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THE BRAIN DRAIN PROBLEM

IN

THE ECWA COUNTRIES*

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INTRODUCTION

A. Identification of the Problem

This study aims at studying the brain drain from the ECWA region, examining the underlying causes, formulating action-oriented policies and considering ways and means of making use of the services of Arab talents residing abroad[1/].

The ECWA countries have witnessed, in varying degrees, considerable progress in the development of their human resources through formal education, training and other means. However, the quantitative and qualitative shortcomings of the scientifically and professionally trained personnel constitute, in the present circumstances, a major constraint on the pace of development in the ECWA countries.

Although the outflow of trained personnel differs in magnitude and impact from one country to another, the brain drain from the ECWA countries has accentuated the scarcity constraint of trained personnel. The significance of initiating a study of the brain drain stems, therefore, from the realization of the detrimental effects of the brain drain on the development of the ECWA countries.

With financial resources no longer a major constraint on the development efforts of the ECWA countries[2/], the reduction and reversal of the brain drain and the organization of the flow of Arab professionals among the ECWA countries could enhance development in the region in the following important areas:

1/ See ECWA's 1975 Programme of Work (Document E/5539/ E/ECWA/9).

2/ It is understood, of course, that the uneven distribution of financial resources in the region continues to create difficulties for some countries which are not well-endowed with such resources.

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1. Strengthening efforts to bridge the technological gap by deriving the maximum benefit from the transfer, choice, adaptation and development of technology;

2. Improving the formulation, evaluation, follow-up and implementation of development projects and plans;

3. Increasing the efficiency of government machinery in performing its responsibilities;

4. Participating effectively in the institution-building process, particularly in the least developed countries;

5. Strengthening local research and training facilities; and,

6. Helping accelerate industrialization and agricultural development.

The recent substantial increase in the momentum of economic and social development in the ECWA region, particularly in the oil-exporting member countries, has created large demands for manpower for the planning, designing, executing and managing of development projects. With the inflow of large financial resources to the oil-exporting countries, these countries embarked on unprecedented development plans which, in turn, require the availability of needed manpower for their implementation. In all oil-exporting countries of ECWA, various levels of shortages of labour force are expected during the coming decade. Resort to expatriate labour is thus necessary for successful implementation of their development plans.

Under these circumstances, the problem of the brain drain has witnessed the following new developments in the ECWA region:

1. While the brain drain problem in the fifties, sixties and early seventies was more of an outflow from the region to the industrialized countries, the intra-regional flows of professionals has become much more of concern to the non-oil exporting countries of ECWA.

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2. Concern of the ECWA countries over the outflow of their nationals is no longer confined to the highly-skilled manpower category, but has also extended to other categories, namely, the skilled and semi-skilled labour force.

3. Another development which has been also witnessed in all ECWA countries is the increased labour mobility within each country. When this mobility tends to be concentrated in the most qualified skills and in favour of the private business, the governments have to worry about their cadres, particularly that the government machinery is under continuing pressures to undertake effectively wider responsibilities.

In the seventies, new policies emerged in the ECWA countries related to the brain drain. These policies are summarized below:

1. Awareness and concern of the governments and policy-makers over the outflow of their nationals, particularly the high-level manpower;

2. Appreciation of the role of trained and educated manpower in the process of economic and social development and the realization that manpower shortages represent a serious constraint on the development process;

3. Shift in emphasis in dealing with the outflow of high-level manpower from the movement towards developed countries to the movement to other countries in the region, basically the oil-exporting countries; and,

4. The need for coordinating national manpower and employment policies, particularly in the light of high labour mobility and almost full information on the working conditions in the ECWA region.

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Although manpower migration is a very old phenomenon, the brain drain problem has only recently been receiving adequate attention in the economic literature. Due to the complexity of its causes and consequences, different approaches have been adopted, namely, the national versus the international approach, and the outflow versus the over-supply viewpoints.[1/] Moreover, although the implications of the brain drain problem are well recognized, data on the subject are often lacking or are incomplete, and, in most cases, resort is made to available data of recipient countries.

The problem of the brain drain from developing to developed countries has recently received world-wide consideration. A number of resolutions were adopted on this issue by the United Nations General Assembly[2/] and the Economic and Social Council[3/]. Recently, the United Nations General Assembly adopted, in December 1977, Resolution 32/192 requesting "the Secretary-General in co-operation with the United Nations Conference on Trade and Development and the International Labour Organization, ... to undertake an in-depth study of the "brain-drain" problem, ...".

A number of organizations of the United Nations system has devoted special attention to the problem of the brain drain. In particular, the United Nations Institute for Training and Research (UNITAR) and the United Nations Conference on Trade and Development (UNCTAD) have undertaken studies on this matter. Recently, UNCTAD convened a meeting of the Group of Governmental Experts on Reverse Transfer of Technology which met

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1/ Harry G. Johnson, "Labour Mobility and the Brain Drain" Gustav Ranis (ed.), The Gap Between Rich and Poor Nations (London: The Macmillan Press, 1972), pp.380-391.

2/ Resolutions 2320 (XXII) of 15 December 1967, 2417 (XXIII) of 17 December 1968, and 3017 (XXVII) of 18 December 1972.

3/ Resolutions 1573 (L) of 19 May 1971 and 1904 (LVII) of 12 August 1974.

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in Geneva from 27 February to 7 March 1978. Specific reference to the problem of the brain drain is made in certain publications of the International Labour Organization (ILO), and the World Health Organization (WHO). The United Nations Education, Scientific and Cultural Organization (UNESCO) has been concerned with the problem for some years and has undertaken activities in this field, including the publication of relevant statistical information.

Regionally, the brain drain problem was discussed by the League of Arab States and a committee was formed to present recommendations on this matter. Arab regional organizations have dealt with this problem, particularly the Industrial Development Centre for Arab States (IDCAS) and the Arab Labour Organization (ALO). Concern about the brain drain problem was also expressed in various conferences held under the auspices of the League of Arab States. Manpower migration among Arab countries was one of the topics discussed in the "Seminar on Manpower and Employment Planning in the Arab Countries" which was jointly sponsored by the ILO and ECWA and held in Beirut on 12-24 May 1975. Late this year, two regional conferences will be held in Amman and Kuwait to discuss various aspects of the brain drain.

At the national level, the Arab countries concerned have been aware of the brain drain problem and some have taken certain measures to diminish the outflow and attract their nationals and other Arabs residing abroad to return. National seminars were organized to deal with manpower issues which included the outflow of high-level manpower, and studies on this problem were prepared in a number of ECWA countries.

B. Approach of the Study

The study makes use of available information on the brain drain magnitude and the motivation for emigration or residence abroad of nationals of the ECWA countries, and compares the findings with the kind of skills

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and talents in demand in the region. It examines the underlying causes of the outward migration of skills and talents, such as political instability, under-development, lack of absorptive capacity, absence of appropriate manpower and employment policies, dissatisfaction with working conditions and salaries, inadequate research facilities, rigidity of public administration and its failure to allow for innovation, and other factors. It also attempts to estimate the losses incurred, such as the cost of training and education, the negative impact on the realization of development plans and on economic and social development, the negative impact on technological progress, loss of other direct benefits and of externalities, etc. In addition, it estimates the benefits accrued in the form of remittances or investments and other benefits, as well as benefits reaped by countries of destination.

In addition to the brain drain to developed countries, basically the U.S.A., Western Europe, Canada and Australia, there is another significant migration pattern in the region which is the flow of labour from the non-oil exporting countries to the oil-exporting countries. Although this flow is of considerable size and impact and plays an important role in economic co-operation and integration between the Arab countries, the study deals with it briefly. It concentrates on the brain drain from the ECWA countries concerned (Iraq, Jordan, Lebanon and Syria) to the developed countries. More emphasis is put on regional considerations, though national policies are also covered.

For the purpose of this study, the brain drain covers those persons who acquired a university degree and are working and/or residing abroad. Some emphasis is usually placed on university graduates in the science, medicine and engineering fields in the study of the brain drain.

In undertaking this study, a number of visits were made to the countries of the Region, in order to discuss the brain drain problem with government officials and collect the relevant information. The countries visited were

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Democratic Yemen, Kuwait, Iraq, Jordan, Saudi Arabia, the Syrian Arab Republic and Yemen. In the countries visited, the flow of high-level manpower was looked at in the context of the national development plan. Available data were gathered on the outflow of high-level manpower, nationals studying abroad and the remittances sent by nationals working abroad. Information was also obtained on government policies related to migration, repatriation, employment, wages and other aspects. A questionnaire was sent to identify various policies and measures which the ECWA countries adopt to reduce the outflow of their own professionals, on the one hand, and to induce professionals working at home to stay and those residing abroad to return, on the other hand.

One of the difficulties which was encountered in undertaking this study was the inadequacy of the data on the brain drain in the ECWA countries. Moreover, the available estimates in the recipient developed countries were not up-to-date or comprehensive.

C. Organization of the Study

The study consists of five chapters. The first chapter deals with the magnitude of the brain drain. It includes estimates of the size of the brain drain and the flow of high-level manpower among the ECWA countries, in the light of the skills available and in demand in the region. The second chapter presents an analysis of the policies of ECWA countries towards the brain drain. The "push" and "pull" factors that cause the brain drain and its consequences are studied in the third and fourth chapters. The last chapter is devoted to a number of recommendations to deal with the brain drain problem.

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I. THE MAGNITUDE OF THE BRAIN DRAIN

This chapter attempts to present a quantitative analysis of the brain drain problem in the ECWA region. Distinction is made between the outflow of Arab professionals to the developed countries and the flow of Arab professionals among ECWA countries. This distinction arises from the different consequences of these two movements and from the increasing significance of the second flow.

A. Estimates of the Size of the Brain Drain

One common feature of the ECWA countries in dealing with the brain drain problem is the absence of reliable figures on the outflow of their national professionals. The problem of the brain drain has been acutely felt and discussed in national and regional meetings, but no comprehensive and reliable national data were presented on the brain drain, except as rough estimates, partial data or by utilizing statistical publications of recipient developed countries.

This study depends, as others, on these sources in analyzing the magnitude of the brain drain from ECWA countries. However, there is a time lag in the data available on the Arab brain drain to developed countries. On the other hand, more up-to-date and complete data are available on the flow of high-level manpower among Arab countries.

1. Brain drain to developed countries

Brain drain from ECWA countries to developed countries is concentrated on brain drain from Lebanon, Syria, Iraq, Jordan (including Palestinians) and, to a limited extent, from Yemen and Democratic Yemen. Oil-exporting ECWA countries do not suffer from the brain drain problem. They have substantial financial resources to embark on ambitious and comprehensive development plans which, in turn, require a large number of

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qualified people. Moreover, the development of their manpower resources has been taking place as a parallel process to their development planning efforts, rather than in advance. In all oil-exporting Arab countries, resort has had to be made to non-national skilled labour, including those coming from other ECWA countries, in order to carry out economic projects and provide social services.

The developed countries which attract Arab professionals are the same countries to which brain inflow takes place from all developing countries, namely, the United States of America, Canada, Western Europe and, to a limited extent, Australia. These recipient countries have been the main source of information, especially quantitative information, on the brain drain problem.

When compared with the magnitude of the brain drain from all developing countries, brain drain from ECWA countries represents a small percentages. Out of the total number of professional migrants from all developing countries in the sixties and early seventies of 230,829, the number of migrants from the Near and Middle East, an area which covers other countries in addition to ECWA region, was 10,404 or 4.5 percent of the total.[1/] However, this figure underestimates the magnitude of the brain drain from ECWA countries as shown below. Moreover, the effect of this outflow on the ECWA countries themselves is considerable even if the magnitude is not as large in absolute terms as in other regions.

During the period 1962-1969, the brain drain from ECWA countries to the United States alone amounted to 4,770 Arab professionals, as shown in Table 1. The figure for Canada was 492, about 10 percent of the brain drain to the United States (see Table 2). No figures are available for Western European countries and Australia.

1/ UNCTAD, The Reverse Transfer of Technology: its Dimensions, Economic Effects and Policy Implications (Geneva, TD/B/C.617, 13 October 1975), Table A-2.

