Missions Section makes arrangements for training of personnel abroad. Five trainees were sent to the United States of America for training under agreement concluded between the Jordanian Government and the International Civil Aviation Organization (ICAO) in 1985. Trainees were also sent abroad with grants from other countries. In addition, nine trainees were sent to the United States of America to receive training at the expense of the manufacturer of the equipment and instruments used at Queen Alia International Airport.

The College, it should be noted, has been provided with the facilities needed for basic and advanced training, which reflects the interest of the Civil Aviation Authority in the College.

Basic training of individuals to qualify as private or commercial pilots is conducted at the Jordanian Royal Academy for Civil Aviation and meets the Kingdom's requirements.

TRAINAIR Programme

Civil Aviation Training Centres, numbering over 70 centres in the developing countries, provide training to large numbers of staff necessary for the operation, maintenance and management of national civil aviation organizations. These centres, mostly set up through the assistance of ICAO and the United Nations Development Programme (UNDP), have adopted the TRAINAIR Programme to assist civil aviation training centres in the developing countries to function with better efficiency and less cost through application of modern training methods and techniques.

The TRAINAIR programme, which has been designed as a global training programme, includes the following:

(a) Training of individuals from participating aviation training centres in the preparation of material for advanced programmes according to certain standards and in the form of standard training programmes (STP);

(b) Participating training centres sharing the benefit of the STPs so that each training centre can concentrate its efforts on the preparation of a limited number of STPs and easily obtain a large number of high standard STPs through this global system;

(c) Coordinating by the central unit of the TRAINAIR programme, based at IATA (International Air Transport Association) headquarters in Montreal, of the programme's work on a continuous basis and support of training centres in the preparation of STPs for their own purposes or for the global system;

(d) Provision of advisory services by the central unit to participating training centres on the implementation of economical, suitable and modern training programmes.

The central unit in the programme provides various services to participating civil aviation training centres including the following:

(a) Organization of courses and seminars for the training of course designers and training managers;

(b) Management of participation system in STP;

(c) Provision of a programme for the development of trainers;

(d) Provision of supporting services to course designers;

(e) Provision of a computer information system with a database to assist training designers and training managers;

(f) Organizing regional and international coordination conferences for programme purposes;

(g) Preparation of guidelines and advice on the application and use of advanced training methods and tools.

The benefits which civil aviation training centres participating in TRAINAIR obtain are:

(a) The opportunity to train their personnel in the preparation of material for the courses by employing modern methods;

(b) Association with a high-quality and continuously developing global system of training programmes;

(c) Training of training managers on the preparation of effective training programmes based on advanced STPs and modern training methods;

(d) Obtaining the services of the central unit of TRAINAIR;

(e) Creating a TRAINAIR Programme for training of trainers;

(f) Participation by senior training personnel in coordination conferences of the TRAINAIR Programme to draw up policies and priorities of the global system for participation and exchange of views and experiences with other training centres.

The Civil Aviation Authority in Jordan took a serious part in this programme which at present embraces eight countries in addition to Jordan which is represented by Queen Noor Technical college. Two members of this college took part in the first course for designers of STPs in addition to trainees from Egypt, Ethiopia and Kenya.

(b) Iraq

The General Establishment for Civil Aviation draws up the necessary manpower training plans to meet its needs for compensating labour losses as a result of the work cycle and also to cover major expansion which included operation of the new Basrah International Airport, and initiation of studies for and construction of new airports in Mosul and other towns, which require expansion of air navigation services and other complementary services.

Training plans and programmes are implemented via three channels: training at the Civil Aviation Institute of the General Establishment for Civil Aviation; training outside the Establishment at specialized bodies in Iraq; and training abroad at international institutes and training centres. It should be noted that in Iraq there are no specialized civil aviation-oriented study programmes in universities and institutes apart from the general programmes.

However, training programmes made available under various supply contracts for equipment and facilities are being used in the training of engineers and technicians:

Institute of Civil Aviation

This Institute was founded in 1959. It provided the necessary basic courses in civil aviation and undertook progressive development of programmes and equipment. In 1984 the Ministry of Higher Education and Scientific Research recognized the diplomas granted by the Institute in air control and communications.