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More recent data are shown in Table 3. The brain drain from Jordan to the United States increased from an annual average of 155 in the period 1965-1969 to an annual average of 900 in the period 1970-1974. This substantial increase was due basically to the internal disturbances of 1970-1971, but this did not account for all of the increase in the average annual inflow of Jordanian professionals to the United States.

Table 4-A provides an estimate of the brain drain from ECWA countries, covering the period of 1970-1974, Account was taken of the actual figures for Jordan and the tendency for the 1962-1969 figures to underestimate the inflow and the magnitude of the brain drain from such countries as Syria which amounted to 8,182 during the period 1956-1969.[1/] On this basis, the total brain drain from ECWA countries is estimated at about 21,196 during the period 1970-1974, with 16,496 to the United States and 4,700 to other Western countries. The average annual outflow of Arab professionals has thus been about 4,240.

This estimate has been checked against other parameters related to the number of students at the university level. Based on Zahlan's estimates (see Table 4-B), the brain drain is estimated at 10 to 20 percent of students enrolled at universities outside the Region and 1 percent of those in the Arab universities (see also Tables 5 and 6). Using these parameters, the annual brain drain from all Arab countries to the industrialized countries is estimated at 5,000-7,000[2/].

These figures, of course, relate to all Arab countries, but, at the same time, they cover the period of the late 1960s. Applying the same

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1/ Syrian Arab Republic and the Brain Drain, Arab Engineer, No.37, September-October 1971, p.17 (Arabic).

2/ Malcolm Edisichia, Brain Drain from the Arab World, Cairo, December 1969, p.9.

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Table 1. Arab Brain Drain to the U.S.A.

(1962-1969)

Occupation / Country of Origin	Technicians	Engineers	Natural Scientists	Social Scientists	Physicians	Nurses	Total	Total Emigrants
Lebanon	1,211	277	95	20	169	97	1,869	8,191
Jordan[a/]	886	117	47	11	27	42	1,130	9,548
Iraq	794	165	67	4	45	13	1,088	4,192
Syrian Arab Republic	463	129	30	5	43	13	683	2,406
Total	3,354	688	239	40	284	165	4,770	24,337

Source: Dr. Elias Al-Zein, Arab Brain Drain, Arab Institution for Studies and Publication, Beirut, 1972, p.32 (Arabic).

a/ Includes Palestinians.

Table 2. Arab Brain Drain to Canada
(1962-1967)

Country of Origin \ Occupation	Technicians	Engineers	Natural Scientists	Social Scientists	Physicians	Nurses	Total	Total Emigrants
Lebanon	244	19	8	11	41	10	333	3,693
Jordan	35	-	3	2	4	2	46	422
Iraq	33	13	8	1	2	-	57	254
Syrian Arab Republic	37	5	2	1	9	2	56	458
Total	349	37	21	15	56	14	492	4,827

Source: Dr. Elias Al-Zein, Arab Brain Drain, Arab Institution for Studies and Publication, Beirut, 1972, p.35 (Arabic).

Table 3. Total Emigrants and Brain Drain from Jordan to U.S.A. (1965-1974)

Year	Total Emigrants (1)	Total Professional, Technical and Kindered Workers (2)	Percentage (3) = (2/1)
1965	702	70	10
1966	1,325	124	9
1967	1,604	175	11
1968	2,010	181	9
1969	2,617	222	8
1970	2,842	254	9
1971	2,588	249	9
1972	18,876	3,482	18
1973	2,500	300	12
1974	2,838	211	7
Total	37,702	5,278	14

Source: T.A. Zarour, Factors Influencing the Emigration of Highly Educated Persons from Jordan to the United States, Ph.D. Dissertation, Florida State University, 1976, p.(9).

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Table 4.A. Estimates of Brain Drain from ECWA Countries

Country	1962-1969		1970-1974		
	U.S.A.	Canada	U.S.A.	Others	Total
Lebanon	1,869	333	2,200	1,200	3,400
Jordan[a/]	1,130	46	4,496	1,000	5,496
Iraq	1,088	57	5,500	1,300	6,800
Syrian Arab Republic	683	56	4,000	1,100	5,100
Others	n.a.	n.a.	300	100	400
Total	4,770	492	16,496	4,700	21,196

Source: Data in the first and second columns are taken from Tables 1 and 2 noting that the figures relating to Canada cover the period 1962-1967 only. All figures for the period 1970-1974 are estimates with the exception of the brain drain from Jordan to the U.S.A.

a/ Includes Palestinians.

Table 4.B. Estimates of the Brain Drain from ECWA Countries

	Students in Higher Education in ECWA	Nationals of ECWA Studying in U.S.A. Universities
Total Number	195,976[a/]	7,239[b/]
Parameter	1 percent	10-20 percent
Brain Drain	1960	724-1448 (Average 1086)

Source: See tables 5 and 6.

a/ Average of 1970 and 1975.

b/ Average of 1974 and 1975.

Table 5. Nationals of ECWA Countries Studying at American (USA) Universities

Country	1960	1965	1974	1975
Lebanon	590	700	1,580	1,820
Saudi Arabia	93	552	1,540	2,990
Jordan	556	654	1,010	1,180
Kuwait	49	214	960	1,180
Iraq	675	919	420	440
Syrian Arab Republic	283	434	410	430
Qatar	1	4	120	130
U.A.E.	-	-	25	100
Bahrain	3	5	18	29
Yemen	13	12	18	13
Oman	2	-	11	41
Democratic Yemen	-	9	5	9
Total	2,265	3,503	6,117	8,362

Source: Institute of International Education, Open Doors, relevant issues.

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Table 6. Students Enrolled in Higher Education in the ECWA Countries[a/]

Country	1965	1970	1975	1980[b/]	1985[b/]
Jordan	3,192	4,518	9,610	18,559	28,713
U.A.E.	-	-	-	-	-
Bahrain	-	289	964	1,805	2,445
Saudi Arabia	3,625	8,492	18,736	39,006	65,759
Syrian Arab Republic	32,653	40,537	65,265	100,117	138,702
Iraq	28,377	42,431	88,373	145,857	219,163
Oman	-	-	-	-	-
Qatar	-	-	-	-	-
Kuwait	-	2,686	6,110	10,625	16,617
Lebanon	20,304	42,578	58,266	85,257	104,963
Yemen	-	49	2,265	8,669	25,681
Democratic Yemen	-	91	692	3,630	8,951
Total	88,151	141,671	250,281	413,525	610,994

Source: Institute of International Education, Open Doors, pp.118 and 137.

a/ These figures do not include students from the ECWA countries studying outside the ECWA region. The projections do not take into account the opening of new universities in the U.A.E., Qatar and others.

b/ Projections.

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parameters to more recent figures of ECWA countries, and assuming that the number of students from ECWA countries studying in Western Europe and Canada are at least equal to that in the United States, the average annual estimate of the magnitude of the brain drain from ECWA countries amounts to 1960 + 1086 + 1086 = 4132 (see Table 4.B).

Thus, the brain drain from ECWA countries can be estimated at an average of four thousand professionals annually. With the fighting in Lebanon in 1975 and 1976, the outflow of highly qualified Lebanese manpower was very substantial. Although a small portion of this outflow will become brain drain, the greater portion of the outflow is temporary in nature.

It is noted that another approach for estimating the magnitude of the brain drain could be followed by using data on the stock and flows of manpower. This requires adequate information on the stock of highly qualified manpower in ECWA countries for a base year; the number and specialization of university graduates in ECWA countries and in other universities for ECWA nationals; data on mortality and retirement of professionals in ECWA countries; and, the flow of these professionals among ECWA countries and from these countries to the rest of the world. While this approach may be attempted for one country, where manpower and population data are available,[1/] it seems difficult to adopt for the estimation of the magnitude of the brain drain in the ECWA region without a considerable margin of estimation.

1/ See Nadr Atasi, "Growth of Flows of Higher Education Graduates and its Horizons in a Number of Arab Countries", a paper submitted to the Seventh National Conference on Development, 24-25 October 1973, Beirut (Arabic).

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2. Flow of high-level manpower among ECWA countries

The flow of high-level manpower among ECWA countries was induced in the last thirty years by the production and export of oil from the Arabian Peninsula and the resulting unprecedented momentum of economic and social development. The oil-exporting countries being under-populated and their human resources being in the process of development, have to depend, to a large extent, on "imported" manpower. Thus, the inflow of manpower into the oil-exporting ECWA countries originated from Yemen, Jordan, Syrian Arab Republic, Lebanon and Oman from the ECWA region. In addition, other inflows originated from Egypt, Sudan and Somalia (Arab countries in Africa) and from Iran, Pakistan and India. There are workers from various nationalities working in the oil-exporting ECWA countries, but those from the above-mentioned countries represent the bulk of total immigrants.

It is estimated that the expatriate labour force in the oil-exporting ECWA countries is between 1.5 to two million workers, in both the private and the public sectors. Out of this total, the total flow of manpower from other ECWA countries is about 1.25 million workers. Taking the ratio of professionals as 10 percent of the total flow, about 125 thousand professional nationals of ECWA countries work in the oil-exporting ECWA countries. This figure represents the 1977 stock estimate resulting from the intra-ECWA flow of highly qualified manpower.

The flow of professionals among ECWA countries is obviously much larger than the brain drain from ECWA countries to the developed countries. However, it is considered in this study as a movement of one of the factors of production and thus represents a very significant sign of regional mobility and cooperation.

Recent intra-ECWA flow of professionals, as well as other categories of manpower, has increased the pressure in the labour market in the "exporting" ECWA countries. Therefore, more attention is being

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directed in these countries to the resulting constraints of skilled and professional manpower and the necessity of increasing the wage levels more often than previously experienced.

B. Comparison of the Brain Drain with Required skills in the ECWA Region

Available manpower estimates for the oil-exporting countries for the period 1975-1980 show a net deficit of about 750,000 workers.[1/] (see Table 7 for Saudi Arabia, Kuwait and Bahrain). The implementation of ambitious development plans in the Region will require and, to a good extent, will depend upon the availability of manpower in various skills and professionals. Assuming that the percentage of professionals and sub-professionals constitutes about 12 percent[2/] of the total, 90,000 highly qualified immigrants will be needed in the oil-producing ECWA countries during the period 1975-1980. This means that 18,000 professionals are required annually.

Thus, the brain drain of about 4,000 Arab professionals from ECWA countries to the developed countries worsens the situation. This brain drain can be easily absorbed in the ECWA region in its development projects. The need is for 4.5 times the size of the brain drain.

It is important to note that the brain drain occurs in very crucial professions, such as engineering, natural sciences, medicine and other advanced occupations, which are badly needed in the ECWA region. As will be noted later, the ECWA countries have to coordinate their policies and take joint actions to combat the brain drain and organize the flow of professionals among themselves.

1/ This is a conservative estimate if the figure for the three countries in Table 7 (602.7 thousand) is supplemented by rough estimates for the the United Arab Emirates, Qatar and Oman. See the Country Case Studies, J.S. Birks and C.A. Sinclair, International Migration Project, 1977-1978.

2/ This percentage is higher than the one previously applied for estimating the stock of professionals due to the nature of development projects under implementation and the decrease, in relative terms, of the Yemeni labour force in the oil-exporting countries.

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Table 7. Expatriate Manpower Required during 1975-1980

(thousands)

	Saudi Arabia[a]	Kuwait[b]	Bahrain[c] (1972/76-1977/81)
Managers	6.1	0.7	
Professionals	7.8		0.3
Technicians and Sub-Professionals	49.9	11.7	1.6
Clerical Workers	90.4	4.8	3.8
Sales Workers	65.5	1.5	
Service Workers	98.1	40.3	
Operatives	26.3	18.6	5.5
Skilled Workers	54.8		
Semi-Skilled Workers	99.7	9.3	6.0
Total	498.6	86.9	17.2

Sources: a/ Ministry of Planning, Saudi Arabia, Second Development Plan, 1975-1980, p.217.

b/ Planning Board, Manpower Planning Department, Estimates of Manpower Supply and Demand in 1975 and 1980, p.76 (Arabic).

c/ James A. Socknat, "Projections of Manpower Demand and Supply 1971-1986 for Bahrain", Table 79.

II. POLICIES OF THE ECWA COUNTRIES TOWARDS THE BRAIN DRAIN PROBLEM

One of the general findings of this study is that there is almost no clearly stated regional policy towards the brain drain in the ECWA region. There is, however, an impression shared by all ECWA countries that the brain drain from this Region to developed countries represents a loss that efforts should be made for the reversal of this trend.

The absence of a regional policy may be explained as follows:

- until the early seventies, the manpower policy of the ECWA countries was based on the implicit assumption that manpower does not represent a constraint or a limiting factor in the development process of the ECWA countries. Unemployment was registered among university graduates in Jordan, Syria and Lebanon and these countries were pleased to have part of their high level manpower absorbed in the neighbouring Arab countries; and,

- the fact that ECWA member countries do not share the same problem of the brain drain and, therefore, do not have one common stand towards it. From the viewpoint of this study, and perhaps other viewpoints, ECWA member countries can be divided into three distinct categories: the "net exporters" of high-level manpower, such as Jordan, Lebanon and Syria; the "net importers" of high-level manpower, such as Saudi Arabia, Kuwait, Qatar and the United Arab Emirates; and, the least developed countries which are basically "net exporters" of unskilled and, to some extent, semi-skilled manpower, such as Yemen and Democratic Yemen.

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The actual policies of these countries diverge in accordance with their individual situations. Thus, in contrast to the absence of a regional brain drain policy, there are national policies which have been explicitly stated by some member countries.

The above statement on the absence of a regional policy towards the brain drain problem should not, however, be taken too far. Firstly, ECWA member countries have indicated, in the context of regional institutions such as the Arab Labour Organization, the Industrial Development Center for the Arab States and the Arab Fund for Economic and Social Development, their interest in taking certain measures to reduce the outflow of high-level manpower to other regions and to induce nationals working in developed countries to return. Moreover, regional and national meetings were held in the 1970's to discuss the brain drain problem. Such meetings were held in Lebanon, Syria and Kuwait. In December 1975, a meeting was held in Kuwait in coopeation with the Association of the American Universities' Arab Graduates to discuss the problem of the brain drain.

In contrast to the absence of a clearcut regional policy towards the brain drain problem, ECWA member countries have adopted, more or less, definite national policies in this regard. National policies of the brain drain, however, differ from one country to another.

Field visits were undertaken in 1975 to most of ECWA member countries in order to discuss the brain drain problem with the Government officials and collect relevant information. The countries visited were Democratic Yemen, Kuwait, Iraq, Jordan, Lebanon, Saudi Arabia, the Syrian Arab Republic and Yemen. One of the significant matters, which was of special interest, was to identify various policies and measures which the ECWA member country adopted to reduce the outflow of its own professionals, on the one hand, and to induce professionals working at home and those residing abroad to stay longer and/or to return, respectively. Later on, a questionnaire was prepared to deal

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specifically with this matter and was sent to ECWA member countries.

The following presentation on the national policies towards the brain drain problem makes use of all the information gathered during the visits, the responses to the questionnaire, and the reading of relevant material.

A. Policies in Iraq

Among all ECWA member countries, Iraq adopted a distinct policy in the 1970s to induce high-level manpower to remain in Iraq and those working abroad to return.

Brain drain has been a problem facing Iraq during the last twenty years or so. It is related to the familiar "push" and "pull" factors, but one major factor has been the study abroad, particularly at the undergraduate level.

In the First Seminar, sponsored by the Ministry of Education on Planning Educational Policy, a paper was presented on 8th of March 1970 on the brain drain problem. The Seminar arrived at a number of recommendations designed to deal with the brain drain problem, among which are the following:1/

- to secure the professionals with the proper environment to enable them to think and work freely and creatively;

- to have the Government concentrate on development efforts in order to widen job opportunities for the professionals;

- to provide the scientific atmosphere in the research institutions and the necessary working facilities;

1/ Iraq, Ministry of Education, Educational Research Dept., Resolutions of the First Seminar on Planning Educational Policy, March 1970, pp. 34-39.

.../

- to improve the living conditions of the professionals, including higher salaries;

- to issue necessary laws and regulations aiming at providing equal conditions to professionals regardless of the institution where they are employed;

- to adopt new policies regarding fellowships and to maintain necessary contacts with students abroad;

- to cooperate with other Arab countries in devising certain methods to reduce the outflow of high-level manpower; and,

- to improve the educational system, particularly at the university level.

A study was undertaken in 1973 by the Educational and Psychological Research Center, University of Baghdad, entitled "Non-Returnee Iraqi Graduates Abroad 1958-1970". During the 1958-1970 period, 3825 students were sent to study abroad with partial or total Government financing. Out of this number, 2643 students graduated, 335 of which (12.7 percent) did not return. However, about another thousand left Iraq during the same period to study abroad on their own account. The percentage of non-returnees in the latter category was much higher than the first one.

The same study notes that 39 percent of non-returnees studied in the United States, while 23 percent in the Federal Republic of Germany. Moreover, the percentage of non-returnees in natural and applied sciences was much higher (81.2 percent) than in human sciences (18.8 percent).

The Iraqi Government issued law 189 of 1970 to induce Iraqi professionals residing abroad to return. Due to its limited impact, this law was replaced

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by a much more comprehensive and generous law 154 of 1974. Law 154 applies to Iraqi and other Arab professionals working abroad or in Iraq and having obtained a minimum of a Masters degree or its equivalent. This law and the relevant regulations include the provision of the following incentives by the Government for any Iraqi who is considered formally by a special Commission as one of the high-level or qualified manpower:

1. the travel expenses of the professional and his dependents from abroad to Baghdad;

2. transportation costs of his personal and household effects and their entry free of duty;

3. tax exemption for one car;

4. a grant of a month salary if the returnee gets married in Iraq plus an advance equivalent to six-months' salary;

5. a piece of land and a loan to build a home; and,

6. a number of other incentives related to the recognition of his previous experience abroad and other aspects.

The results of these inducements have been very encouraging when judged from the number of professionals returning after the 1974 law was enforced. The figures in Tables8 and 9 were compiled from the records of the Commission which cover names of qualified manpower returning to Iraq and benefiting from the 1974 Law. These figures, however, were taken up to the end of November 1975. From these tables, the following is noted:

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1. The total number of qualified personnel or professionals returning to Iraq under Law 154 of 1974 was, as of 30th November 1975, 705 professionals. This amounts to one-third of the total professional residing in Iraq and benefiting from the same Law (2271 professionals). Accordingly, a good number of Iraqis were included to return as a result of law 154.

2. Most of the 705 professionals were Iraqis, but a small number of this total was from other Arab countries. Most of them were also new graduates (1974), but a small number of them graduated before 1970.

3. Most of the returnees were graduates from Western Universities specializing in sciences in areas which are badly needed in Iraq.

In addition to Law 154, the Iraqi Government imposes restrictions on the outflow of professionals. For example, physicians and engineers are permitted to leave Iraq only after the submission of a guarantee. Undergraduate study abroad is restricted. Iraqi experts are not permitted to work in the United Nations organizations except for limited cases.

Moreover, the Government has been following educational policies which conform with development manpower requirements. Accordingly, a larger percentage of university enrolments are in technical and scientific fields. The same applies to Iraqi fellowships abroad. Some allowances were given to certain professions in the civil service.

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Table 8. Qualified Personnel Returning to Iraq
Classified According to Degree and Country of Study
(as of 30 November 1975)

	USA	U.K	FRG	France	Other Western	USSR	Czech.	Other Socialist	Arab Countries	Other	Total
Ph.D.	115	177	34	16	15	17	5	14	19	-	412
M.A.	94	120	1	1	5	8	-	1	7	1	238
High Diploma	3	5	46	-	-	-	-	-	1	-	55
Total	212	302	81	17	20	25	5	15	27	1	705

Source: Compiled from detailed records of the Iraqi Commission for Qualified Personnel, December 1975.

Table 9. Qualified Personnel Returning to Iraq
Classified According to Degree and Specialization
(as of 30 November, 1975)

	Science	Medicine	Engineering	Agriculture	Humanities	Petroleum	Total
Ph.D.	137	70	81	47	71	6	412
M.A.	33	19	106	15	62	3	238
High Diploma	1	39	12	1	2	-	55
Total	171	128	199	63	135	9	705

Source: Compiled from detailed records of the Iraqi Commission for Qualified Personnel, December 1975.

B. Policies in Jordan

Sizeable outflow of manpower, including professionals, from Jordan to other countries has been a characteristic of the Jordanian economy since the early 1950's. The bulk of this outflow is directed towards other Arab countries, basically the oil-exporting ones. Though there are no exact data on Jordanians working abroad, some estimates for Jordanians working in ECWA member countries are put at about 250,000 persons.

Until the early 1970's, a mixed feeling prevailed among the policy-makers in Jordan towards the brain drain;

1. A strong view was that Jordan can afford, under the then existing economic and social conditions, to spare part of its manpower, including the high-level category. Given the large number of displaced Palestinians in 1948 and 1967, the high level of university enrollment of Jordanians, and the excess in the supply of professionals, especially in humanities, over the demand in Jordan, the Jordan Government adopted a liberal policy towards the outflow of high-level manpower. An additional argument in favour of this policy is the remittances of the Jordanians working abroad which amounted to $ 423 and $ 445 million in 1976 and 1977, respectively.1/

2. The second view expressed some concern over the outflow of high-level manpower. A distinction was made here between the outflow to the oil-exporting Arab countries and that to the industrialized countries in North America, Western Europe and Australia. While the first pattern of outflow was more or less welcomed as a positive factor of co-operation, the latter pattern was considered as a loss in terms of its

1/ It is believed that this figure is an underestimation of the total amount of remittances since remittances can be effected not only through the banking system but also the active money changers or carried with workers visiting Jordan. It should be noted, however, that the above sum stands for remittances from all Jordanians working abroad and not only the high-level manpower.

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potential contribution to development in Jordan or in the ECWA region.

With the activation of the Jordanian economy under the implementation of the Three Year Development Plan (1973-1975) and the Five Year Development Plan (1976-1980), and the upsurge of the development momentum in the ECWA oil-exporting countries, the brain drain, in particular, and the outflow of manpower, in general, became a much recognized problem in Jordan.

A number of activities were conducted in Jordan which had some bearing on the brain drain problem. Three seminars were held in 1971, 1972 and 1975 on manpower. A top-level national symposium on manpower was held in December 1974 which discussed, among other things, the university graduates and the brain drain problem. Private research was undertaken on the economic effects of university education in Jordan.[1/] The Department of Statistics compiled data on Jordanian students abroad.[2/]

A limited roster of Jordanian university graduates was published by the Jordan Scientific Research Council in 1972. The roster dealt basically with Jordanians residing in Jordan and thus did not cover the bulk of Jordanian university graduates believed to be residing abroad. The roster showed the following:

1/ See Tayseer Abdel Jaber, "Economic Effects of University Education in Jordan", mimeo., September 1974. A study submitted to the Jordan Scientific Research Council (in Arabic).

2/ Department of Statistics, Jordanian Students in the Third Level of Education 1969/1970, Amman, 1971 (in Arabic).

Level of Education	Number of Graduates	Percentage
B.A.	6310	91
Diploma	221	3
M.A.	311	4.5
Ph.D.	105	1.5
Total	6947	100

Based on a household survey undertaken by the Department of Statistics in Jordan, the following were given as estimates of Jordanians abroad:

Table 10. Estimates of Jordanians Working Abroad

Activity	Sample percentage Distribution	Estimated Distribution of Estimated Population
Agriculture	1.0	3,042
Mining	0.4	1,217
Manufacture	26.8	81,520
Electricity, Gas and Water	1.7	5,171
Construction	12.2	37,110
Commerce	20.1	61,140
Transportation and Storage	3.4	10,342
Financial Service	3.3	10,038
Commercial Services and Public Administration	31.2	94,904
Total	100.0	304,182

Source: Department of Statistics, The Multi-purpose Household Survey, February-April 1975

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The above estimate of Jordanians working abroad (304,182) is the only comprehensive estimate currently available, pending a more reliable estimate.