The aim of the Institute is to prepare and develop specialized engineering, technical, operational and administrative personnel in various areas of civil aviation; conduct studies and research; provide technical and scientific advice to the appropriate bodies in their fields of specialization; and participate in the development of technical and operational skills in civil aviation in the Arab countries.

The number of trainees admitted annually to the Institute in various specializations exceeded 1,000.

The Institute provides two types of courses:

1. Courses leading to a diploma in air traffic control and air navigation and a diploma in maintenance of wireless and navigation equipment. The duration of study for each course is two calendar years, on completion of which the graduate is granted a technical diploma.

2. Specialized courses in various fields of civil aviation varying in duration from one week to six months after which graduates are granted certificates certifying that they have completed the course.

The Institute comprises the following training sections:

a. Air Traffic Control and Air Navigation Section

The section offers the following courses:

- (i) Diploma course (2 calendar years);
- (ii) Basic air control course/airport control (26 weeks);
- (iii) Approach control (without radar) course (13 weeks);
- (iv) Area control (without radar) course (15 weeks);
- (v) Course on information feedback/airport control/approach control/area control (4 weeks);
- (vi) Various seminars.

b. Communications and Navigation Section

The section offers the following courses:

- (i) A diploma course (2 calendar years);
- (ii) Basic course on wireless and navigational equipment (27 weeks);
- (iii) Course on semiconductors and advanced digital technology (20 weeks);

- (iv) Course on microcomputers (10 weeks);
- (v) Course on instrument landing systems (6 weeks);
- (vi) Course on very high-frequency omnidirectional radio range equipment (4 weeks);
- (vii) Advanced course on telecommunications (12 weeks);
- (viii) Basic course on radar (8 weeks);
- (ix) Course on teleprinters (6 weeks).

c. Aircraft Engineers and Technicians Section

The section provides the following courses:

- (i) Fuselage course (6-8 weeks);
- (ii) Aircraft engineers course (5 weeks);
- (iii) Aircraft electricity course (6-8 weeks);
- (iv) Aircraft radio and radar course (3-8 weeks);
- (v) Aircraft instrumentation course (6-8 weeks);
- (vi) Information feedback course (1-2 weeks).

d. Air Services Section

The section provides the following courses:

- (i) Basic stewardship course (18 weeks);
- (ii) Information feedback course (3 weeks);
- (iii) First-class service course (one week);
- (iv) Senior stewards course (2 weeks);
- (v) Aircraft masters course (2 weeks);
- (vi) Jumbo aircraft course (one week).

e. Air Transport Section

The section provides the following courses:

- (i) Air transport economics course (16 weeks);
- (ii) Induction course on aviation (one week);
- (iii) Basic commercial course (6 weeks);
- (iv) Course for development of commercial personnel (16 weeks);
- (v) Basic air freight course (one week);
- (vi) Intermediate air freight course (one week);
- (vii) Advanced air freight course (one week);
- (viii) Automatic reservation course (2 weeks);
- (ix) Lost property course (one week).

f. Foreign Languages Section

The section provides the following courses:

- (i) Basic English language course (12 weeks);
- (ii) Basic French language course (12 weeks);
- (iii) Advanced English language course (12 weeks);
- (iv) Advanced French language course (12 weeks).

g. Airport Management and Operation Section

The section provides a 12-week course on management and operation of airports.

The Institute is equipped with adequate up-to-date practical training facilities and aids in addition to other training tools as well as conference rooms, a library and other services.

2. Air transport

(a) Jordan

(i) Royal Jordanian Training Centre

This Centre provides training to prepare individuals in various aspects of air transport. The courses include the following:

- a. Training in management and commercial matters;
- b. Technical training: operations, maintenance and engineering;
- c. Training of stewards.

The Royal Jordanian Training Centre provides training courses in collaboration and coordination with other airlines and foreign agencies such as IATA, the Safety Institute of the University of California, the American University of Beirut and the Arab Federation for Air Transporters.

The Centre's services and training courses also make use of several world airlines and travel agencies, etc.