Currently, the brain drain problem and the outflow of skilled and semi-skilled Jordanians pose serious implications on the labour market conditions in Jordan. Some shortages in professionals may be a constraint on economic development efforts; high and continuous pressures are exerted on the wage levels, and the active manpower mobility involves noticeable waste at the national level.

Under these circumstances, the Jordan Government formed in June 1977 a Technical Committee to study the Brain Drain Problem. The Committee was composed of representatives of various ministries and institutions concerned and headed by the Secretary General of the National Planning Council. The Committee submitted its report in August 1977 and recommended a number of measures which are classified under four headlings:

1. to provide necessary financial and other incentives in order to minimize the brain drain from Jordan. These include price subsidies, an income policy, housing projects, etc.;

2. to organize the outflow of Jordanian high-level manpower to other countries by concluding labour agreements, official secondment of Government employees by contracting, etc.;

3. to increase the supply of labour in Jordan through more concentration on training in its different forms, increased women participation in the labour force, permission of part-time work, resort to non-Jordanian labour, etc.; and,

4. to undertake regularly surveys and studies of the Jordanian manpower in order to provide reliable statistical information.

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The Technical Committee did not recommend police-like measures of preventing further outflow of Jordanian professionals. Its position is in line with the economic system in Jordan and the Government general policy towards manpower.

The Jordan Government is willing to provide the high-level manpower with additional financial and other incentives, but its ability to do so is constrained by its limited revenues, particularly given its development efforts under the current Five Year Development Plan. Nevertheless, the Government issued two regulations under which allowances were given to government employees in addition to technical allowances to physicians, engineers, pharmacists, judges, dentists , veterinarians, agricultural engineers and nurses. The total impact of allwances which were effected as of the 1st January 1977 amounted to JD 12 million in 1977. Individual allowances range between 20 percent and about 200 percent of the basic salary, depending on the degree obtained, the field of specialization and the years of experience.[1/]

C. Policies in Syria

Syria, as in the case of Jordan, experienced the brain drain problem and the outflow of its nationals in general since the early 1950s. However, in contrast to Jordan, the outflow of high-level manpower represents a higher percentage of this category in Syria, and the sum of remittances by the Syrian workers is much less.

As in the case of Jordan, the dominant view was somewhat permissive with regard to the brain drain. However, even at an early stage, the Syrian Government aimed at counteracting the brain drain, particularly to non-Arab countries. In 1970s, the Syrian Government introduced severe restrictions on the outflow

1/ For details on the Unified Allowances Regulations and the Technical and Specialization Allowances Regulations, see the Official Gazette of January 1977.

.../

of high-level manpower. Members of 24 selected professions are restricted to leave the country, except with a permit from the Government or the Trade Unions if the individual works in the private sector. If any one manages to leave and did not return, he will be subjected to economic penalties including the confiscation of his property. Resignations of high-level manpower are not accepted. But the Government may agree to second some employees. University graduates are not handed their degrees, except after a number of years.1/

There are no reliable statistics on the outflow of Syrians including the high-level manpower. However, more than 300,000 Syrians used to work in Lebanon early 1975.

In accordance with the 1975 population census in Kuwait, 40,962 Syrians were residing in Kuwait. Syrian professionals reside also in Western Europe and North America. For example, in a letter sent by the Catholic Service for Foreign Students and Trainees to Syria on 29 January 1975, it was stated that 5800 Syrians reside in the Federal Republic of Germany, of which 4500 were university graduates. Among these, a good number were physicians and engineers. At the same time, 600 Syrian students were enrolled in German universities.

In 1971, a committee was formed to study ways and means of retaining technical and scientific expertise in Syria. The study was presented to the Second Economic Development Conference held in Damascus, 11-15 September 1971. It was found that 57 percent of Syrian high-level manpower in sciences during the period 1956-1969 did not reside in Syria. In absolute figures, 8182 Syrian scientists out of a total of 14350 were residing abroad. This represents an average annual capital loss of SL 144 million in the same period (see table 11 below).

1/ These points are based upon discussions with Syrian Government officials concerned. See also Law 49 of 1974.

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Table 11. Estimates of Outflow of Syrian Scientists
During the Period 1956 - 1969

Specialization	Number in 1956	Expected No. in 1969	Actual No. in 1969	Estimated Outflow 1956-1969	Percentage Outflow
Engineering	444	5008	1959	3049	61
Sciences	604	2371	979	1392	59
Medicine	1079	4290	1521	2769	65
Dentistry	235	580	385	195	34
Veterinary	35	88	44	44	50
Pharmacy	392	950	636	314	33
Agriculture	50	1063	644	419	39
Total	2839	14350	6168	8182	57

Source: Report of the Committee on "Syrian Arab Republic and the Brain Drain", Arab Engineer, No. 37, September - October 1971, p.17 (Arabic)

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It appears from the analysis of domestic reasons behind this relatively substantial outflow that working conditions, in general, including low salaries and political instability were the major factors behind the brain drain.

In the papers which were presented to seminars held in Damascus and in Beirut in 1974 and 1975 which dealt with, among other things, the brain drain, no improvement or updating was introduced on the statistical presentation on the brain drain from Syria in the above-mentioned study.

D. Policies in Lebanon

Emigration has been one of the main characteristics of the Lebanese economy in the last century or more, due to its limited natural resources which could not cater for its increasing population. However, like other ECWA countries, no comprehensive data are available on the outflow of Lebanese manpower. In 1971, estimates for total emigrants from Lebanese origin ranged between two and four million.[1/]

Brain drain from Lebanon has been part of this total outflow, though a good portion of the drain coincides with the study abroad. It is noted that the outflow of Lebanese professionals tend to concentrate on developed countries such as the United States, Canada and France. Available estimates on the outflow of high-level manpower indicate a high percentage compared to those residing in Lebanon which were estimated in 1968-1969 at 25,431 professionals. During the period 1962-1966, Lebanese immigrants, including professionals and technical and kindered workers, admitted to the United States and Canada were estimated at 2,229 and 2,597, respectively.

1/ A.B. Zahlan, "Brain Drain from Lebanon", Ministry of Information, Seminar on the Brain Drain, Beirut, 30-31 May 1972, p.2 See also, UNITAR, the Brain Drain from Five Developing Countries, New York, 1971, pp. 83-95.

.../

The 1975 population census in Kuwait showed that 24,776 Lebanese resided in Kuwait, 16.8 percent out of which were considered high-level manpower. Professor Zahlan estimated the brain drain from Lebanon (see table 12) as follows:

Table 12. Estimates of Brain Drain from Lebanon

Qualification	Prior to 1967 (annually)	After 1967 (annually)
Engineers	100	150-200
Sciences (B.A.)	40	80
Sciences (Ph.D.)	50	50
Physicians	40	60- 80
Total	230	340-410

Source: A.B. Zahlan, "Brain Drain from Lebanon", Ministry of Information, Seminar on the Brain Drain, Beirut, 30-31 May 1972, p.23.

With the growth of the Lebanese economy, an inflow of manpower was witnessed in Lebanon, including a good percentage of professionals. In 1973, for example, the Government gave 19,230 working permits to non-Lebanese, of which 2804 were of high-level manpower.[1/] No other ECWA member country, other than the oil-exporting countries, witnessed such an inflow of high-level manpower.

1/ Central Statistical Department, Statistical Year-book, 1973, p.95.

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The experience of the Lebanese economy is unique in the ECWA region. Under an entirely market economy, which is often criticized to be too liberal, the inflow of capital and investments and the mercantile spirit of the Lebanese, the Lebanese Government, followed a laissez-faire policy towards the brain drain and immigration in general. No special measures were considered to induce the return of Lebanese professionals or to retain them.

The Lebanese development process was aborted in 1975 when the devastating civil fighting started and continued through November 1976. A massive wave of immigration took place including thousands of professionals. Due to many factors, including instability, lack of safety, decline in economic activity and uncertainty about future developments, many of the professionals who were forced to leave now tend to reside abroad for at least a number of years to come. This worsens the brain drain problem in Lebanon, particularly when one considers its effect on reinforcing the tendency of Lebanese students abroad to reside in the countries of their study.

E. Policies in the Oil-Exporting Countries

With the recent level of oil exploitations in Saudi Arabia and the Gulf States, the countries concerned were able to direct a good portion of their revenues into economic and social development and a whole process of nation-building was started. Generally speaking, the oil-exporting Arab countries started with a very low level of development in the early 1950s. This applies to their human resources as well to the fact of under-population.

Thus, with the funds available from oil exports, the oil-exporting countries had and still have to depend heavily on "imported" manpower with relatively more emphasis on professionals and skilled manpower. An active intra-regional manpower movement developed where labour from Jordan, Syria, Lebanon, Yemen, Iraq and some other Arab and non-Arab countries migrated to the Gulf States and Saudi Arabia.

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As indicated in the responses to the questionnaire on the brain drain and the discussions with the officials of the oil-exporting countries (Iraq was dealt with separately), these countries do not experience a brain drain problem as it applies to their nationals. It is difficult, if not impossible, to expect such a problem to develop in these countries as long as they provide their qualified nationals with challenging and responsible jobs and positions; very high salaries which range between four and ten times the average salary level in other countries of the ECWA region, and permission to run, in some form, private business. However, an increased mobility of labour is witnessed in these countries and certain qualified personnel are leaving the public sector into the private sector. This development has been noticed clearly in Kuwait where, in a sense, the Government machinery is no longer competitive with the private sector.

Although there are some variations among the policies of the oil-exporting countries, the following policies can apply adequately to the measures taken in these countries towards the high-level manpower:

1. Considerable emphasis is put by these countries on the development of their national human resources through the expansion of their educational systems at all levels, the sponsoring of fellowship programmes to their students in Arab and other universities, and the establishment of national universities and other institutions of higher education.

   One of the implicit policies behind the particular emphasis on the development of national high-level manpower is the importance these countries attach to having their nationals lead, technically and administratively, all types of government agencies and organs.

2. Extensive resort to "imported" high-level manpower is noticeable in the oil-exporting countries. It is noticed that each country

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tends to diversify its employment of expatriate professionals from a number of countries: Arab and others.

Table 13. Estimates of Available Manpower in Saudi Arabia and Kuwait in 1975

	Saudi Arabia [a]			Kuwait		
	1) Saudi	2) Non Saudi	3) Percentage of (2) to Total	1) Kuwaiti	2) Non Kuwaiti	3) percentage of (2) to Tot
High-level Manpower	80800	53400	39.8	10784	44690	80.6
Other Occupations	779100	1260500	61.8	65399	253721	79.5
Total	859900	1314000	60.4	76183	298411	79.7

Source: Ministry of Planning, Saudi Arabia, Second Development Plan, 1975-1980 and Planning Board, Population Census of Kuwait, 1975, May 1976.

a/ Other occupations include for Saudi Arabia unskilled workers with an estimate of one million Yemenis as unskilled.

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Table 13 above shows that Saudi Arabia and Kuwait (the two highest oil-exporting countries in the employment of non-nationals in absolute terms) depend heavily on "imported" labour: 60.4 percent and 79.7 percent of total labour force in 1975 in these two countries, respectively, were non-nationals. In the high-level manpower category, these percentages decline to 39.8 for Saudi Arabia and rises to 80.6 percent for Kuwait. In Bahrain, immigrants increased from 37,950 in 1971 to 52,237 in 1976 and accounted for 52 percent of the total labour force in 1976.

3. With the demand for high-level manpower increasing in the oil-exporting countries, as well as in other ECWA member countries, the oil exporting countries are adopting more favourable policies towards the expatriate manpower through providing higher salaries and, in many cases, housing and other facilities. They are also aware of the need for coordinating their policies in this regard in order to avoid harmful competition. Partial attempts have been made to induce Arab professionals residing in the industrialized countries to migrate to the oil-exporting Arab countries.

4. Available estimates for labour supply and demand in 1980 for the oil-producing countries indicate a large labour shortage of about 700,000 workers of various categories, i.e., professionals, skilled and semi-skilled. The need of the oil-exporting countries for imported labour will, thus, continue and increase with the implementation of current development plans. Under these circumstances, other ECWA member countries will face an increasingly difficult situation where the pressure on their trained manpower to emigrate is substantial and tempting. The problem of the outflow of Arab professionals to developed countries is currently attracting less attention in the

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ECWA region than the flow of these professionals from the non-oil exporting to the oil-exporting Arab countries. Moreover, the job opportunities created in the ECWA region will tend to attract some of the Arab professionals residing in the developed countries, a process that will help reduce the brain drain magnitude.

F. Policies in the Least Developed ECWA Countries

Two of the ECWA countries are classified as least developed, using the criteria of low per capita income, high illiteracy rate and very low relative importance of manufacturing to Gross Domestic Product. These are Yemen and Democratic Yemen. For practical reasons, one could also informally think of Oman as a least developed country.

These countries are characterized by, among other things, a very small number, as a percentage of the total labour force, of highly-qualified national manpower. This is recognized by the two countries as a major obstacle to their economic and social developments. The total number of university graduates working with the government in Yemen were 618 in 1974, with only 283 majoring in natural sciences[1/]. From discussions with government officials in 1975, university graduates working in Democratic Yemen were estimated at about 1000. The estimates for Oman must be much lower.

Though these countries are anxious to expand the number of their professionals, the university enrolment is still very limited. The university established in Aden accepts around 600 students annually, while 700 students, including those with fellowships, enroll in universities outside the country. Regular and part-time Yemeni students in Sana'a University were 711 in 1973/74[2/]. Omanis studying abroad were 374 only [3/].

1/ Yemen, Statistical Yearbook, 1974-1975, p.188.

2/ Ibid., p.17.

3/ Birks and Sinclair, International Migration Project, The Sultanate of Oman (Part One), p.25.

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The two least developed ECWA countries are facing substantial outflow in their manpower, basically semi-skilled and unskilled workers. These outflows are directed to the oil-exporting ECWA countries, with a certain number of Yemenis emigrating to the developed countries. Though no accurate data are available on these outflows, there are about 1.3 million from Yemen[1/] and about 250 thousand workers from Democratic Yemen. A large percentage of Omani labour force is working in the Gulf States and Saudi Arabia.

Though the absolute number and the relative percentage of national professionals is very small in the three countries, there is an outflow of these professionals, particularly from Democratic Yemen. However, this outflow is directed mostly to other countries in the ECWA region.

It has been also noticed that Oman and Yemen are resorting to expatriate manpower, including the semi-skilled, to meet their labour force requirements. Out of 132 thousand of economically active population in the modern sector in Oman, only 58.5 thousand were Omanis[2/]. The expatriates constituted 85 percent of the professional workers in the private sector in Oman in 1974[3/]. In 1974, 7624 residence permits were granted to foreigners in Yemen[4/]. The policy-makers realize that they have to resort even more to expatriate workers in order to carry out the current development plan.

G. The Palestinian People

The occupation of four fifths of Palestine in 1948 by Israel turned about one million Palestinian Arabs into refugees. The 1967 war resulted in the occupation of all Palestine, in addition to other Arab territories, and the displacement of more than 400,000 Palestinians. In 1974, about

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1/ P.N. Gorham, The Challenge of Manpower Deployment in the Middle East, mimeo, 1977.

2/ Birks and Sinclair, op. cit., pp.68-69.

3/ Ibid., p.46.

4/ Yemen, Statistical Yearbook, op.cit., p.182.

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18 percent of the Palestinians lived in 63 refugee camps in the West Bank, Gaza, Jordan, Lebanon and Syria.[1/] The total number of Palestinians is estimated at 3.3 million in 1977, including 1.7 million refugees registered with UNRWA (see Table 14 below).

As shown in table 14, the Palestinian people were forced, under extremely difficult conditions, to disperse in the Arab countries. Firstly, since they were deprived of their property, they concentrated on education. The university student enrolment as a ratio of total population is the highest among all ECWA countries. Secondly, they constituted a major part of the intra-regional manpower flows and the brain drain from the ECWA region. About 210 thousand Palestinians live in the oil-exporting ECWA countries, "while some 25,000 were to be found in the U.S.A. and other 25,000 in other countries".[2/]

1/ PLO, National Report of Palestine, presented to the Habitat, 1976, p.50.

2/ PLO, op.cit., p.49.

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Table 14. Estimates of Palestinian People

(thousands)

Country	1950[a/]	1957[a/]	1977[a/]	1977[b/]
Jordan	506.2	517.4	640.7	1093.5
West Bank	-	-	320.9	753.8
Gaza	198.2	221.0	373.3	409.5
Lebanon	127.6	102.6	212.8	260.0
Syrian Arab Republic	82.2	92.5	197.7	174.4
Kuwait	-	-	-	154.5
Egypt	-	-	-	37.1
Saudi Arabia	-	-	-	22.5
Gulf States	-	-	-	16.9
Iraq	5.0	-	-	15.7
Libya	-	-	-	5.6
Total	914.2	933.5	1745.4	2943.5

Source: P.N. Gorham, The Challenge of Manpower Deployment in the Middle East, mimeo., 1977, Table 1.

a/ UNRWA registered refugees.

b/ PLO figures. These figures are based on a 3.3 percent population growth estimate and do not include estimates of 382.5 thousand Palestinians in Israel.

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III. CAUSES OF THE BRAIN DRAIN

Introduction

Causes of the brain drain are common to almost all of the developing countries. The ECWA countries are no exception. Since the causes of the brain drain from developing to developed countries, in general, have been dealt with extensively in the economic literature during the past two decades, they will be considered briefly in this study.

As in the other developing countries, numerous intricate and inter-related economic, socio-political and administrative factors underly the migration of professional and skilled manpower from the ECWA countries to the developed countries. These factors can be divided into "push" and "pull" factors. Among the "push" factors are: economic and social underdevelopment, absence of effective manpower and employment policies, low salaries, political instability and political pressure, corrupt administrative structure, difficult working conditions, the prevailing educational system and military service. On the other hand, higher salaries and higher standard of living, greater employment opportunities, brighter future prospects, higher degree of scientific and technical development, better working conditions, etc. tend to "pull" the professional to the developed countries. Obviously, the decision to migrate is not a result of one of these factors alone but of the interplay of some or all of them.[1/]

Not all the "push" factors are in the developing countries nor all the "pull" factors are in the developed countries. Family ties and patriotic feelings for one's own country are, for example, two strong "pull" factors in the Arab countries, whereas different cultural values

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1/ UNITAR, The Brain Drain from Five Developing Countries (New York; United Nations, 1971), p.14.

..../

may be "push" factors in the developed countries. However, when the decision to migrate is taken, the "push" factors overcome the "pull" factors in the home country and vice-versa.

Finally, it should be noted that although the "push" and "pull" factors prevail, in general, in the developing and developed countries, they are not uniform, they differ from one country to another and from one period to another depending on the level of development of the country concerned and its institutional and social set-up and culture.[1/]

A. Push Factors

1. Economic

a) Underdevelopment

Underdevelopment is an overriding factor in causing brain drain. In a developing country, the economy is usually strangled with various bottlenecks, lack of coordination between the different sectors of the economy, over-centralization, lack of employment opportunities, etc.. Economic underdevelopment is also coupled with social underdevelopment. These combine to make the skilled manpower dissatisfied, apathetic and alien in its society and induces it to emigrate. Hence "the causes of the outflow of trained personnel are intimately connected with the problem of the country's socio-economic development.[2/]

Although underdevelopment is a basic cause for the outflow of trained personnel, it is also partially a consequence of it. By leaving their home country, the professional and skilled manpower are depriving their country of the leaders of change and the

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1/ Gregory Henderson, Emigration of Highly-Skilled Manpower from the Developing Countries. (New York, UNITAR, 1970).

2/ UNITAR, Brain Drain from Five Developing Countries, op.cit., p.91.

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initiators of the modernization process. Moreover, their emigration has a negative impact on the academic system and on the quality of services that these trained people offer. For instance, "the loss of physicians has seriously affected the health services, as well as the establishment of new medical schools" in the Arab countries.[1] Similarly the emigration of engineers and scientists has left serious negative impacts.

b) Unemployment and Underemployment

Prior to 1973, most non-oil exporting ECWA countries were plagued with unemployment and underemployment. In fact, "the chief reason for emigration in the Arab World [was] the inability to find an adequate job"[2]. A study made on the graduates of the years 1964, 1965 and 1966 of the School of Commerce of the University of Aleppo in Syria revealed that, in general, the graduates remained unemployed for an average period of 9.4 months before finding a job and that about 10 percent of the graduates were unemployed at the time when Mr. Silah conducted the study[3]. In Jordan, unemployment is highest among graduates of secondary schools and universities especially in the field of humanities[4]. This is also the case in Lebanon.

1/ Ibid., p.91.

2/ Ibid.,

3/ Shafiq Silah, "Disguised Unemployment and the Means to Eradicate It", Seminar on the Effects of Population Changes on Statistics and Planning, July-August 1974, p.21 (Arabic).

4/ This information is given by government officials through interviews.

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Open and disguised unemployment in the ECWA countries is the outcome of the substantial quantitative expansion in the educational system and in the number of graduates which preceded the expansion in the level of the economic activity. "The industrial development in the Middle East, as a whole, has been very slow and there have been limited opportunities for employment in this sector"[1]. Though the agricultural sector is the most important sector in almost all the non-oil exporting ECWA countries and employs the predominant share of the labour force, it is still in a traditional stage. Consequently, it absorbs few professional and skilled manpower, and manifests, to a large extent, the disguised unemployment phenomenon. This is clearly shown in Syria, where the number of workers in the agricultural sector increased by 49 percent between 1960-1970, while the value of agricultural production fell from SL.1400.7 million in 1963 to SL 1372.9 million (at constant prices) in 1970. The exploited agricultural area also decreased from 3480 million hectare in 1960 to 3299 million hectare in 1970[2].

Underemployment and underutilization of skill are shown by the fact that 35 percent of the working labour force in Jordan holding university degrees are working in jobs that do not require such a degree due to shortage of suitable employment opportunities.[3] The need of the highly-skilled person to accept work below his capabilities has a strong demoralizing effect.

1/ UNITAR, "Brain Drain from Five Developing Countries", op. cit., p.89.

2/ Shafiq Silah, op. cit., p.12.

3/ Department of Statistics, Manpower Survey 1970, March 1972, p.117.

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It is generally believed that limited absorptive capacity of the ECWA countries to employ high-level manpower in the economic and other activities was the main factor behind the brain drain, particularly prior to the 1973 substantial increase in oil revenues.[1/]

c) Low Salaries and Internal Salary Discrepancies

The wide differentials in salary levels between the developed countries and the oil-exporting countries of ECWA, on the one hand, and the non-oil-exporting countries, on the other, is a detrimental factor in inducing brain drain.

According to some estimates, scientists, physicians and engineers earn, in a number of developed countries, as much as tenfold their earnings in the Arab and other developing countries.[2/] The net monthly salary of a holder of a Bachelor of Arts degree in Syria in 1975 was SL 490, that of a holder of a Master of Arts degree SL 525 and of a Ph.D degree SL 600 respectively[3/]. Even in Iraq, which is an oil-exporting country, a study revealed that, for the sample as a whole, the salary differentials ranged as the fourth factor in inducing the graduates not to return[4/].

Comparison between wage levels should be based on real wages in order to give a proper indicator of the income differentials. However, the inflationary rate in the ECWA countries has been in recent years higher than the average rate in the developed countries. Allowances given by the governments to cover the rising cost of living are low and do not compensate for the actual increase. Hence, the standard of living of the professional and skilled personnel deteriorates and they naturally become dissatisfied.

1/ For an elaboration on this idea, see Nadr Atasi "Absorptive Capacity of the Labour Market and the Pattern of Labour Utilization in Planning", Arab Engineer, February-March 1973 (Arabic).

2/ Elias Al-Zein, Arab Brain Drain, Arab Institution for Studies and Publication, Beirut, 1972, p.91 (Arabic).

3/ The figures were given by government officials.

4/ Dr. Ghanem Hamdun and Salim Al-Khamisi, The Problem of Non-returning Graduate Students Studying Abroad (1958-1970), April 1973 (Arabic).