The Centre carried out the following activities:

	1986	1987	1988	1989
Total training courses	258	281	219	218
Total trainees	3 875	3 682	2 564	3 156
Trainees from outside Jordan	--	--	516	593
Total training hours	10 400	11 020	10 955	12 232

The Centre provided training services to several airlines and agencies. In 1988, trainees from the following external bodies received training:

Gulf Air
Middle East Airlines

Kuwait Airlines
Olympic Airways
Iraqi Airways
Saudia
Air Afrique
Yemen Airlines
Alyemda
Dan Air
Syrian Arab Airlines
Libyan Arab Airlines
Air Algérie
Turkish Airlines
Bangladesh Airlines
Amman Air Services
Atlantic Aviation Service
Local travel agents.

In 1989 training was provided to trainees from the following companies:

Syrian Arab Airline
Libyan Arab Airlines
Saudia
Alyemda
Dan Air
Tarom Air
Turkish Airlines
Atlantic Aviation Service
Sky Air
Sea Green

The Centre also provided training services outside its campus to various agencies. In 1989 the following training courses were conducted for such agencies:

Arab Federation for Air Transporters, Passenger Promotion Section;

Courses in collaboration with the Safety Institute of the University of South Carolina;

A workshop on "Safety First" in Kuwait;

Technical workshop--Kuwait;

Training workshop on "Universal Survival"--Kuwait;

Safety Administration--Amman;

Investigating air accidents--Amman;

In collaboration with the International Training Institute of the Airline Administration, a course on airline management and computer applications was held in Amman;

In collaboration with the International Air Transport Association (IATA) a fleet planning course was organized.

The Royal Jordanian Training Centre conducts the following training courses in addition to various courses tailored to requirements in coordination with the beneficiaries and in cooperation with specialized agencies:

a. Commercial activity

Tickets and prices
Freight tariffs
Passenger services
Shipping services
Loading
Dangerous goods regulations.

b. Management

Supervisory skills
Marketing/public relations
Management by objectives
Planning and financial control
Cost accounting/funding/chartering
Station management
Training of trainers.

c. Technical training/operations

Aircraft types rating

Type conversion

Upgrading

Flights across the North Atlantic

Periodic training

Basic training for air engineers

Air traffic control

Simulated flight in Boeing 727-200, Boeing 707-338c, Airbus 310,
and Airbus 320

Cabin resource management.

d. Engineering and maintenance

In collaboration with the Engineering and Maintenance Department of Royal Jordanian, engineering and maintenance courses are conducted: instruction is given by the Centre and practical training is conducted in the workshops of Royal Jordanian.

e. Training of stewards

Basic skills
Vocational development
Technical know-how
Safety and first aid methods
Specialized services
Advanced skills.

The Training Centre comprises the latest equipment used in specialized training and audiovisual aids and it employs a video- and computer-based system of instruction which dispenses with the employment of an instructor to give training on aircraft instrumentation.

The Centre also has four advanced flight-simulators in addition to a training system for aircraft emergency evacuation by which normal and emergency conditions under various circumstances can be simulated.

(b) Iraq

Iraqi Airways, as the national transporter in Iraq, undertakes training of manpower to meet its requirements for qualified labour in four major areas:

Engineering and maintenance
Flight and flight operations
Tickets and sales
Stewarding and flight services.

Training in engineering and maintenance is conducted in the Training Unit, where engineers receive specialized training on various types of aircraft and engines and on various maintenance operations. Iraqi instructors give lectures in accordance with approved programmes in lecture rooms supplied with audiovisual facilities for this type of training. Training is also followed up in the Airway's workshops to complete the theoretical programme under the supervision of specialized trainers.

In addition, the Training Unit provides courses to trainees from engineering colleges and technical institutes according to summer training arrangements at the Unit workshops, using specialized trainers.

Training of aircraft pilots and flight crew, which includes assistants and engineers, is conducted in the Air Training Unit, where simulators are available in addition to lecture-rooms equipped with audiovisual aids and integrated programmes for training on different types of aircraft, upgrading and periodic training. Training is also given to flight engineers and air operations officers. Qualified Iraqi instructors, authorized by the Civil Aviation Authority, give lectures, provide training and carry out tests.

Various courses have been conducted for pilots from other Arab airlines in the Air Training Unit on flight-simulator facilities.

The Airways provides training courses on tickets and sales in coordination with the Transport Agency Association.