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Not only the salary gap between developing and developed countries but also internal salary discrepancies play a dominant role in inducing emigration. Moreover, the prevailing substantial salary differentials among the countries of the ECWA region explain to a large extent the flows of professionals from the non-oil exporting countries to Saudi Arabia and the Gulf States.

d) Absence of Effective Manpower and Employment Policies

Effective manpower planning and employment policies are not yet been dealt with comprehensively and adequately in the ECWA region. There is a big divergence between the areas of specialization on the bulk of university students and the actual requirement of economic and social development. With the over-supply of graduates in law and humanities and the shortage of other categories, especially scientists, the need for manpower planning is obvious. 50-60 percent of Arab students graduate in law and humanities, 10-14 percent in business administration and social sciences, 10-12 percent in education, 4-6 percent in medicine, 10 percent in engineering and 6 percent in natural sciences[1/].

Manpower planning in the ECWA countries is considered to be an indicative tool rather than a mean to affect supply of and demand for manpower. Over-supply of graduates in some fields of specialization is a result of the large percentage of Arab students studying abroad on their own account without any government supervision. In Jordan, on the supply side 90 percent of university enrolment are outside Jordan and 95 percent are studying on their own account and free to select their field of specialization[2/].

1/ A.B. Zahlan, "The Arab Brain Drain", Middle East Studies Association Bulletin, 6, 1972, p.1.

2/ From interviews with government officials.

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On the demand side, job opportunities are not sufficient nor encouraging enough to attract available manpower.

e) Overcentralization

Overcentralization is one of the main problems facing the ECWA countries which has serious repercussions. Development projects, public and private institutes, universities and higher institutes of learning are overwhelmingly concentrated in capital cities. Consequently, employment opportunities in rural areas are very limited.

Rural areas had been almost neglected in the ECWA countries. Their underdevelopment relative to urban centres, their lack of all kinds of services and of recreation centres and their low standard of living combine to dissuade high-level manpower of accepting employment there even if it was suitable. Hence, one tends to find an oversupply in certain professions in urban centres and their shortage in rural areas in the ECWA countries. "Two-thirds of Lebanon's doctors reside in Beirut which has only one quarter of Lebanon's population; other Lebanese badly need doctors and there is considerable brain drain"[1]. The rapid urbanization of developing as well as developed countries, therefore, appears to be associated with brain drain. Migration to national centres usually precedes emigration to World centres and it is in the former that the initial culturalization to supernational professional values takes place"[2].

2. Socio-Political Factors

a) Political Instability and Political Pressure

Political instability in the Middle East area was an important factor causing brain drain during the 1960s. Since 1967, Arab brain drain

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1/ Gregory Henderson, Emigration of Highly-Skilled Manpower from the Developing Countries, op. cit., p.93.

2/ Ibid.,

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increased even more sharply. The number of Arab university graduate emigrants in 1967 was more than twice the number in 1966, while in 1969 the corresponding emigration from Iraq, Lebanon, Palestine, Jordan, Syria and Egypt to the U.S.A. was nearly equal to the outflow over the five year period from 1962 to 1966. Although no recent figures are available on high-level migration of Lebanese, it is estimated that it is increased to a large extent since the beginning of the civil war.

An indirect effect of political instability on brain drain is through its negative impact on the economy and its adverse effect on production, income and employment.

b) Social Factors

The difficulty of the foreign-educated person to readapt himself to his home country's social milieu and to the values and traditions of his society is another important factor. High-level manpower, especially the foreign educated, do not accept the "lack of respect for the confort, time, dignity and intelligence of the citizen"[1/] practiced in most, if not all, the Arab countries. Moreover, the inflexible system of social mobility, the high cost of marriage in the Arab Countries, and the affiliation to minority groups are other social factors. For instance, "Middle Eastern Christians are culturally prepared to accept and imitate Western patterns, hence, they emigrate to the West and settle there more often than do the Shi'itis"[2/]. Though social factors change over time, nevertheless, they tend to discourage professionals to participate fully and effectively in the societies of the region.

1/ A.B. Zahlan, "The Development of Arab Manpower as an Integrative Factor of the Arab World", Planning Seminar, Arab League Economic Council, Cairo, January 1976, p.12.

2/ Fuad I. Khuri, "A Comparative Study of Migration Patterns in Two Lebanese Villages", Human Organization 26, 206 (1967).

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3. Administrative Factors

a) Bureaucratic Administrative Structure

One of the main features of underdeveloped countries is the poor administrative structure. Most Arab bureaucracies were founded during the colonial period or modelled after bureaucracies of the Ottoman Empire and have maintained this model. Accordingly, they are heavily centralized and work with a lot of red-tape procedures. "In numerous instances only the Minister can take any action, no matter how trivial"[1/]. By depriving high-level personnel of participating in the decision-making process and of their feelings of responsibility, their initiative and creative ideas are blocked and their dissatisfaction is augmented. Furthermore, rigid promotion policies based on seniority rather than on efficiency is another source of dissatisfaction.

Favouratism in recruitment is noticed in the ECWA countries, as in other developing countries, particularly in the Government machinery. This factor tends to frustrate the professionals and induce them to emigrate.

b) Difficult Working Conditions

Difficult working conditions in the ECWA countries include, among other things, the non-availability of competent assistants to support the work of scientists and specialists, the lack of on-the-job training opportunities, the lack of modern equipment, and the limited research facilities. Obviously, the effect of these factors on brain drain, particularly the most qualified professionals, is considerable.

Arab scientists and professionals are confronted with a very limited number of laboratories and research centres; lack of libraries that are supplied with recent books, references and

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1/ A.B. Zahlan, op. cit., p.15.

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scientific journals; very few scientific groups or societies; and infrequent scientific seminars, meetings and conferences. This "isolation" of the scientist from up-to-date scientific developments at a time of rapid advancement in science results in out-dating the professional's knowledge. Consequently, qualified researchers and scientists are dissatisfied and are thus forced to emigrate.

4. Other Factors: The Prevailing Educational System

In general, the prevailing educational system in the ECWA countries is not entirely corresponding to the development needs of these countries for trained manpower. The student-teacher ratio in the Arab universities is 50 to 1; they lack rich libraries and fully-equipped laboratories, and have a high proportion of graduates from humanities. The rapid "quantitative" but not "qualitative" increase in education, coupled with its inadequacy to meet the socio-economic needs of the ECWA countries, have led to the underemployment and some unemployment of university graduates which, in turn, lead to emigration[1/].

Although the number of universities increased remarkably in the last two decades, their absorptive capacity is still limited due to the high rate of population growth and to the rise of the demand of education[2/]. The limited absorptive capacity, together with the inadequacy of the educational system, lead to the increase in the number of students studying abroad from about 10,000 in the early fifties to about 40,000 in 1971. The overwhelming majority of these students study on their own account, and so are free to choose their field of specialization without any government supervision or direction to their home needs. Moreover, there are no government channels to contact students studying abroad to help

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1/ M. Edisichia, Brain Drain from the Arab World (Cairo, December 1969).
2/ M. Rabie, Brain Drain (Kuwait, University of Kuwait, 1972, in Arabic), p.65.

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them solve their problems or to inform them of opportunities at home. All of these factors combined with the fact that many students become adapted to life in developed countries, result in a high non-return rate of the Arab students studying in the Western developed countries.

B. Pull Factors

1. Economic Factors

The more developed the country is the greater is the demand for high-level manpower. Since the available high-level manpower in many developed countries is not sufficient, high salaries are offered over and above other fringe benefits to attract professionals from other countries. With a higher standard of living, greater political stability and wider academic infrastructure, future prospects for one's self and one's children appear to be promising. Developed countries seem far more attractive in their facilities, in the availability of colleagues and of supporting staff, and in proximity to new developments in professional fields. Furthermore, the degree of scientific and technological development, the availability of research centres that are fully furnished with the most up-to-date equipment and libraries, the availability of funds for research and the esteem for the scientist and his work provide other attractive conditions.

2. Socio-Political Factors

Many high-level personnel adapt to the culture and to the more liberal social values of the developed countries, after living there for a number of years and finding it difficult to readapt to the social milieu of their own countries.

Marriage to foreigners is also a cause for higher rates of emigration. The foreign spouse usually finds it difficult

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to live in the ECWA countries because of their traditional values and their social structure. Discrimination against those marrying foreigners, such as Decrees prohibiting the recruitment of persons married to foreigners, prevent these persons from returning to their home countries. On the other hand, marrying a foreigner facilitates their getting residency permits or citizenship in the developed country.

3. Other Factors

Immigration laws of the developed countries play a crucial role in inducing migration and in determining the destination of the emigrant. The Commonwealth Immigration Act of 1962 illustrates how a legislation may be used to deter the flow of emigrants, while, in contrast, the United States Immigration Act of 1965 has had the effect of increasing the outflow of professionals from developing countries to the U.S.A. It abolished the quota based on national origin and put a limit of 20,000 per annum for every country.

The immigration policies of Canada, the United States, Australia and the United Kingdom are selective; they are in favour of professional and skilled people, reflecting their need for such type of personnel. This policy enhances the brain drain from the developing countries, including the ECWA region.

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IV. CONSEQUENCES OF THE BRAIN DRAIN

This chapter presents the economic consequences of the brain drain on the ECWA countries whose high-level manpower emigrate to other countries. As in other chapters of this study, distinction is made hereunder between the outflow of professionals from the ECWA countries to developed countries (brain drain) and the outflow to other ECWA countries, basically, the oil-exporting ones. While the approach of the analysis of the consequences of the outflow applies to both situations, the evaluation of such consequences has to take into consideration other factors which tend to differ in the two situations.

The assessment of the consequences of the brain drain in this chapter is limited to the economic gains and losses resulting from this phenomenon. This is not meant to under-estimate the cultural, social and other consequences of the brain drain. The consideration of economic consequences helps to quantify the income gains and losses and thus provides a useful illustration of their magnitude.

This approach is in line with that of the UNCTAD study entitled "The Reverse Transfer of Technology: Its Dimensions, Economic Effects and Policy Implications"[1/] That study noted that "An assessment of the consequences of reverse transfer of tehcnology (brain drain) raises a number of conceptual issues. Its full-fledged examination would require assessment of flows in the context of the dynamics of migration, i.e., its effect on growth, resource allocation, income distribution, domestic technological capability and a host of social consequences which go well beyond the purely economic welfare considerations."[2/] In this study, however, the methodology employed has a limited aim. The focus will be only on income gains and losses which constitute just a part of the total effect of the brain drain phenomenon.

1/ UNCTAD, TD/B/C.6/7, 13 October, 1975.
2/ Ibid.

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One may analyze the consequences of the brain drain in terms of the qualitative impact which the availability or the absence of highly-qualified manpower would have on the development momentum of a country. Such impact includes, as was pointed out in the Introduction, aspects related to the technological gap; effectiveness of planning; performance of government machinery; institution building; research and training, and, acceleration of industrialization and modernization of agriculture.

The particular factors which are usually taken into consideration in estimating the economic consequences of the brain drain are the following:[1/]

1- income gains and losses, where the term "income" is used to mean the present discounted value of future expected earnings;

2- externalities; and

3- the imputed capital gains or losses, where the imputed capital value of the migrant in the developed country is taken as the capitalized value of gross expected earnings of the migrant in the country of immigration corrected for externalities and intra-marginal gains.

Other studies take into account the costs incurred by the developing country for training its professional emigrants. In some cases, reference is made to the remittances of the migrants to their country of origin and to the tax revenues collected on their incomes in the host country. The following sections will provide a presentation of the most important economic consequences of the brain drain:

A. Cost of Training

The brain drain from ECWA countries to developed countries has been estimated in Chapter I of this study at about 4000 professionals annually. These professionals have had from 4 to 8 years of university

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1/ UNCTAD, Ibid., pp.25-37.

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education. Though this study deals only with the cost of university training, other studies on the brain drain may also cover the twelve years of high school education.[1/]

The bulk of university education in the ECWA countries is financed by the public and private sectors, while a small portion is financed directly by the students. Assuming that the cost of one year of university education is on the average about $5000[2/], and that the average university training of professionals emigrating is five years, the cost of university training of the brain drain from ECWA countries amounts to $100 million annually.[3/]

B. Loss of Direct Benefits

For the individual migrants, the decision to emigrate from a developing country in the ECWA region is taken in the light of a number of "push" and "pull" factors among which the income differential is an important one. Migration leads to an income gain for the individual migrant but an income loss for his country of origin.

The calculation of income gains for the developed countries and income losses for ECWA countries resulting from the brain drain will be presented in a later section. The agreement that the brain drain from developing countries is actually an over-supply in the light of the unemployment among university graduates in these countries does not apply in the case of the ECWA region. As was demonstrated earlier, the oil-exporting ECWA countries require highly-qualified immigrants of about 18,000 annually.

1/ See, for example, the Syrian Arab Republic and the Brain Drain, Arab Engineer, No.37, September-October 1971. pp. 17-19

2/ This estimate is conservative in the light of university education of ECWA nationals in developed countries, the high cost of training in technical faculties, and the expensive training in national universities in the oil-exporting ECWA countries.

3/ The cost of training is not compounded, as it should be, at a certain rate of interest. Thus, the above estimate is an under-estimation.

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C. Loss of Externalities

The most critical loss of ECWA countries from the brain drain is the loss of externalities, particularly in the light of their need for trained manpower. Under this heading, the impact of the brain drain on the development momentum of the ECWA countries is taken into consideration. As in the case of other developing countries, the loss of externalities in the ECWA countries resulting from the brain drain is higher than the gain in the developed countries due to externalities[1/]. This study relies, in estimating the losses and gains due to externalities, on the UNCTAD's report.

D. Benefits Gained by Host Countries

Under certain assumptions, the income differentials for a migrant in the developed and the developing countries reflect differentials in the marginal productivity of the migrant. The excess income which the migrant earns in the developed country does reflect the migrant individual extra income gain or the net individual income gain. When this gain is adjusted to take into account externalities and other effects, it reflects the net income gain for that developed country out of one immigrant. The net income gain from the brain drain is calculated by multiplying the net income gain per migrant by the total migration flows[2/].

The benefits gained by the developed countries are not limited to the net income gains and the externalities. The inflow of highly-qualified manpower enriches the developed country's endowments of factors of production without necessarily incurring the cost of university education and training for such inflow. Accordingly, the brain drain will lead to an additional gain to the developed country in the form of imputed capital value of the migrant.

1/ UNCTAD, op.cit., p.25.

2/ Ibid., pp.18-19.

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UNCTAD's report on the "Reverse Transfer of Technology" has estimated the gains of three developed countries, namely, the United States, Canada and United Kingdom, from the brain drain of 230.1 thousand migrants during the period 1961-1972 as follows:

1. net income gain, adjusted for externalities, of $44.4 billion; a substantial income transfer from the developing countries, particularly in Asia, to these three developed countries;
2. the imputed capital value of the brain drain to these three countries during the period 1961-1972 amounts to $51 billion.

E. Benefits Gained by Countries of Origin

Reduction of unemployment in the developing country is presented as a benefit since the social and the private marginal products of the unemployed is equal zero. However, "it seems quite plausible to argue that the true social productivity of such unemployed professionals is not zero and that, had it not been for the opportunity to emigrate, there would have been a much greater tendency to migrate from urban centres into the rural areas where their social productivity would indeed be high"[1/].

For the ECWA region as a whole, there is no significant unemployment of professionals, particularly after 1973. Thus, whatever the weight of the above argument is, the reduction of unemployment of professionals does not present a benefit for the ECWA countries resulting from the brain drain.

The second benefit or gain which is usually discussed as accruing to the developing countries from the brain drain is the foreign exchange revenues from remittances which may be transferred by their professionals abroad. In the case of the ECWA region, private remittances from national professionals residing in the developed countries are not significant.

1/ Ibid., Annex C, p.10.

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Any gain from this source does not alter the conclusion of this study on the estimated losses of income and imputed capital value resulting from the brain drain from the ECWA countries.

A third gain may result from the reverse migration whether induced or voluntary. The "effect of returning immigrants ... would be to augment the income of developing countries; their potential for generating externalities is likely to have been enhanced as a result of work and study abroad."[1/] The policy of Iraq to induce Iraqi and other Arab professionals residing in the developed countries to return is a good example of induced reverse migration. The returning professionals to Iraq will result in an economic gain as long as they are retained there and have relevant and adequate work opportunities.

F. Quantification of the Cost of the Brain Drain

The previous analysis has presented various factors which are taken into consideration in calculating the economic gains and losses resulting from the brain drain. It is, however, important to avoid double counting in providing quantitative estimates of such economic effects. For example, distinction has been made between the following major factors in the estimation of economic gains or losses:

1. the cost of training;
2. the net income gains due to income differentials;
3. the imputed capital value of migrants; and,
4. externalities and any similar effect.

Indeed, there is overlapping among these factors. The imputed capital value of the migrant in the developed country equals the capitalized value of his gross expected earnings in that country corrected for externalities

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1/ Ibid., Annex C, pp.11-12.

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and similar affects. Thus, the factors mentioned above are taken into consideration when we consider the imputed capital value of the migrant.

It is expected that the higher the (real) cost of training, the more substantial is the imputed capital value of the trainee. Therefore, in evaluating the gains and losses resulting from the brain drain, one need to concentrate on the imputed capital value of migrants only.

As mentioned earlier, the estimate of the brain drain from the ECWA region to the developed countries is 4,000 annually. In estimating the cost or losses to the ECWA region resulting from this brain drain, this study uses the same methodology of UNCTAD report on the "Reverse Transfer of Technology". It has been found in this report that the imputed capital value per migrant differs from one country to another, including developed countries themselves, and from one occupation to another.[1/] Assuming that the occupational structure of brain drain from the ECWA region is almost similar to that of the total brain drain from the developing countries, it is feasible, then, to use the figures of UNCTAD's report for the estimation of the losses of ECWA countries from the brain drain. The average imputed capital value per migrant is estimated in this report at $220,367.[2/] Accordingly, the imputed capital value of the brain drain from the ECWA region, based on this estimate, amounts to $881.5 million annually. In other words, there is an annual transfer of productive resources in the form of highly-qualified manpower from the ECWA region to developed countries of about $881.5 million.

It is understood that the imputed capital value of professionals is lower in the ECWA region than in the developed countries due to lower average income. However, the "higher price" has been used in the above estimation of the losses of the ECWA region, which would, on the basis of

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1/ Ibid., p.20.
2/ Dollars 50,867 million divided by the total number of migrants of 230,829, Ibid., p.20.

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the above analysis, be equal to the gains of the developed countries resulting from the inflow of professional nationals from the ECWA region.[1/]

G. Consequences of High-Level Manpower Flows among ECWA Countries

The same methodology applied in the analysis of the economic effects of the brain drain can be adopted in assessing the economic consequences of intra-ECWA flows of professionals. On the part of the oil-exporting ECWA countries, the gains from these inflows include such factors as the imputed capital value of migrants, the net income gains and, most important, the externalities. On the part of the other ECWA countries, the losses include the cost of training, the income losses, the imputed capital value of emigrants and the externalities.

As was argued in the last section, however, one needs to concentrate only on the transfer of productive resources and thus take into account the imputed capital value of the brain drain. In Chapter II of this study, the stock of professionals working in the oil-exporting countries and nationals of other ECWA countries is estimated at 125,000. Moreover, 90,000 highly-qualified immigrants will be needed by the oil-exporting countries during the period 1975-1980.

It is noted that the income differentials between the oil-exporting countries and other ECWA countries are substantial and may reach, on the average, the same magnitude as that of income differentials between the developing and developed countries. When these income differentials are corrected for externalities, which are higher in the oil-exporting ECWA countries than in the developed countries, the imputed capital value per migrant will at least equal the average imputed capital value per migrant in the developed countries; i.e., $220,367. Accordingly, the total imputed capital value for the stock of ECWA professionals in the oil-exporting ECWA countries is estimated at $27.54 billion. If the total need of the

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1/ Ibid., p.40.

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oil-exporting ECWA countries for high-level manpower during the period 1975-1980 is going to be met by nationals of other ECWA countries, the total imputed capital value would be $19.83 billion (for 90,000 professionals).

There are, however, objective bases that justify the distinction made in this study between the consequences of the brain drain from the ECWA region and those of the intra-ECWA flows of professionals.

1. The magnitude of the remittances of the professionals working in the oil-exporting countries is much higher in absolute terms and as a percentage of the earnings of the professionals concerned. For example, total remittances from Jordanians working abroad (not only professionals) amounted to $425 million in 1976, which was double the commodity export proceeds for that year. Substantial remittances are also received by other ECWA countries such as Yemen, Lebanon and Syria. Accordingly, the losses of the ECWA countries resulting from the outflow of their professionals to other ECWA members are partially met through private remittances.

2. "Reverse" or "to-and-fro" migration is more common in the case of intra-ECWA flow of professionals than in the case of the brain drain to the developed countries. This fact amounts to reducing the magnitude of the above estimate of the total imputed capital value of professionals migrating to the oil-exporting ECWA countries. However, this adjustment would not be of considerable magnitude.

3. Intra-ECWA flow of professionals should be considered as a movement of one of the factors of production in the wider context of regional economic cooperation and integration. Other aspects of cooperation include the capital transfers from the oil-exporting ECWA countries to other countries in the Region in the form of loans, grants and investments. These transfers and their magnitude also should be viewed and evaluated in the light of the above estimation of the gains from the flows of professionals among ECWA countries.

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V. RECOMMENDATIONS

Most of the studies which dealt with the brain drain problem, whether national or international in nature, conclude by providing certain recommendations to deal with this problem. The recommendations tend to combine measures to counteract the "push" and "pull" factors and to suggest avenues for cooperation in rectifying the adverse effects of the brain drain on the developing countries.

Since this study is dealing with the Arab brain drain to developed countries, on the one hand, and the flow of Arab talents among ECWA countries, on the other hand, distinction is made in proposing a number of recommendations among three levels: national, regional and international. Moreover, in proposing these recommendations, emphasis has been directed towards specific measures rather than broad and general recommendations which usually relate to such factors as political stability and emphasis on economic and social developments. Of course, this is not in any way underestimating the significance of these factors in facing the problem of the brain drain.

A. At the National Level

As was shown in Chapter II of this study, ECWA countries suffering from the brain drain problem have adopted different policies towards facing it. The main difference relates to the degree of restriction applied to the outflow of their talents and the incentives they provide towards keeping them at home. On that basis, there are two approaches that lie behind any set of recommendations. The first approach stresses the control and restriction of the outflow of nationals (restrictive), and the second stresses the use of incentives and realizes the difficulties of enforcing restrictions effectively while, at the same time, maintaining a relatively high labour productivity (incentive approach).

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This study recommends the second approach as the more effective one. A recent report on the brain drain from Jordan[1/] presented a number of recommendations which are in line with the second approach. These recommendations are listed under four sub-titles:

- to provide material and nominal incentives to Jordanian professionals to reside in Jordan;
- to organize the outflow of Jordanian professionals having in mind the reduction of its magnitude;
- to increase the supply of professionals in Jordan through training and other measures; and,
- to undertake studies necessary for manpower planning.

Another study, which was prepared by a Syrian Committee[2/], concluded with fourteen recommendations which are in line with the above-mentioned recommendations. These recommendations include: the use of scientific approach in decision making; respect of professionals' views and emphasize their role in development; respect seniority and qualification in promotion; release all restrictions on the movement of professionals in the Arab countries; encourage training programmes; increase the salary scale of Syrian professionals and base it on productivity; amend the conscription regulations with regard to professionals and issue inducive measures for Syrian professionals residing abroad to return.

Other studies on the brain drain problem have highlighted similar recommendations. Mr. Bhagwati[3/] distinguishes among three policy proposals:

1/ Report of the Technical Committee on the Brain Drain, Amman, August, 1977.

2/ Syrian Arab Republic and the Brain Drain, The Arab Engineer, No.37, September-October 1971, pp.15-25.

3/ J.N. Bhagwati, "The Brain Drain", ILO report on the Tripartite World Conference on Employment, Income Distribution and Social Progress and International Division of Labour, Geneva, June 1976, pp.139-60.

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those which require LDC action, those which call for developed countries' action, and others which require joint and cooperative action. He further distinguishes between restrictive policy proposals and incentive policy proposals.