The Civil Aviation Institute of the General Establishment for Civil Aviation provides basic and advanced training to stewards through year-round courses to which candidates are admitted after having passed the necessary physical and mental health tests.

Manpower training outside the training units is coordinated, programmed and prepared by the Training Section of the General Administration of the Airways. Available training opportunities within the country and abroad are utilized in accordance with the Airway's requirements.

III. ASSESSMENT OF TRAINING PROGRAMMES: CONCLUSIONS

A. Road networks

1. Overall planning

In every country for a person to reach a senior position in overall transport planning, he should have worked his way up through various jobs, starting from the bottom of the ladder, and have with time acquired experience and know-how and come into contact with other persons of experience. He can also develop expertise through higher studies, particularly as opportunities are generally available for workers in this field to obtain higher degrees in overall, regional or constructional planning and other related specializations. The current status of training can only be evaluated through an appraisal of planning methods in general. Conclusions would be based on an evaluation of current conditions, taking into account the necessity of effecting certain improvements to increase efficiency and effectiveness and continuously absorbing new elements to compensate for deficiencies of higher-level management. Training courses constitute a significant tool for increasing the efficiency of planning organs, as do study tours to state-of-the-art work sites at home and abroad. At the same time there should be a belief in training as a continuous process regardless of the level of a post.

2. Implementation

The standard of training required for implementing road projects can be regarded as adequate for the general development standard in both countries, particularly as an increasing part of such work is being carried out by national personnel who have acquired considerable experience in construction of bridges and complex road sections. This is particularly true in Iraq. There are clear and easy-to-follow manuals and specifications for the implementation of work which are helpful in this regard. Training begins at universities, institutes and industrial schools and with on-the-job training. Practical experience is accumulated through practice and by transfer of knowledge and acquisition of skills through work and professional contacts. The present situation is adequate, although certain aspects of training can be developed to improve efficiency.

3. Organization and management

Training provided at the Royal Police Academy in Amman and at the Higher Institute of Internal Security Force Officers in Baghdad should be adequate to meet present and future requirements of personnel needed for organization and management of traffic movement and maintenance of road and user safety and security. As for the standard of training, the declining rate of accidents is a clear indicator of the success of these two institutes.

4. Maintenance

The standard of maintenance works output is still inadequate and needs to be improved.

The reason may not only be attributable to lack of higher training of workers but also to a shortage of the funds needed to carry out the work in the proper way. Increased attention to training will result in greater efficiency of performance and consequently better standards of maintenance within the existing budgets. It should be noted that there is no formal training on maintenance apart from general courses available to college, institute and technical school graduates.

B. Railway lines

1. Jordan

The training provided at the Aqaba Railway Establishment must be adequate for the purposes of maintenance and compensation for labour lost through attrition as far as operation and maintenance personnel are concerned. As investments in training are made in accordance with fixed rules to serve specific activities, demand for training is only to compensate for attrition. Little attention has been given to training of higher-level management in order to create the necessary base of specialists for the future. Thus the low-level volume and standard of training provided to trainees are adequate as far as the Establishment's present requirements for lower-level personnel are concerned, but there is still a need for increased training for middle- and higher-level personnel.

2. Iraq

Training has an important place in the activities of the General Establishment of Railways in Iraq. This is reflected in the number of trainees, the diversity of courses and the variety of departments and divisions that provide training. However, it would be preferable if these efforts were unified with a view to developing training standards and concepts. The Establishment's programmes should also include specialized courses on technical and operational aspects of railways for middle- and higher-level personnel rather than rely, as is now the practice, on random opportunities with no established plan. The Railways Institute provides courses in industrial apprenticeship: the numbers and quality of graduates are sufficient for present and future needs. The Institute is capable of only limited expansion with its current facilities, which should be developed further.

The plans drawn up indicate major expansions in railway work in Iraq. There is consequently an increasing demand for trained, qualified and experienced manpower to compensate for attrition. There is also a need to increase efficiency and raise the standard of performance to meet the expanded use of the railway network and facilities. Since the Iraqi Railways has witnessed both expansion in the length of the network as well as upgrading of equipment used, it is therefore especially qualified to formulate a developed training programme. Like other railway institutions that have modernized their infrastructures or developed their networks, the Railways needs a new approach to training methods. This new approach can orient training towards creating administrative and technical personnel capable of keeping in step with technological development in the world and elevate the network from a traditional style of management and operation to a style based on modern science.