Similar recommendations are suggested in other studies which dealt with the brain drain from developing countries, in general, and certain ECWA countries, in particular[1/].

A good summary of the recommendations suggested for developing countries that suffer from the brain drain problem is the following[2/]:

The need, among other measures, to give top priority to improving conditions under which highly trained persons are expected to work; to satisfy such elementary needs as minimum salary requirements; to permit full-time employment and career security; to recognize individual talent and abilities; to provide opportunities for promotion through career channels; to increase labour mobility; to assist in maintaining and cultivating contacts with professional counterparts abroad; and, to provide access to specialized literature. Of importance, too, are the non-economic considerations, especially those relating to working conditions, such as budgetary support for research, the traditional hierarchical structure in academic and government institutions, which may deny satisfactory opportunities to able young men, and the need for cultural and social amenities, especially in rural areas. There is also need for improving counselling services for foreign students before and after arrival in their country of study and for setting up effective institutional arrangements to facilitate the return of students from abroad.

1/ See, for example, UNITAR, The Brain Drain from Five Developing Countries, New York, 1971, pp.126-138, and T.A.Zarour, Factors Influencing the Emigration of Highly Educated Persons from Jordan to the United States, Ph.D. Dissertation, Florida State University, August 1976, pp.116-131.

2/ UNITAR, op. cit., p.136.

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Thus, what is needed to be done, at the national level, is to deal with the "push" factors in all their dimensions. Moreover, the above summary of recommendations apply to ECWA countries suffering from the brain drain problem, particularly that Lebanon was one of the five developing countries covered by the UNITAR study. This summary of recommendations is also useful in terms of enabling this study to concentrate on specific proposals rather than repeat a comprehensive set of recommendations which may go to the educational and other structures of ECWA countries.

The following are the most important recommendations which are proposed at the national level and would help to reduce the brain drain problem:

1. To increase the salary scales

There is an obvious need in the ECWA countries suffering from the brain drain to adjust their salary scales upward, particularly for their national professionals.[1/] This applies to Democratic Yemen, Yemen, the Syrian Arab Republic, Lebanon, Iraq and Jordan. Government engineers may be earning an income (salary plus other allowances) in one of these countries that ranges between half to one-third of his salary in the oil-exporting Arab countries or to a less extent in developed countries. The differentials are much higher in the case, for instance, of an economist or an accountant.

With inflationary pressures developing in all ECWA countries, including the ones suffering from the brain drain problem, it becomes extremely difficult to induce national professionals to continue working at home, particularly the new graduates, unless the salary scales are considerably increased. However, due to their limited financial resources, the non-oil exporting countries cannot

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1/ Government salary scale was adjusted upward in 1977 in Lebanon and in 1978 in Syria. Several substantial allowances are paid, in addition to basic salary to certain categories of professionals, in Iraq, Jordan and Syria.

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compete on a purely income basis with the oil-exporting countries, but some increase will help particularly if coupled with other incentives related to working conditions. In fact, some ECWA countries such as Jordan, Iraq and the Syrian Arab Republic did introduce a system of allowances which immensely favours their professionals and thus represents one of the incentive to retain them working in their own country. However, these allowances are not considered sufficient to reverse the brain drain nor to restrain the outflow to the oil-exporting countries.

2. To coordinate domestic employment conditions

It is noted that, in each of ECWA countries, particularly in the non-oil exporting ones, a large number of salary scales coexist and create unnecessary and costly competition among various agencies to attract most-qualified professionals from other agencies in the same country. In most cases, the government machinery tends to lose its best professionals, particularly to the private sector. This is also noticed in the oil-exporting ECWA countries where officials in Saudi Arabia and Kuwait expressed their concern over this development. It is probable that to overcome such competition coming from the private sector that the Saudi Government raised in 1977 the Civil service salary by as much as 50 percent. Even in the government machinery, equally-qualified professionals may not get equal pay due to the different salary scales applied in various institutions. It is important for ECWA countries to coordinate the salary scales and employment conditions at the country level and to minimize and rationalize differences in salary scales particularly in the civil service.

3. To organize the outflow of professionals

As already mentioned, this study does not recommend for the ECWA countries to adopt the restrictive approach; i.e., the various measures applied by the government to control and administratively

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restrict the outflow of professionals. A large number of their university students being enrolled in universities located in the United States and other developed countries. Any restriction on the outflow of their nationals will encourage some of their students to continue to reside abroad. Restrictions on the outflow of the professionals tend also to interpret themselves in lower productivity at home.

A more effective approach is recommended in this study which comprises the following measures:

- all measures related to the improvement of the working conditions of the professionals and providing them with incentives. These measures relate to their appointment, promotion, availability of the supporting staff, access to up-to-date publications and laboratories, freedom of expression, less involvement in purely administrative positions, etc.;
- to limit, as far as possible, study abroad to the post-graduate level;
- to organize the outflow of national professionals through bilateral agreements, particularly among ECWA countries. Secondment of government employees to work for a fixed period in other ECWA countries is a convenient approach in organizing the outflow of professionals; and,
- to apply some restrictions if needed on the emigration of specific occupations which relate to crucial projects, such as engineers, in oil refineries and cement factories.

4. <u>To create and expand institutions for research and development</u>

The capacity of ECWA countries to absorb Arab professionals depends on the total demand emanating from:

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- the expansion of the public, social and economic services, such as education, health, communications ... etc.;
- the expansion of the private enterprise activities in trade, finance and others; and,
- the implementation of development projects in the ECWA countries.

However, their capacity to absorb the most-qualified professionals depends to a large extent on the presence of research and development institutions, including those dealing with science and technology and national universities. Normally, the working atmosphere in these institutions, as well as the salary scales and potential development of professionals' capabilities, are more favourable than other agencies. It is, therefore, recommended that each ECWA country formulate its science and technology policy, organize its science and technology institutional structure, and establish the missing links in such a structure. By this measure, ECWA countries can enhance their capacity to employ and retain Arab professionals.

5. To adopt specific measures aiming at reversing the Arab brain drain

With the ambitious development plans being under implementation in the ECWA region, particularly in the oil-exporting countries, and their substantial demand for professional manpower, a deliberate policy to induce Arab professionals residing abroad to return should be pursued at the country level. The experience of Iraq in adopting inducive measures to attract the Iraqi (and some other Arab) professionals residing abroad indicated promising response. Of course, attracting professionals to return is a major but only a first step which needs to be supplemented and strengthened by other measures that will result in retaining professionals in productive and adequate positions. Any such policy should also avoid to be discriminatory against professionals who are already residing at the ECWA country concerned.

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Other ECWA countries have tried to contact the Arab professionals residing abroad through direct contact or by advertising. Whatever the results of this approach are, each ECWA member country should seriously consider adopting certain measures to attract Arab professionals to return.

6. To improve the data base on the Arab Professionals

In Chapter I of this study, the inadequacy of the data base on the Arab brain drain was clearly exposed. An attempt should be made by each ECWA member country to improve all information on its professionals, particularly those which suffer from the brain drain. A national roster of the highly-qualified manpower should be compiled.

B. At the Regional Level

Most of the previous recommendations can be pursued regionally in a more coordinated and effective manner. Thus, the ECWA countries could adopt a common policy to induce Arab professionals to return and reside in the Region. These countries should cooperate in meeting their needs for highly-qualified manpower by resorting to each others' professionals in an organized manner. They need also to coordinate their employment policies, including the salary scales, in order to minimize instability in the labour market. ECWA countries should also cooperate in compiling adequate information related to the highly-qualified Arab manpower.

In addition to these set of actions, there are specific recommendations which the ECWA region should adopt in order to reduce the Arab brain drain and to organize the flow of Arab professionals in the Region. The most important recommendations are the following:

1. To establish regional research centres

As was mentioned earlier in point A(4), research centres tend to attract high-level manpower by providing an adequate working atmosphere. Moreover, they are needed for training young professionals and

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developing their capabilities.

The oil-exporting countries of ECWA should contribute directly towards establishing specialized regional research and training centres and institutions. For example, Jordan submitted a proposal to the Fourth Conference of Ministers of Education and those responsible for economic planning in the Arab States, held in Abu-Dhabi, 7-14 November 1977, to establish a Regional Arab Technical Training Institute in Computers and Telecommunications. Another example is the Regional Centre for Technology Transfer and Development in the Arab Countries which is currently under consideration. His Royal Highness Crown Prince Hassan of Jordan proposed recently the establishment of a "Euro-Arab Centre for Appropriate Technology". This Centre would, in addition to other major functions, attract selected highly-qualified Arab professionals to work on problems of technology transfer and development in the Arab countries.1/

2. To expand the training facilities in the ECWA region

University education and vocational and technical training should be expanded in the ECWA region in order to meet the required highly-qualified manpower, and to limit study abroad at the undergraduate level. Education development should also be reformed in order to meet more adequately the requirements of the economic and social development in the ECWA region.

There are commendable efforts along these lines in the ECWA region. The point made here is that manpower development, particularly at the highest level, should be recognized as a regional responsibility in terms of financing, coordination and promotion. The implementation of the development plans in the whole Region will be enhanced through the expansion of manpower development and training facilities. These regional facilities can and should be located in the countries suffering from the brain drain with joint financing from the oil-exporting Arab countries.

1/ Address to the Second Arab European Business Cooperation Symposium, Montreux, Switzerland, 29 May 1978.

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3. To conclude an agreement towards organizing the flows of Arab professionals among Arab Countries

A formal agreement among the Arab countries relating to the flow of Arab professionals should be concluded. The Arab Labour Organization (ALO) may pursue this matter in cooperation with other regional and international agencies. The present flows of Arab professionals in the Region are left to bilateral arrangements or, as in most cases, to the labour market itself. Given the present demand pressures for this category of manpower in the ECWA region and the vital role of the professionals in the development of the Region, their flows need to be formally organized at the regional level. The proposed agreement could be concluded either on a bilateral basis or in the form of the Multilateral Agreement on Manpower Movements which was prepared by the ALO.

C. At the International Level

1. To seek compensation for the brain drain

The ECWA countries which suffer from the brain drain, particularly Lebanon, Jordan, the Syrian Arab Republic, Iraq and Democratic Yemen, should join with other developing countries in demanding compensation for their professionals residing abroad. His Royal Highness Crown Prince Hassan of Jordan proposed at the ILC 1977 Conference that an International Labour Compensatory Facility (ILCF) should be established so that developing countries suffering from the brain drain can be compensated. The Group of Governmental Experts concluded that "the proposal of H.R.H. Crown Prince Hassan of Jordan should be taken into account in the in-depth study to be prepared by the Secretary-General of the United Nations in co-operation with UNCTAD and the ILO, as called for in General Assembly resolution 32/192"[1/].

1/ UNCTAD, Report of the Group of Governmental Experts on Reverse Transfer of Technology, Geneva, 27 February to 7 March 1978, p.26.

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Though emigrants tend to transfer remittances to their country of origin, these remittances are much lower than the social loss encountered by their home countries. Moreover, they represent part of their individual savings and usually decline as time passes and the professional is more settled in the developed country.

The creation of the ICLF can be started in a regional context such as the ECWA region where professional intra-regional flows are playing an increasing role in meeting the demand in the oil-exporting ECWA members.

2. To assist national and regional training and research institutions

The developed countries and international organizations can play an important role in identifying and formulating the training and research institutions needed in the ECWA region. They can also contribute towards the strengthening of the existing ones and the implementation of new institutions. Such contribution may take the usual form of providing expertise, equipment and training. The USA, the European Economic Community, UNESCO and ILO are among the parties mostly concerned in this function.

3. To induce the Arab Professionals to return

The developed countries, particularly the United States, could be of great help to any effort that aims at reducing the Arab brain drain. The immigration laws which induce foreign professionals to reside in the developed countries can help, if amended, to reduce the brain drain. The Arab students in the USA ought to be discouraged to reside there, particularly those on fellowships from their own governments.

4. To provide available data to the Arab countries

Since the ECWA countries do not yet compile complete and reliable information on the magnitude and basic characteristics of their brain drain, the developed countries and international organizations can assist in providing available and up-to-date information on the Arab brain drain.

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