C. Ports

1. Jordan

The activities of the Ports Authority in Jordan in training and preparation of qualified manpower for management and operation are considered outstanding. Training has achieved tangible results in boosting the efficiency of performance port productivity, speed of loading and discharge, minimizing equipment breakdowns and maintenance of cleanliness and safety standards despite relatively limited means.

It is noteworthy that among the factors contributing to the success of training in the Maritime Training Centre is the reliance on national personnel who work as trainers and lecturers and whose training continues on an ongoing basis. Another factor is the proximity of the Training Centre to actual work sites, which facilitates coordination between the theoretical classroom training and the fieldwork. Another advantage is that direct coordination can be achieved between operations management, and the Training Centre without disrupting the progress of work when personnel are absent for training.

It should be indicated that the Ports Authority's attention to training is clearly manifest in its concern to provide attractive advantages to trainees in the form of wages and other benefits.

2. Iraq

The fact that the size and activities of the Vocational Training Centre are not compatible with the position and scope of activities of the Iraqi ports is basically due to the exceptional circumstances prevailing in the region since the end of the 1970s and the resulting suspension of port and maritime activities and consequent reduced need for manpower.

The Vocational Training Centre of the Iraqi Ports, by its very nature as a vocational rather than a maritime centre, trains workers and operators to work at a minimum level. The need to develop this Centre to enable it to meet the Iraqi Ports' requirements for personnel specialized in port work, from workers on the wharves to operators, supervisors and middle- and higher-level personnel, is an important matter in view of the clear need to train a large number of personnel to make up for the deficiency that has built up over the past few years. A centre of this standard is also necessary to fill the gaps in experience due to the suspension of work. Training is likewise necessary to enable access to up-to-date technologies, techniques and methods.

D. Maritime transport

The position of Jordan's commercial fleet and the fact that maritime activities are confined to the Aqaba port impose distinct limitations on Jordan's maritime activities and the size of its fleet. The need to train workers in maritime transport may not, therefore, justify investment in a maritime training institute but rather a continuation of reliance on assistance from Arab, regional and foreign academics in addition to cooperation in any joint work in this regard.

Iraq

The Arab Gulf Academy in Basrah provides basic training to maritime personnel. In view of the suspension of Iraqi maritime transport activities as a result of the war and after, the need for training has diminished. The demand for training will inevitably increase, however, when these activities are restored.

E. Civil aviation

1. Jordan

The training and instruction provided by Queen Noor Technical College cover most technical and operational aspects of civil aviation. The standard of training and instruction programmes is in no way inferior to approved international standards and is provided by qualified national personnel. There is also the possibility of developing and expanding these programmes when necessary.

The TRAINAIR programme, as far as the Queen Noor Technical College is concerned, provides an opportunity to adopt higher international standards. The programme makes it easier to meet the requirements of civil aviation managements in other countries and to cooperate with other institutes and training centres for mutual benefit. TRAINAIR also affords an opportunity for the development and further training of the College trainers and staff.

2. Iraq

Despite the war and the exceptional circumstances in the region, the Civil Aviation Institute generally continued to expand and develop its activities and was able to inaugurate courses granting diploma certificates in air control and communication. However, these circumstances and their far-reaching impact on civil aviation activities reduced the need for training and preparing new personnel. The Institute therefore demonstrated flexibility by offering refresher courses developed from the basic courses. This approach helped to expand the activities of the Institute in a horizontal direction to cover new areas such as commercial air transport and management and operation of airports. This approach represents a positive development which could be continued even after the Institute's basic role of training personnel has resumed.

F. Air transport

1. Jordan

The Royal Jordanian Training Centre has achieved noteworthy success in the area of air transport and Arab airlines' activities. This is because the courses it provides meet the needs of national transporters and are beneficial to several other Arab and foreign aviation companies. In this way trainees benefit from the opportunity to contact others and exchange knowledge and experience.

The Centre provides training and instruction based on well-designed programmes suited to the modern facilities and methods available at the

Centre and allowing for expansion and development when necessary. It should be noted that fresh momentum may be needed when the Centre is moved to its new premises.

2. Iraq

Despite the fact that the training provided by training units of Iraqi Airways is of a high standard and comprehensive, the division of training activities into units leads to duplication of efforts and deprives the company of the necessary overall vision of a special central training unit. Since training in the field of airline services is based on integrated programmes, training within the framework of a unified centre would help to derive greater benefit from trainers, methods and facilities and lessen duplication.

The experience and facilities available to Iraqi Airways would enable it to set up a high-standard training centre at a regional level if the necessary plans were formulated.

IV. REQUIREMENTS

A. Road networks

Despite the expansion in road construction and maintenance in Jordan and Iraq, adequate means to meet manpower requirements are available.

These include general training facilities (such as colleges, institutes and industrial and technical institutes), on-the-job training and continued development of equipment and methods to reduce the need for manpower. At present there does not seem to be any difficulty in meeting demands for training additional manpower. However, the need still exists for training and development of middle- and higher-level personnel to familiarize them with modern techniques.

B. Railways

Since there are no plans for construction of railways in Jordan in the near future, manpower requirements to make up for attrition will be almost minimal. In Iraq, manpower requirements are increasing with the process of rebuilding what was destroyed by the war and the consequent demand for transport and expansion of the existing networks. Demand for training will therefore be great in order to meet the operational and development requirements. The difficulties involved in providing qualified manpower are not due to deficiencies in training but rather to lack of attractiveness of the railways activities to individuals. It should be noted that middle- and higher-level personnel need training to acquire modern techniques and use them in operation, management and maintenance.

C. Ports

1. Jordan

The Jordanian port of Aqaba needs to find ways of lessening staff attrition and to expand and develop its facilities. Since horizontal expansion in port work is limited, vertical expansion remains an essential consideration.

Requirements for additional personnel will therefore remain small in relation to the required development of on-board personnel. Developing the skills of personnel will increase performance efficiency, improve productivity and contribute to the acquisition of modern techniques in management, organization and operation, particularly for the middle and higher levels.

2. Iraq

Manpower requirements in Iraqi ports differ from those in other countries of the region, as the events of a whole decade have left visible marks on the situation of Iraqi ports today.

The need arises for the following:

- (a) Compensation for shortages in the number of workers;

(b) Compensation for natural attrition of manpower;

(c) Meeting the requirements of horizontal expansion;

(d) Meeting the need for development and acquisition of modern techniques and vertical expansion.

Iraqi ports need a detailed and comprehensive study of the status of manpower after settlement of the situation and reconstruction. Such a study should take into consideration the requirements of development of middle- and higher-level personnel in management, organization and operation in accordance with modern techniques.

D. Maritime transport

1. Jordan

There is no clear need for a large number of staff for operation and maintenance in the field of maritime transport in Jordan, particularly as training is carried out in various academies and institutes. The qualified manpower available in the national, regional and international labour market constitutes a good source of supply for the requirements of the maritime transport fleet.

2. Iraq

Although there is no need at present for training and recycling, there is a need to compensate for natural staff attrition and to provide replacements for the few expatriates employed in national fleets through training of local staff in academies and other available training facilities.

However, the fact that there is no urgent need for basic training does not mean that there is no need for advanced training, particularly in management and organization and operations, in order for middle- and higher-level personnel to acquire modern techniques, methods and procedures.

E. Civil aviation

1. Jordan

There is no clear need for additional manpower except to compensate for natural staff attrition, particularly as there are no expansions in work which cannot be met by increased efficiency of performance.

Therefore, the training presently given at the Queen Noor Technical College ensures provision of the necessary qualified manpower at various low, middle and high levels. Those trained will acquire modern techniques in management, organization and operation of various aspects of civil aviation services.

2. Iraq

The Civil Aviation Institute can provide the necessary basic and advanced training for staff at various job levels. There is also a need to recycle

training personnel to enable them to acquire modern training techniques to train workers at low and middle levels who are engaged in management, organization and operation. The return to normal life and reopening of operation of facilities will impose an additional burden on the Institute, which will be required to continue its training and development activities without interruption and at higher rates.

To meet the manpower requirements in civil aviation, a detailed study should be carried out that would take into account new projects being implemented, including building of new airports, in order to create an adequate base of personnel qualified for operation, management and maintenance in the future.

F. Air transport

1. Jordan

With the expansion of the size of the aircraft fleet, the Royal Jordanian Training Centre provides training to prepare the necessary personnel for the management, operation and maintenance of this fleet and the related services. There are no training requirements which the Centre cannot meet at present. However, the Centre could also provide services to other airlines and authorities with regard to training, particularly for middle- and higher-level personnel. The Centre could, in collaboration with other specialized agencies, as has been done before, participate in the transfer of expertise and familiarize trainees with modern methods and procedures used worldwide.

2. Iraq

Iraqi Airways manpower requirements cannot be easily identified under present conditions and until the size of the fleet has stabilized. Training units of the Airways will conduct training in collaboration with the Civil Aviation Institute.

V. RECOMMENDATIONS

A. General recommendations

1. Allocations for training should be increased as they represent an investment with a guaranteed return.
2. Attention should be given to formulating plans for modernizing training methods with a view to replacing traditional methods at all levels.
3. Up-to-date technologies should be adopted in training centres.
4. Attention should be given to recycling of higher-level and subsequently middle-level personnel with continual refresher courses for management leaders.
5. Training programmes of similar types should be given in the same centres in order to reduce costs and increase effectiveness of training within the same country.
6. High-level specialized centres should be set up at regional level and national centres should be developed with a view to upgrading them to regional level.
7. Opportunities should be provided for exchanges for both trainers and trainees among member countries through visits and training opportunities.
8. Opportunities should be provided in accordance with a specified schedule for benefiting from training scholarships in technologically advanced countries in various areas to familiarize trainees with the latest in work methods.
9. Plans of work should be developed for training centres, covering research and studies for the development of work procedures and the introduction of modern systems in management, planning and operation.
10. Full use should be made of the capabilities of international and regional organizations to develop training methods.
11. Linkages should be strengthened between training centres and beneficiary organizations and there should be exchanges of specialists between them to enhance the efficiency of training centres.
12. National training administrations should publicize their programmes and facilities so that they could be utilized by other countries in the region.

B. Road networks

1. Training opportunities should be provided to workers on overall planning of road networks, with special emphasis on on-the-job training by arranging for trainees to participate in similar management operations in technologically advanced countries to allow a transfer of experience and knowledge.

2. Higher-level studies in specializations serving road planning should be encouraged.
3. Regional cooperation and coordination in the area of road planning should be enhanced through exchange of visits and meetings of personnel working in this field.
4. Opportunities should be provided for development of skills for staff in design and implementation of road projects through their participation in training courses and seminars inside the country and abroad and through increasing opportunities for their access to modern technologies.
5. Careful consideration should be given to the possibility of setting up a specialized regional transport institute for studies and research, particularly in the field of acquisition of modern technologies and their applications in planning, design, implementation and maintenance of road projects, and also to study topics related to development and use of road networks.

C. Railways

1. Opportunities should be provided for training and visits to higher-level management personnel in the Railways establishment and other concerned personnel in the Ministry of Transport in order to familiarize them with new technologies and systems in railway planning and operation.
2. Increased attention should be paid to the training centres of the railway institutions and to meeting their development requirements, providing them with training facilities and drawing up plans to raise their standards and include in their programmes training courses for middle- and higher-level personnel.
3. Coordination between appropriate managements in member countries should be promoted to ensure full benefit from training opportunities available in training centres affiliated to railway networks in the ESCWA region.
4. Coordination between training centres in the ESCWA region and those in technologically advanced countries should be used to promote effectiveness of training in the railways of the region.

D. Ports

1. Suitable training programmes should be provided to middle- and higher-level personnel on the acquisition and harnessing of technologies for planning, management and operation of ports, with particular emphasis on workshops, conferences, and on-site visits.
2. Attention should be given to technology transfer through provision of opportunities to training personnel to acquire and transfer modern technologies in the areas of operation, handling of goods and other techniques.
3. Full use should be made of the available maritime training capabilities to train personnel employed in ports of countries where no such capabilities are available, especially to train new operators, supervisors and middle-level personnel.

4. Coordination should be ensured among appropriate managements in the ESCWA countries to obtain mutual benefits from available experience in ports, through exchange visits, organization of workshops and other cooperative activities for the exchange of expertise.

5. Full use should be made of UNCTAD (United Nations Conference on Trade and Development) facilities, particularly in the field of studies, training programmes, development and port experts. This will require the formulation of a clearly defined relationship with UNCTAD, including coordination and opening up of new channels of communication between technical managements and training centres and UNCTAD to derive maximum benefit from its capabilities, with special emphasis on participation in the TRAINMAR programme.

6. The topic of preservation of the marine environment should be introduced as an essential subject in the curricula of training programmes at various levels.

7. Incentives should be introduced to provide for advancement on a competitive basis for trainees in vocational training centres associated with ports in order to attract new personnel.

8. Vocational training centres should be developed in countries with special circumstances hindering ports operations in order to prepare the necessary personnel to operate ports; this includes carrying out studies and research to develop ports operations.

9. Items relating to maritime legislation should be incorporated in training curricula to familiarize trainees with legislation related to their work, with special emphasis on national legislation.

10. Budgetary allocations should be increased for training centres to develop training, supply modern facilities for training and provide training opportunities, particularly in training methods.

11. Detailed studies should be carried out on ports' requirements for manpower, and the necessary plans drawn up to provide, train and prepare personnel for port operations in accordance with modern methods and technologies.

E. Maritime transport

1. Full use should continue to be made of maritime training institutes in the region to train maritime personnel in the operation of commercial and oil fleets.

2. Training and instruction should be provided to middle- and higher-level personnel in planning, management, technical and marketing fields related to maritime transport by providing them with the opportunity to participate in workshops, conferences and seminars.

F. Civil aviation

1. Maximum benefit should be derived from training capabilities such as those provided by the Queen Noor Technical College in Amman and the Civil

Aviation Institute in Baghdad. This could be achieved by cooperation in the goal of achieving complementarity, particularly through advanced courses and exchange of experiences to raise the standard of trainees.

2. The trend towards research and studies in civil aviation training institutes should be encouraged.
3. The TRAINAIR programme should be promoted in order to use it to maximum advantage and prepare personnel to expand the work base within reasonable limits.
4. Training programmes should be developed on a continuous basis to incorporate any developments in equipment, methods and procedures used in civil aviation and to absorb modern technologies.
5. Attention should be given to providing advanced training to middle- and higher-level management in view of the rapid pace of development which civil aviation and its associated services are undergoing; seminars, exchange visits and conferences would be useful in this respect.
6. The standard of trainers and instructors should be raised by having them attend the suitable induction and training courses to ensure that they keep in step with and absorb the latest advances in operational methods and pass on this knowledge to the trainees.
7. Increasing attention should be paid to training in management and operation of airports, particularly for middle- and higher-level personnel.
8. Giving greater attention to the environment, the effect of civil aviation activity, and ways to reduce this effect on the environment.
9. A detailed study of the Iraqi civil aviation and airport manpower requirements should be carried out and the necessary plans drawn up with regard to providing trained and qualified personnel in accordance with modern methods and standards.

G. Air transport

1. Coordination should be promoted among civil aviation companies in the ESCWA region to achieve cooperation and gain mutual benefits from training methods, facilities and programmes, particularly in the field of advanced training, and seminars.
2. The work of the Iraqi Airways training units should be incorporated into a single training management to simplify the use of available sources, standardize training concepts, principles and levels, simplify supervision, and integrate training subjects, programmes and plans; the setting up of a unified training centre or institute for Iraqi Airways should be considered.
3. The Royal Jordanian Training Centre should be encouraged to arrange courses leading to diplomas or masters certificates in aviation and air transport specializations in collaboration with the appropriate authorities such as the Jordanian and other universities, after feasibility studies have been carried out and methods of implementation specified.

4. Arab airlines and civil aviation management in the Arab countries are encouraged to benefit from advanced-level courses provided by the Royal Jordanian Training Centre, particularly those related to higher-level studies; the possibilities for developing the Centre should also be taken into consideration.

